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Research Papers–*Randomized trials, intervention studies, studies of screening and diagnostic tests, cohort studies, cost-effectiveness analyses, and case control studies.*

Short Communications– *Brief accounts of descriptive studies, initial/partial results of a larger trial, and a series of cases;*

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EDITORIAL

Conceptual Research ---- Need of Understanding the Science

Ayurveda has been an integral part of life since time immemorial. It is not only a medical science but also is all pervading in social lifestyle and kitchen customs. It deals with all aspects and angles of life. It has contributed a lot regarding inculcation of moral values, ethical values, togetherness, secularism and uniformity. *Ayurvedic* physician having sound acquaintance of classical theory and their clinical consequence have propagated those beneficial thoughts and practices as social reformer along with their clinical profession to achieve the ultimate aim in the form of *Hitayu*.

From the beginning of mankind the sense of pain pointed the man in the forms of disease and health bring him face to face confrontation with the reality in a tremendous vital manner. Faced with such an imperative call, the alternative to answering which was his annihilation, he gathered up all his strength, sincerity and determination and workout a realistic, practical and effective solution of the problem. According to the *Ayurvedic* there is an intimate identity between the part and the whole of the microcosm and the individual is considered as miniature of macrocosm, the universe. This very tune is fascinatingly haunted throughout the classics. The meanings suggested, the depth of height indicated and the stretched exposed by the rich words are purposely beautified in the compendium. This unitary principle is implemented right from the evolution, Tridosha theory, concepts of srotas, up to the organs of the body etc. The ideal health varies from a mere disease free condition to that of positive and perfect health. *Ayurveda* sets-up itself the very lofty ideal of positive health, perfect to the minutest detail.

Each and every treatment modalities mentioned in the classics of ayurveda to mitigate the pain is based on solid foundations known as principles. The principles are derived by experts scientists in the series of continuous experimentations and justifying with the occult factors in the purview of practical applicability. Ample principles are noted in each branch of *Ashatnga Ayurveda*. These principles are thought to be everlasting. With the advent of time only explorations of the applicability in the clinical level should be done.

Since last four decades classical textual learning are gradually lagging. Principles and their pan-applicabilities are not always emphasized in *Ayurveda* learning, teaching and research. Proper and adequate understanding of the classical principles and occult thought process is utterly needed to explore the new horizon of clinical practice and that can only be able to give potential answer to need of mankind.

Hence literary research in the form of exploring the various principles and their applicability in the purview of current era should be focus point of research in all disciplines.

Prof. Sanjeev Sharma
Director

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Clinical Study

A Critical Analysis of the Basic Principles of Stress Related Diabetes Mellitus & the Role of Counseling and *Medhya Rasayana* in its Management

*Dr. M. W. S. Janakanthi Kumari, **Dr. Hetal H. Dave, ***Dr. Baldev Kumar

Abstract

Diabetes is a universal disorder. *Prameha*, greatly resemble the characteristics of Diabetes Mellitus. The main objectives of this research work were to analyze critically the principle behind the Stress related Diabetes Mellitus and to assess the role of counseling and *Medhya Rasayana*in its management. For clinical study 60 Stress Related Non-Insulin Dependent Diabetes Mellitus (Type II Diabetes) patients with Fasting Blood Glucose 110 mg/dl -250mg/dl have been selected in three (03) groups randomly, each containing 20.Formulas named as *Bilvadi Churna* and *Kiratadi Churna* in fine powder form have been selected for the clinical trial.Group I was treated with *Bilvadi Churna* 5g, three times a day, with proper counseling in each visit. GroupII received *Kiratadi Churna*5g, three times a day, besides counseling. Group IIIhas givenroasted Barley powder capsules asPlacebo 250 mg, three times a day, along counseling for 1/2 an hour in each visit. Duration of therapy was 2 months.

When overall result was considered 100% Type II Diabetic patients were identified as suffering from chronic stress before the onset of Diabetes. None was also found without the acute stress in accordance with the Perceived Stress Scale. The effect of the therapies on the cardinal signs and symptoms has shown statistically significant reduction in all the parameters with various percentages of relief. Reduction of *Prabhuta Mutrata* (polyuria), *kshudhadhikya* (polyphagia), *Pipasadhikya* (polydipsia) were extremely significant in all three groups.

Keywords: *Prameha*, Stress, Diabetes Mellitus, Counseling, *Medhya Rasayana*

सारांश-

मधुमेह एक विश्वस्तर पर फैली हुयी व्याधि है, जिसका स्वरूप आयुर्वेद में वर्णित प्रमेह रोग से साम्यता रखता है। इस अध्ययन में मधुमेह रोग में चिन्ता, भय, उद्वेगादि की कारणता, मेध्य रसायन तथा काउन्सलिंग का प्रभाव जानने के लिए ऐसे रोगियों का चयन किया गया, जो इन्सुलिन पर आश्रित नहीं थे, और जिनकी प्रातः काल खाली पेट रक्तगत शर्करा की मात्रा 110 मि.ग्रा. प्रतिशत-250 मि.ग्रा. प्रतिशत थी। सभी 60 रोगियों को 20-20 रोगियों के समूहों में बाँटा गया। प्रथम समूह को मेध्य रसायन के रूप में बिल्वादि चूर्ण 5 ग्राम दिन में तीन बार कोष्ण जल के साथ मानसिक भावों की पुष्टयर्त परामर्श दिया गया। दूसरे समूह में मुधमेहारि चूर्ण के रूप में किरातादि चूर्ण 5 ग्राम दिन में तीन बार कोष्ण जल के साथ तथा मानसिक भावों की पुष्टयर्थ परामर्श दिया गया। तीसरे समूह में एक प्लेसिबो कैप्सूल दिन में तीन बार कोष्ण जल से तथा मानसिक भावों की पुष्टयर्थ परामर्श दिया गया। दो महीनें तक रोगियों को दवाई दी गई। अध्ययन पश्चात् परिणामतः सभी रोगियों को चिरकालीन मानसिक तनाव से ग्रस्त पाया गया। सभी समूह के रोगियों में प्रभूत मूत्रता, क्षुधाधिक्य एवं पिपासाधिक्य लक्षणों में परिणाम सार्थक रहें। मेध्य रसायन एवं काउन्सलिंग की भी सार्थकता मधुमेह चिकित्सा में सिद्ध हुई।

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Clinical Study

A Critical Analysis of the Basic Principles of Stress Related Diabetes Mellitus & the Role of Counseling and *Medhya Rasayana* in its Management

Dr. M. W. S. Janakanthi Kumari, Dr. Hetal H. Dave, Dr. Baldev Kumar

Introduction

The prevalence of Diabetes mellitus is increasing around the world progressively in last few years in epidemic proportions.[1] The costs of Diabetes affect everyone, everywhere. It is not only a financial problem but also has a great impact on the lives of the patients and their families. Diabetes is a metabolic disease precipitate due to multi-factorial reasons. Some studies have shown that its etiology is provoked by the psychic impairment.[2] *Ayurveda* Classics exemplify the psychosomatic relation of Diabetes under the chapters of *Prameh*.[3] The seat of the mental diseases is mind.[4] The inconsistency of mental health becomes enormous encumber owing to mental ill-health due to change of thinking, mood and behavior. Persistent stressors if not managed successfully, may lead to psychosomatic diseases. This research was carried out to critically analyze the basic principles of Stress Related Diabetes Mellitus under the title **"A Critical Analysis of the Basic Principles of Stress Related Diabetes Mellitus & the Role of Counseling and Medhya Rasayna in its Management".** In this present study *Prameha* was co-related with Diabetes Mellitus to test the hypothesis forwarded.

Aims & Objectives

This research work has been undertaken with the following aims and objectives.

i. To establish the Psychosomatic Relation in the manifestation of Stress Related Diabetes Mellitus

ii. To assess the Role of Counseling and *Medhya Rasayana*in the management of Stress Related Diabetes Mellitus.

Materials & Methods

The proposed study has been carried-out in two phases including Literary and Clinical Study. Literary material pertaining to the mind, Stress, Diabetes Mellitus, Counseling and *Rasayana*has been compiled and reassessed with *Ayurveda* and modern scientific viewpoints to establish the Basic Principles underneath. For the clinical study 60 patients with Fasting Blood Glucose (FBS) in-between 110 mg/dl to 250 mg / dl and suffering from Stress Related Non-Insulin Dependent Diabetes Mellitus (NIDDM) (Type II Diabetes) have been selected. They were treated in three (03) groups randomly, each containing 20 within the age group of 20-70 years irrespective of sex, religion, occupation and socio economic status etc., from the Out Patient Department and Indoor Patient Department of the Hospital of National Institute of Ayurveda, Jaipur.

Two hypothetical formulas named as *Bilvadi Churna* and *Kiratadi Churna*in fine powder form and counseling therapy have been selected for clinical trial. Drugs were selected after considering their pharmacodynamic properties to impede the pathogenesis of the Diabetes Mellitus. *Bilvadi Churna* (*Medhya Rasayana* Drug) contained*Bilva*(*Aegle marmelosa*), *Brahmi* (*Bacopa monnieri*), *Amrita* (*Tinospora cordifolia*), *Ashvagandha*(*Withania somnifera*) and *Pippali* (*Piper longum*). *Kiratadi Churna*(*Madhumehahara* Drug) contained *Kirata* (*Swertia chirata*), *Katuka* (*Picrorhiz kurroa*), *Methi* (*Trigonella foenum*), *Gokshura* (*Tribulus terrestris*) and *Nimba* (*Azadirachta indica*).

Patients in Group I were given *Medhya Rasayana* formula named as '*Bilvadi Churna*', 5 g three times a day along with counseling. Patients in Group II were given *Madhumehahara* formula named as '*Kiratadi Churna*', 5g three times a day and counseling. The vehicle was lukewarm water. Patients included in Group III have been given Placebo along with counseling. All the groups were subjected to appropriate counseling for half an hour along with their prescribed therapy. Total duration of the intervention was two (02) months.

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Statistical Analysis

Demographic and etiological data of the patients has been presented percentage wise (%). The data of the therapeutics assessments have been analyzed statistically in the terms of mean score ($\bar{x}$), Standard Deviation (SD), Standard Error (SE) and Paired and Unpaired t test."GrafPad InStat 3" Statistical package was used for the Statistical Analysis. "Wilcoxon signed rank test (Non Parametric Non Gaussian Assumption)" was used to calculate Paired t test. Unpaired t test was computed by using "Mann-Whitney Test" (between 2 Groups) and "Kruskal-Wallis Test (Nonparametric ANOVA)" and Dunn's Multiple Comparisons Test (Between 3 groups).

Results and Discussion

Ikshuvalika Meha, shita Meha and *Madhumeha*stated in *Ayurveda* greatly analogous with the characteristics of Diabetes Mellitus.Diabetes can be identified as a disease that is initiated and provoked by psychological factors and the some of these signs and symptoms observed can be placed under the broad heading of "Stress". *Anavasthita Cittatva* (unstable mind) and *Udvega*, in *Ayurveda* terminology having a close resemble ofstress. Important reasons of stress related Diabetes can be traced from the causative factors of *Vataja, Pittaja* and *Kaphaja Pramehas*. Textual references such as bearing urges, avoiding meals, psychological trauma, anxiety, grievances, insomnia and distractive mannerism described in *Vataja Prameha Nidana* demonstrate characteristic signs of stress.Worries, tiredness and anger that are some key signs of stress described under *Pittaja Prameha*. Avoidance of daily routine, depression and sedentary lifestyle in *Kaphaja Prameha* indicate the stress. *Harita Samhita* has mentioned that stress and wrongful behavior lead to Diabetes.

The result of this study has highlighted thatMales (65%) were more prone to Stress related Diabetes Mellitus but a considerable percentage of females (35%) were also suffering from stress related Diabetes Mellitus. The education level has found to be having direct impact on stress.This also indicated that uneducated females and educated males were comparatively more prone to the stress. Uneducated females might not able to cope with stress which arisen due to family disputes. Males who had higher education above graduate level more prone to stress due to their higher expectancies.Businesspersons had more stress owing to their nature of occupation. The profession itself has generated much stress, as the majority did not equip with problem solving skills. Housewives without any employment were more prone to stress.Lower and Middle Socio-economic status has influenced on precipitating stress. Financial crisis of these groups made them vulnerable to stress leading to Diabetes.Addiction to tea and coffee has indirectly led to consume more sugar facilitating the Nidana of Diabetes. Addiction to tea, coffee, smoking, alcohol etc. also highlighted the mental instability they encompass.Sedentary lifestyle including less working and more leisure, devoid any regular physical exercises (Avyayama) has precipitated Diabetes. Others who hadexcessive hours and overburden of work and rest less than 8 hours,also have precipitated stress. Disturbance of sleep (Alpa Nidra) presented in majority owing to stress.Irregular interval of the intake of food (Ahara Kala), intake of excessive quantity of food (Ati PramanaAhara), Food pattern (Ahara Vidhi)such asViruddhashana, VishamashanaandAdhyashana, excessive intake of Madhura Rasa has caused the excessive accumulation of Kapha leading to Samprapti of Prameha.

Derailment of Agni such as Tikshnagni, Vishamagni, Mandagni was obvious in stress related Diabetes. Digestion has hampered due to Prameha as well as Stress. Pravara Abyavaharana Shakti and Avara Jarana Shakti was found in the maximum patients. Predominance Vata /Pitta constitution (Sharirar Prakriti) has shown more tendencies to stress. Vata-Pitta Prakriti was the highest observed. Vata-Kapha, Pitta-Kapha, Vata and Pitta Ulbana Prakriti also considerably reported. Involvement of *Rajasika Dosha* was more prominent in stress related Diabetes Mellitus. Dvandaja Prakriti such as *Rajasika-Tamasika, Satvika-Rajasika, Rajasika-Tamasika Prakriti* has been identified as Manasika Prakriti. Avara Sattva personalities were more susceptible to stress. The majority enrolled for this study was not taking any regular treatment at the time of the enrolment to the study. Counseling has played a major role in educating patients to follow healthy lifestyle by managing day to day confrontation.

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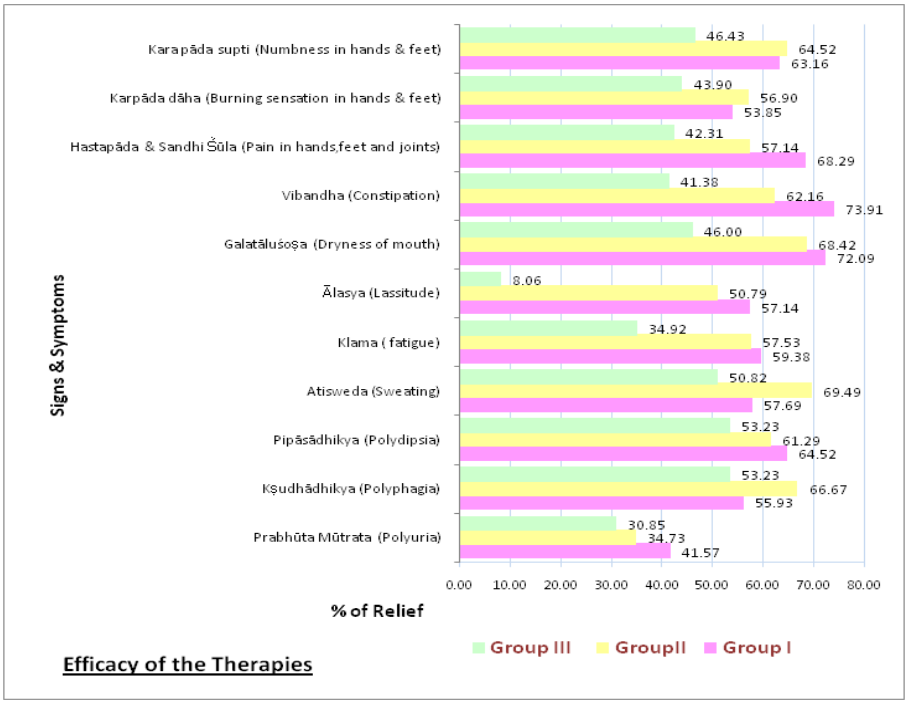
Consumed excessive *Pishtanna, Taila, Kaphavardhaka Ahara Vihara, Snigdha Dravya Sevana, Payaþ Sevana,Dadhi Sevana, Madhura Dravya Sevana, Tyakta Vyayama/Avyayama,Guda Vikaraa/Sharkara,Grita* and *Guru Dravya Sevana* noticeable causative factors found in this study.Bija Dosha (Heridity) was traced from the majority. They had strong positive family history of the Diabetes. Nevertheless, considerable percentage 46.66 without any family history and have shown suffering from chronic Stress due to the exposure to various kinds of environmental stressors. Shaiyaprasanga (indulgence of bed rest) and *Mrija Varjana* (avoid of cleanliness) found from the studied population presents thevitiating *Kapha Dosha* leading to Diabetes. *Pittaja Prameha Nidana Sevana* identified as *Krodha* (anger) and *Vataja Prameha Nidana Sevana* has shown *Vega Sandharana* (bearing manifested urges) and *Udvega* (stress/anxiety), *Shoka* (grief), *Jagarana* (keeping awake in night) and *Manasika Abhighata* (mental trauma).

Purva Rupa described in the classical texts were observed practically such as *Tandra, Karapadadaha, Klama, Nidra, Alasya, Galatalushosha, Pipasa, Prabhuta Mutrata, Kshudhadhikya, Hastapada Sandhi Shula, Karpadadaha, Atisveda, Pipasadhikya* and *Vibandha.* They were much similar to the description of *Mehas* intextual references.*Rupa* observed in the studied population were also tally with the descriptions of the classical texts about *Prameha*. Major signs and symptoms observed are *Prabhuta Mutrata* (polyurea) and *Pipasadhikya* (polydipsia), *Klama* (fatigue), *Hastapada Sandhi shula*, *Galatalushosha* (dryness of mouth) and *Alasya* (lassitude) and *Vibandha* (constipation).All the *Srotas* were derailed and major *Srotodushti* observed were *Annavaha, Udakavaha, Rasavaha, Mutravaha, Manovaha Mansavaha*, *Asthivaha*, *Svedavaha* and *Medovaha Srotodushti*. *Sveda Atipravritti* (excessive sweating) was resulted due to *Medovaha* of *Srotodushti*in the majority. When the negative *Manasika Bhavas* were considered, all the patients have shown that they were not able to solve the problems (*Upadhid*) in their live hood successfully. Ultimate result was that the constant stress they have experienced either as acute or chronic stress Heavy pressure and unable to handle stress were found as root cause of Diabetes among newly identified (Chronicity less than 1 year) age group.Patients in middle and old age groups have faced to constant chronic stressors as stimulants which have precipitated the Diabetes. This was ensured by Holmes-Rahe Life Stress Scale, Perceived Stress Scale and Depression Anxiety Stress Scale.

The effect of the Therapies on Cardinal Signs and Symptoms



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The effect of the therapies on the cardinal signs and symptoms has shown statistically significant reduction in all the parameters with various percentages of relief. Group I (*Bilvadi Churna* & Counseling) and Group II (*Kiratadi Churna* & Counseling) has shown the statistically extremely reduction of *Prabhuta Mutrata* (polyuria), *Kshudhadhikya* (polyphagia), *Pipasadhikya* (polydipsia). Group III (Counseling & Placebo) also has given statistically extremely significant relief for the cardinal signs and symptoms excluding *Alasya* (lassitude).

Diet and life style modification can control the Diabetes to a great extent and the influence of counseling cannot be neglected in this context. The effect of counseling has obviously inclined better result in all the groups. Group II (*Kiratadi Churna* & Counseling) has shown statistically significant better result in *Ati Sveda, Karpadadaha,Karapadasupti* (than Gr I & III). *Galatalushosha, Vibandha, Alasya* (better than Gr III).Group I (B*ilvadi Churna* & Counseling) has shown statistically significant better result in *Klama, Alasya* (better than Gr III).

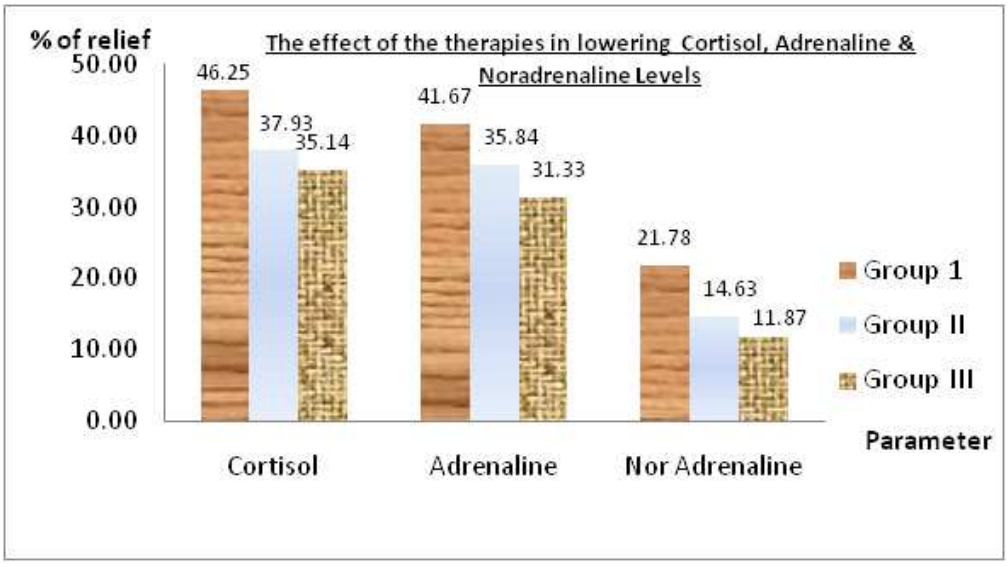
Group I (B*ilvadi Churna* & Counseling) has shown statistically significant reduction in frequency of urine output in day, weight variation and body mass index, frequency of urine output in night, pulse, Systolic Pressure. But insignificant lowering of Diastolic Pressure. Group II (*Kiratadi Churna* & Counseling) also given significant reduction in above said all the parameters tested, except the systolic pressure. Group III (Counseling & Placebo) also given good result except reduction of Diastolic Pressure. Weight reduced was insignificant. Compared to other two groups insignificant increase was observed in the body mass index.

The Pulse, Systolic Pressure, Diastolic Pressure, frequency of urine output day and night did not statistically differ among the Group I, Group II and Group III. The Group I (*Bilvadi Churna* & Counseling) and the Group II (*Kiratadi Churna* & Counseling) has shown significant reduction of weight and Body Mass Index compared to Gr III.

The effect of the Therapies on Serum Cortisol, Plasma Adrenaline and Noradrenalinein39 patients of Stress Related Diabetes Mellitus

Above tests were performed in 39 patients. *Medhya Rasayana* Drug (*Bilvadi Churna*& Counseling Group) (Group I) has shown extremely significant reduction in Serum Cortisol levels, statistically very significant reduction in Plasma Adrenaline levels and Noradrenaline levels. Group II and III also have shown statistically significant lowering of Serum Cortisol levels but insignificant lowering of Plasma Adrenaline and Noradrenaline.

The normal range of Cortisol, Adrenaline and Noradrenaline levels were very high therefore, majority of the patients were not exceeding the normal range. All the groups have reported various percentages of reduction of Serum Cortisol, Plasma Adrenaline and Plasma Noradrenaline.The results obtained from the intergroup comparison were statistically insignificant. It also indicated the ability of all the therapies to reduce the stress hormones in different percentages.



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Bilvadi Churna& Counseling was very effective on lowering Glycated Hemoglobin (G Hb %) and Fasting Blood Sugar (FBS). (P<0.001) (Paired t test). It was also able to reduced Serum Cholesterol, Serum Triglyceride, Low-density Cholesterol and Very Low Density Cholesterol insignificantly. Therapy was competent to significantly increase High Density Cholesterol (HDL), which is known as good cholesterol. This also supports the *Medhya Rasayana* effect of the drug. The proper counseling also has helped to reduce the stress factor and modify life style among the patients of this group thus resulted better glycaemic control and lowering hyperglycemia.The effect of *Kiratadi Churna* & Counseling on Group II patients was encouraging. The G Hb% and FBS reduction reported were significant. These values indicate that the therapy was effective to reduce the hyperglycemia. High density Cholesterol was significantly increased. Drug was also able to insignificantly lower Serum Cholesterol level, Serum Triglyceride, Low-Density Cholesterol and Very Low Density Cholesterol and correct the *Medodushti*. Counseling & Placebo therapy also able to significantly reduce G Hb % level and FBS. Very Low Density Cholesterol was insignificantly reduced.

Kiratadi Churna & Counseling therapy (Gr II) has shown decline in Eosinophils, Monocyte, Lymphocytes and Neutrophils. Increase observed in other hematological parameters was TRBC, MCH, MCHC, PCV, MCV, TPLC and MCHC. (Unpaired t test). Counseling & Placebo therapy in Group III patients did not show any significant change in other haematological and biochemical parameters. Apparent increase was observed in TRBC, TPLC, Hemoglobin, PCV, MCV, MCHand MCHC (P>0.05). The therapy was able to increase High Density Cholesterol (HDL). The reduction was observed in Serum Cholesterol level, Serum Triglyceride and Low-density Cholesterol, and it may due to the behavior of changing food intake and regular exercises. Counseling was able to fairly correct the *Medodushti* as well. The effect of lowering Glycated Haemoglobin in all three therapies was appreciable. Unpaired t test for intergroup comparison was statistically insignificant. When the inter-groups Fasting Blood Sugar was compared, Group I has shown very significant reduction. Extremely significant Increased in Haemoglobin (HB) in Gr I also was reported (P<0.001).

Urine of Group I was effectively improved after the treatment. Reduction observed in Turbidity, Specific Gravity, PH value, protein, Epithelial Cells, White Blood Cells (WBC), Red Blood Cells (RBC) and Uric acid crystals. This proves that the *Avilata* was reduced due to the therapeutic effect of the *Medhya Rasayana*drug and counseling. Urine Sugar was dropped by 78.02% (P<0.01).The results indicate the *Bilvadi Churna* & Counseling can effectively control glycosuria in stress related Diabetic Mellitus. *Kiratadi Churna* & Counseling was capable to reduce Urine Sugar. (P<0.001). Reduction of Protein Urea, Epithelial Cells, WBC, RBC and Specific Gravity indicates the effect of drug in reducing *Avilata* of the urine. Counseling (Group III) was able to reduce urine Sugar (P<0.01). Reduction of turbidity of urine, Specific Gravity. Proteinuria, Epithelial Cells, WBC, RBC directly helped to correct abnormalities and *Avilata*of the urine also have been reduced.Urine sugar reduction in Group II (*Kiratadi Churna* & Counseling) has shown significant result(P<0.01) (Unpaired t test). Maximum reduction was reported from Group I, 78.02%. In overall Group II (*Kiratadi Churna* & Counseling) has shown better reduction of urine sugar(68.67%) (P<0.001) (Paired t test). As *Kiratadi Churna* contained 5 *Madhumehahara* Drugs, the formula might have prevented glycosuria successfully than other two therapies. Only counseling also help to reduce urine sugar 60.34% (P<0.01) in Group III patients. In overall, all the groups have shown better reduction of pathological parameters in varying degrees. Specific Gravity and PH value of urine was not significantly changed when compared. The therapy has reduced epithelial cells, White Blood Cells and Red Blood Cells in urine in Group 1 patients when compared with Group III (Unpaired t test). Appearance of urine was reduced to pale color, not quite significant in Group III vs. Group I (P<0.10) (Unpaired t test). Reduction of the proteinuria within the groups was not changed significantly (P>0.05) (Unpaired t test). Protein Ureain all the groups have been reducedafter prescribed treatment. Epithelial Cells, White Blood Cells (WBC) were considerably lowered.

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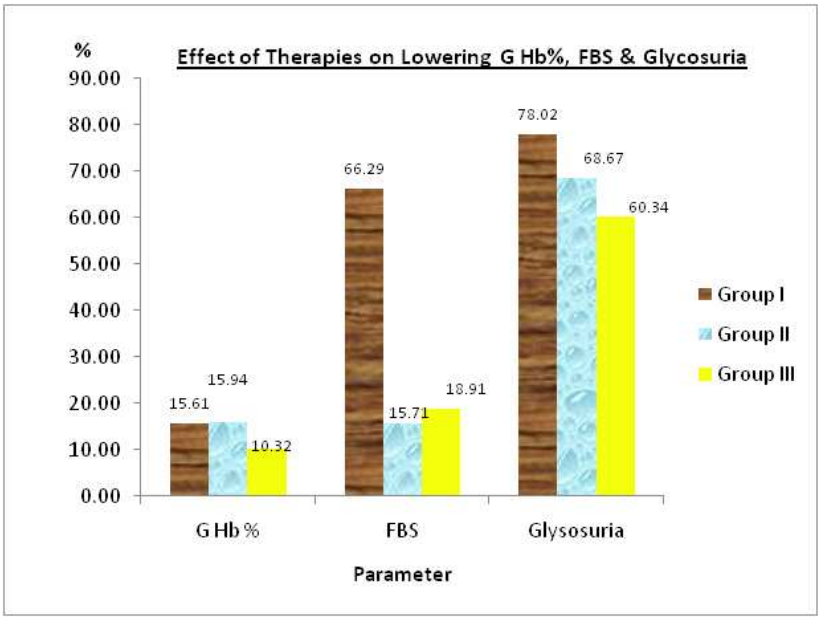
Effect of Therapies on Lowering G Hb%, FBS & Glycosuria in Stress Related Diabetes Mellitus.



The therapies were able to reduce the stress in all three groups. When the overall effect of the stress was calculated by Perceived Stress Scale, statistically very significant relief was observed in all the three groups (P<0.01). When intergroup comparison was performed Group 1 (*Bilvadi Churna* & Counseling) has shown statistically significant reduction of stress compared to Group II (*Kiratadi Churna* & Counseling) (P<0.01) and Group III (Placebo & Counseling Group) (P<0.001), (Unpaired t test). Therefore *Bilvadi Churna* & Counseling therapy is the best therapy to reduce stress.

None was found without the stress when the data were analyzed in accordance with the Perceived Stress Scale before and after the treatment. As the stress is an unavoidable incident in our day to day life it is not possible to eradicate the stress. the severity of acute stress observed in 60 patients of Diabetes Mellitus has shown 29 (48.33%) of the patients have being suffering from moderate stress during the last month before commencement of the trial.22 patients had moderate stress (38.67%) after completing the treatment.

Patients of moderate category have shifted to mild category and the severe category patients have shifted to moderate category after the therapy. 23 (38.33%) patients had severe distress before the treatment and after the treatment only 9 patients had severe stress (15%). Before treatment 8 (13.33%) were fallen in to the category of mild stress. After the treatment the number has increased up to 29 (48.33). This was observed when the chronic stress was considered. The majority of the patients of this study group have undergone chronic stress for many years before the onset of Diabetes. Others have reported severe acute stress before the signs and symptoms of the Diabetes developed.

According to Holmes-Rahe Life Stress Scale, 48.33% were found to have severe stress, 38.33% moderate stress and 13.33% mild stress before the onset of Diabetes death of close family members, personal injury or, business readjustment, change in health of a family member, marital problems and change in financial state. Other causes observed were change in responsibilities at work, trouble with in-laws , change in work hours or conditions and mortgage or loan less than $30,000, death of close friend, change in living conditions, change in religious activities and change in social activities, death of spouse, and jail term / minor violations of the law, marriage, retirement, gain of new family member and change in sleeping habits, divorce, fired at work, change to different line of work, change in number of arguments with spouse, foreclosure of mortgage or loan, son or daughter leaving home, outstanding personal achievement, wife begins or stops work and trouble with boss were the underline causes.

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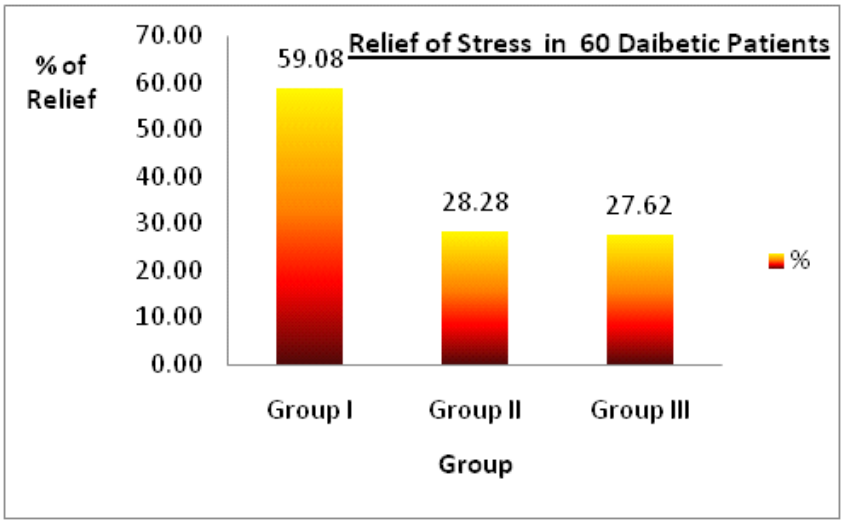
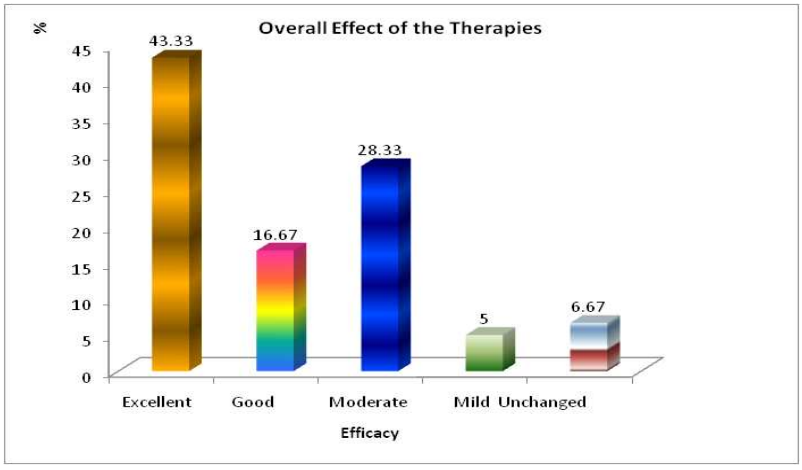
According to the sex, the underline causes of chronic stress in males were identified as business issues, readjustment, change in financial state, work place pressure, major change in living condition, personal injury or illness, change in health of a family member, change to different line of work, trouble with boss, death of close family member, death of close friend, retirement, death of spouse and marital separation. The main complaint of females was ill treatment of in-laws. Other causes reported were marital problems, disagreement with spouse, extended families and family disputes.When overall result was considered 100% Type II Diabetic patients were identified as suffering from chronic stress before the onset of Diabetes.All the patients have shown that they were not capable of solving the problems (*Upadhida*) in their daily life (100.00%), they also suffering from *Manasika Bhavas* reported were *Krodhadha*, Raja, *Shoka, Dvesha,Moha*and *Bhaya*. Therefore educating them to manage the stress is obvious.The percentages of relief in all three groups owing to the reduction of stress ue to counseling.



Percentage of relief in Group I (*Bilvadi Churna* & Counseling) was 59.08%, In Group II was (*Kiratadi Churna* & Counseling) 28.28% (P<0.01) and Group III (Placebo & Counseling Group) percentage of relief was 27.62. (P<0.01). The more influence observed in Group I may be due to the *Medhya Rasayana* effect of *Bilvadi Churna*.

Overall effects of the Therapies on Stress Related Diabetes Mellitus.

When the overall effect of three therapies was considered the majority 26 (43.33%) patients has shown more than 75% improvement (Excellent Response), 10 (16.67%) patients had improvement in between 75% - 50% (Good Response). 17 (28.33%) patients have reported improvement between 49% - 30%(Moderate Response). Three patients (5.00%)



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had Improvement in-between 29% - 25%. (Mild Response). Four patients remained unchanged (6.67%).

Group 1 (*Bilvadi Churna*&Counseling) has shown excellent response in 11 patients (55%), Group II, 8 patients (40%) and in Group III, 7 patients (35%) when the overall effect of the Therapies on Stress Related Diabetes Mellitus were considered.

Conclusions

Medhya Rasayana drug, *Bilvadi Churna*has shown better result of reducing stress hormones when compared with the before and after treatment. All the parameters, Plasma Cortisol, Adrenaline and Noradrenaline levels were reduced markedly and the results were very highly significant (P<0.001- P <0.01). *Medhya Rasayana* effect of the drug might have given the better result in this context. Reduction observed in other two groups also highlights the therapeutic importance of counseling as well as controlling Diabetes to mitigate the diseases condition. *Bilvadi Churna*was predominant by *Tikta* and *Kashaya Rasa, Laghu* and *Snigdha Guna, Ushna Virya, Madhura Vipaka* and *Medhya Rasayana* properties,which indicated the overall action of pacifying the vitiated *Kapha Doùa* in *Prameha*. *Bilvadi Churna*was 100% *Medhya Rasayana*. Owing to its *Prabhava, Bilvadi Churna*has reduced the stress of Diabetes patients, drug might have reached to the *Sukshma Manovaha Srotas* and performed the soothing effect. By these twofold actions *Bilvadi Churna*has reduced the stress and hyperglycaemia in Stress Related Diabetic patients very effectively.

*Kiratadi Churna*waspredominated by *Tikta Rasa, Laghu* and*Ruksha Guna,Shita Virya* and *KatuVipaka*. *Kiratadi Churna*having the capacity to seize the general pathogenesis of *Prameha* due to the vitiation of *Kapha Dosha*. Probable mode of the action of the *Kiratadi Churna* can be suggested due to cumulative properties of *Rasa, Guna, Virya* and *Vipaka* and the result obtained was very satisfactory.

Counseling has improved the problem solving skills, social skills, inter and intra personal skills and decision taking ability etc. in the studied population. Guiding the patients for the life style modification, avoiding *Apathya* and using *Pathya* for stress and it can be used to reduce the prevailing stress by using client centered appropriate counseling methods. The studied group was able to change their food pattern, daily routines, engage in more physical exercises and activities to break the pathogenesis of Diabetes. Therefore the result obtained from the counseling and placebo group was very much encouraging. Counseling can be adopted as a tool to reduce the stress and give a good glycemic control in Stress related Diabetes Mellitus. It is also very useful as a combine therapy to promote the efficacy of the drug therapy.In this present study overall effects of all the therapies have ensured the specific mode of action of the each therapy to break the *Samprapti* of Stress Related Diabetes Mellitus.The study has ensured the chronic stress as a risk and prevailing factor of Type II Diabetes and need of addressing coping strategies to manage the stress. Methods explained in the science of Ayurveda can be adopted and proper counseling and mental health promotion may prevent or delay the onset of Stress Related Diabetes Mellitus.

References

1. Sharma, S.P *Emerging therapies for diabetes mellitus in the new millennium*, Journal of Diabetes & Metabolism, ISSN: 2115-6156, September 2012 Volume 3 Issue 8, P. 30.
2. Sharma, H., Chadola, H.M., *Prameha in Ayurveda : Correlation with Obesity, Metabolic Syndrome, and Diabetes Mellitus,* Part 2-Management of Prameha. The Journal of Alternative and Complementary Medicine, Volume 17, Number 7, 2011, P. 589-599.
3. Caraka Samhita Nidana Sthana 4/36,Caraka Samhita Nidana Sthana 4/24,Caraka Samhita Nidana Sthana 4/5,Ram Acharya N, Sushruta Samhita of Sushruta with Nibandasamgraha of Sri Dalhanacarya and Nyayachandrika Panjika of Sri Gayadas Acharya on Nidanasthana, Chaukhambha Surbharati Prakashan,Varanasi, India, (2010).
4. Caraka Samhita Sharira Sthana 1/136,Triamji Acharya, V. J., Ram Acharya N, Sushruta Samhita of Sushruta with Nibandasamgraha of Sri Dalhanacarya and Nyayachandrika Panjika of Sri Gayadas Acharya on Nidanasthana, Chaukhambha Surbharati Prakashan,Varanasi, India, (2010).

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Clinical Study

A Study on Role of *Mustadi Yapana Basti* In The Management of *Gridhrasi* (Sciatica)

*Praveen B S, **Anil K Abraham, ***Kashinath Samagandi

Abstract:

Introduction: Low back pain is frequently confronted problem in clinical practice which is more common among people aging 40-80 years. About 40% of people experience low back pain at some point in their life. About 50-70% of people get affected by low back pain with incidence of Sciatica more than 40%. *Gridhrasi* is a variety of *Vatavyadhi* characterized by pain in low back radiating to lower limb. Due to the resemblance in signs and symptoms, Gridhrasi may be readily correlated to sciatica. A study was planned to ascertain the role of *Musthadi Yapana Basti* in the management of *Gridhrasi* (sciatica) as it is indicated in management of musculoskeletal disorders. *Pancha Tikta Ghritha* was selected as *Anuvasana Dravya* which is also indicated in *Gridhrasi*. **Objectives of Study:** To evaluate the efficacy of *Mustadi Yapana Basti* in the management of *Gridhrasi*. **Materials and Methods:** Source of data: Samples were selected from OPD and IPD of PG studies in Panchakarma of Alva's *Ayurveda* Medical College & Hospital, Moodabidri, Karnataka. **Methadology and Results:** 20 Subjects fulfilling Diagnostic and Inclusion criteria were subjected for *Mustadi Yapana Basti* with *Pancha Tiktaka Ghritam* as *Anuvasana* in *Yoga Basti* schedule. This study has revealed that *Mustadi Yapana Basti* has produced statistically highly significant relief in symptoms like *Ruk, Sthambha, Toda, Spandana*, SLR test and duration of walking time at the level <0.001. Statistical significant relief was observed in other symptoms like *Tandra Aruchi* and *Gaurava* too. 60% of the patients showed moderate improvement and 40% of the patients had mild improvement in present clinical study. **Conclusion**: So it can be concluded that *Musthadi Yapana Basti* is effective in the management of *Gridhrasi*.

Key Words : *Sciatica, Gridhrasi, Basti Karma, Mustadi Yapana Basti, Yoga Basti, Vata Vyadhi.*

सारांश–

40–80 वर्ष की आयु में कटि शूल चिकित्सा कर्म में पाई जाने वाली सामान्य व्याधि है। जीवन में किसी न किसी अवसर में 40 प्रतिशत लोगों को कटि शूल होता है। लगभग 50–70 प्रतिशत लोगों में कटि शूल और उसमें से 40 प्रतिशत लोगों को गृध्रसि के साथ कटि शूल होता है। इसके लक्षणों की गृध्रसी से समानता होने के कारण इसकी तुलना गृध्रसी से की जाती है। यह अध्ययन मुस्तादि यापन बस्ति का प्रभाव गृध्रसी में देखने के लिए किया गया है। इसका निर्देश मांस व अस्थिवह स्त्रोतस् में बताया गया है। अनुवासन बस्ति के लिए पंचतिक्त घृत को लिया गया है।

मुस्तादि यापन बस्ति का गृध्रसी में प्रभाव देखना– इस अध्ययन के लिए प्रतिदर्श बहिरङ्ग रोग और अन्तरङ्ग रोग विभाग अल्वा आयुर्वेदिक मेडिकल कॉलेज स्नातकोत्तर पंचकर्म विभाग कर्नाटक से लिया गया है। 20 प्रतिदर्श जो निदान और शोध के बनाए नियमों के अन्तर्गत आते थे उनको मुस्तादि यापन बस्ति, पंचतिक्त घृत अनुवासन देने के लिए लिया गया है। इस अध्ययन से यह पता चलता है कि मुस्तादि यापन बस्ति से सांख्यिकीय के अनुसार रूजास्तम्भ, तोद स्पन्दन, एस.एल.आर परीक्षा और चलने के समय में पीड़ा आदि में अच्छा प्रभाव है। सांख्यिकीय के अनुसारअन्य लक्षणों जैसे तन्द्रा, अरूचि, गौरवता आदि में अच्छा प्रभाव है। 60 प्रतिशत रोगियों में मध्यम और 40 प्रतिशत में थोड़ा सा सुधार इस अध्ययन में देखा गया है। इससे यह निष्कर्ष निकलता है कि मुस्तादि यापन बस्ति गृध्रसी में प्रभावी है।

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Clinical Study

A Study on Role of *Mustadi Yapana Basti* In The Management of *Gridhrasi* (Sciatica)

Praveen B S, Anil K Abraham, Kashinath Samagandi

Introduction:

Musculoskeletal disorders are on the raise worldwide due to the drastic change in lifestyle of an individual. Sedentary lifestyle, stress, improper posture, frequent travelling and strain full works are often observed faults in general public resulting in to low back pain and thus losing quality of life[1]. Back pain is a highly prevalent disabling musculoskeletal condition affecting almost everyone at some time inflicting substantial direct and indirect costs on health, social and economic systems.[2]. Many musculoskeletal conditions start in middle-age and require interactions with health care providers over many years.[3][4] Globally back pain causes more disability than any other condition. The 2010 Global Burden of Disease Study ranked low back pain as the condition with the highest number of years lived with disability and sixth in terms of disability-adjusted life years .[5][6] In 1990, the global burden of years lived with disabilities due to back pain in adults aged 50–69 was 59% in developing countries, but by 2010 this proportion had increased to 67%.[7]With rapid growth in the numbers and proportions of older adults in low- and middle-income countries the back pain burden in older adults in these countries is expected to grow significantly in coming decades.[8]

Low back pain is frequently observed among people aging 40-80 years. Approximately 9 to 12% of people experience low back pain at any given point of time and nearly 25% report having it at some point over one-month period. About 80% of people throughout the world have low back pain at some point in their lives[9]. About 50-70% of people get affected by low back pain with incidence of Sciatica more than 40%. It is particularly seen in most active period of life, involving working class people causing hindrance in their routine life. *Gridhrasi* is a variety of *Vatavyadhi,* characterized by pain in low back radiating to lower limb.[10] Due to the resemblance in signs and symptoms, Gridhrasi may be readily correlated to sciatica. *Gridhrasi* is classified in to *Vataja* and *Vata Kaphaja Gridhrasi* considering dominance of *Dosha*.[11]

Gridhrasi (sciatica) is a frequently confronted clinical condition in practice. Though numerous choices of treatments like NSAID's, Surgery and physiotherapy are available, effective management of this condition is not been possible till date. Pain management, restoring the range of motion and increasing the muscle endurance needs to be considered while treating this clinical condition. *Ayurveda* emphasizes on *Snehana*, *Svedana, Basti, Siravyadha* and *Agnikarma* as choices of treatment in treatment of *Gridhrasi*. *Basti* is one of the prime modality of treatment in the management of *Gridhrasi*.[12] This is praised due to its multi dimensional actions viz *Shodhana, Shamana, Lekhana, Brimhana* based on drugs utilized in it.[13] *Yapana Basti* are *Madhutailika Vikalpa Basti* which is praised in managing many clinical conditions.[14] *Musthadi Yapana Basti* often considered as *Raja Yapana Basti* due to the superiority among all *Yapana Basti*.[15] It comprises of *Musta Usheera, Bala, Aragvadha, Rasna, Manjishtha, Katurohini, Tayanti, Punarnava, Sthiradi Panchamoola* and *Madhanaphala* as *Ksheera Kashaya Dravya*. *Madhuka, Rasanjana, Shatapushpa* and *Vatsaka* are considered as *Kalka Dravya* and *Mamsarasa* as *Aavapa*. This *Yapana Basti* is specifically indicated in *Janushoola, Urushoola* and *Janghashoola*.[16] These symptoms are often observed in *Gridhrasi*. So, *Musthadi Yapana Basti* is selected with *Pancha Tikta Ghritha* as *Anuvasana Dravya* which is also indicated in different varieties of *Vata Vyadhi*.[17]So this study is undertaken to assess the efficacy of *Mustadi Yapana Basti* in the management of *Vataja Gridhrasi*(sciatica)

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Materials & Methods:

Objectives of the Study:

To evaluate the efficacy of *Mustadi Yapana Basti* in the management of *Gridhrasi.*

Source:

Drug source:

Medicines required for the treatment were prepared in Alva's pharmacy, Mijar.

Source of data:

Samples were selected from OPD and IPD of PG studies in *Panchakarma* of Alva's Ayurveda Medical College& Hospital, Moodabidri, Karnataka.

Method of collection:

20 participants fulfilling the diagnostic and inclusion criteria belonging to either sex irrespective of socio-economical status and caste were selected for the clinical study.

Diagnostic criteria

Patients were diagnosed based on the following clinical features.

1. Pain over *Sphik, Kati*, radiating to *Prishtabhaga* of *Uru, Janu, Jangha* and *Pada.*
2. Positive SLR Test.

Inclusion criteria

1. Patients fulfilling the diagnostic criteria.
2. Patients between the age group of 20 to 60 years.
3. Patients who were fit for Basti procedure.

Exclusion criteria

1. Traumatic, Infective, Neoplastic, Degenerative conditions of spine and Cauda equina syndrome.
2. Developmental anomalies.
3. Patients with systemic disorders which interfere with the course of the treatment.
4. Patient's contra indicated for *Basti.*
5. Pregnancy and lactating women.

Research Design:

***Basti Dravya*:**

***Anuvasana*:** *Panchatiktha Ghrita* was administered in the dosage of 100 ml

Procedure of *Anuvasana Basti*: The patients were subjected for *Sarvanga Abhyanga* (oil massage) with *Murchita Taila* followed by *Bashpa Swedana* (steam bath). Later subject was asked to take hot water bath. Sample was advised to eat easily digestible food in little quantity. Then patient was made to lie down in left lateral position and *Anuvasana Basti* with luke warm ghee was administered with the help of catheter and metallic syringe. Patient was made to lift his lower limbs 4 times and buttocks were tapped. Abdominal massage was done in anticlockwise direction. Then patient was asked to lie down for a while. He was asked to attend natural urges when he gets the call.

***Niruha Basti Dravya*:**

Ingreadient	Quantity
Makshika	200 ml
Saindhava Lavana	15 gms
Pancha Tikta Ghritam	200 ml
Mustadi Yapana Kalka	50 gms
Mustadi Yapana Ksheerapaka	300 ml
Aja Mamsa Rasa	100ml

Niruha Basti Dravya was mixed properly with order of *Makshika, Lavana, Sneha, Kalka, Kwatha* and *Aavapa*.

Schedule of *Basti*: *Yoga Basti*

Basti	Dose	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Niruha	865ml		✓		✓		✓		
Anuvasana	100ml	✓		✓		✓		✓	✓

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Procedure of *Niruha Basti*: Patient was subjected for *Sarvanga Abhyanga* (oil massage) with *Murchita Taila* followed by *Bashpa Sveda* (steam bath). The patient was asked to lie down comfortably on his left side. Then the patient was asked to the flex his right leg. Thereafter, anus and rubber catheter were lubricated with oil. The prepared *Basti Dravya* was heated indirectly keeping it above hot water bath and filled inside the can. Lubricated rubber catheter was introduced inside the anus slowly till 6 cm. While administering the *Basti* patient was asked to breathe in and out through mouth slowly. Thereafter, the content of enema was injected into the rectum till small quantity of the liquid remains in the can. After administering *Basti* the patient was allowed to turn on his back comfortably. Patient was asked to attend to his natural urges when he gets sensation. Patient was observed for any untoward events. After observing the *Samyak Niruha Lakshana* the patient was advised to take hot water bath and light diet.

Study duration-Total study duration 24 days

Placebo- Placebo in the form of rice flour capsule was administered twice a day from 9th to 16th day for a period of 8 days for late assessment.

Observation

Treatment period: Patients were assessed on the before treatment and 9th day (After treatment)

Follow up: on 24th day of treatment

Assessment criteria: (Table-1)

Assessment of the condition were done based on detailed Performa adopting standard scoring methods of subjective & objective parameters and were analyzed statistically using student 't ' test.

Table No: 1 Assessment Criteria

Signs and Symptoms	Assessment criteria	Gradings
***Ruk* (Pain)**	No pain	0
	Painful, walks without limping	1
	Painful, walks with limping but without support	2
	Painful, can walk only with support	3
	Painful, unable to walk	4
Stambha (Stiffness):	No Stiffness	0
	Mild, occasionally, lasting for <1hr, not interfering with daily routines.	1
	Moderate, occasionally, lasting for >1hr, interfering with daily routines	2
	Moderate, oftenly, lasting for >2hr, interfering with daily routines.	3
	Severe, oftenly, lasting for >3hr, interfering with daily routines	4
Toda (Pricking Sensation):	No pricking sensation	0
	Occasionally pricking sensation	1
	Mild pricking sensation	2
	Moderate pricking sensation	3
	Severe pricking sensation	4

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Spandana (throbbing):	No Spandana	0
	Mild, occasional, found in either group of muscles	
	(buttock, back of thigh, back of leg)	1
	Moderate, occasional, found in any two groups	
	of muscles.	2
	Severe, often, present in all 3 groups of muscles.	3
Aruci (Anorexia):	Willing towards all Bhojan padarth.	0
	Unwilling towards some specific Ahara but less	
	than normal.	1
	Unwilling towards some specific Rasa's i.e Katu/	
	Amla/ Madhura.	2
	Unwilling for food but could take the meal.	3
	Totally unwilling for meal.	4
Tandra (torpor):	Nil.	0
	Lasting for more than 2hr, not interfering with ADL.	1
	Lasting for 2-4 hr, interfering with ADL.	2
	Lasting for 4-6 hr, interfering with ADL.	3
	Lasting for >6hr, interfering with ADL.	4
Gaurava (Heaviness):	No heaviness.	0
	Occasionally feeling of heaviness.	1
	Feeling of heaviness but not affecting ADL.	2
	Feeling of heaviness, interfering with ADL.	3
	Feeling of heaviness for longer duration.	4
SLR Test:	SLR was measured and recorded for Statistical calculation	
Walking time (For 50ft)	30-40sec	0
	40-60sec	1
	60-80sec	2
	>80sec	3

Laboratory Investigations:

Blood routine investigations

Urine routine investigations.

X- Ray of lumbo-sacral spine AP-lateral view.

Observations And Results:

In the present study, maximum numbers of patients were belonging to the age group of 30-50 years. People belong to this age group work hard to achieve their goal, *Vata Prakopa* tend to be more

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which leads to condition like *Gridhrasi*. Moreover, progressive dehydration of disc with advancing age is confirmed in recent studies[11]. In present study majority i.e 64.28% were males and 35.71% were females. Majority of patients belonged to Middle class 57.14%. Strenuous and long working hours added with improper posture may be the reason. Most of the patients in the study were house wives (26.19%). Strenuous work, improper postures and irregular food habits might have contributed in outcome. 76.19% of patients out of 21 were having mixed diet habit and 23.80% were of vegetarian diet habit. 33.33% of patients showed less *Vyayama*, Excessive *Vyayama* was observed in 28.57% of the population. A maximum number of patients were having history of sedentary lifestyle (38.09%), whereas, 33.33% were manual workers. Thus this study revealed that indulging in sedentary lifestyle has more risk than working class.[12] Persons with history of sedentary lifestyle might find difficulty to adapt towards strenuous work instantly. This might be the reason for the outcome.73.80% of the patients had disturbed sleep. It is quite evident that the character of pain in this disease disturbed the sleep of patient which is a well known cause for *Vata Prakopa*. Majority of patients had *Vata Pitta Prakruti* i.e. 40.47%. 33.33% had *Vata Kapha Prakruti*, 26.19% had *Pitta Kapha Prakruti*. In maximum number of patients the pain was gradual in onset, dragging nature of pain, course of pain was continuous and radiation towards left leg. The symptoms of *Ruk, Stambha, Toda* and *Spandana* were observed in all the 21patients. *Tandra* was observed in 47.5%, *Gourava* in 37.5% and *Aruchi* in 45% of the population.

This study has revealed that *Mustadi Yapana Basti* has produced statistically highly significant relief in symptoms like *Ruk, Sthambha, Toda, Spandana*, SLR test and duration of walking time at the level <0.001. Statistical significant relief was observed in other symptoms like *Tandra Aruchi* and *Gaurava* too. Patients were observed twice at the interval of 8 days each. On follow up, the patients had statistically highly significant improvement at the level of <0.001 in all the signs and symptoms of *Gridhrasi*. This reveal that the improvement got after the treatment is sustained and improved further on follow up. 60% of the patients showed moderate improvement and 40% of the patients had mild improvement with intervention of *Musthadi Yapana Basti*.

Table No 2

Effect Of Treatment In Signs And Symptoms After Treatment

Signs and Symptoms	Mean		%	SD ± SE	"t" Value	"p" Value
	BT	AT				
Ruk	3.4	2.5	**26**	0.447 ± 0.100	9	**<0.001**
Stambha	3.4	2.35	**31**	0.223± 0.050	21	**<0.001**
Toda	3.1	2.2	**29**	0.307 ± 0.068	13.077	**<0.001**
Spandana	2.85	1.9	**33**	0.223 ± 0.050	19	**<0.001**
Tandra	0.9	0.6	**33**	0.470 ± 0.105	2.853	**0.01**
Aruchi	1.15	0.75	**35**	0.502 ± 0.112	3.559	**0.001**
Gaurava	0.9	0.6	**33**	0.470 ± 0.105	2.83	**0.01**
SLR test	43.25	48.5	**12**	1.118 ± 0.250	21	**<0.001**
Duration of walking test	2.6	4.55	**40**	0.394 ± 0.088	11.917	**<0.001**

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Table No: 03 Effect Of Treatment In Signs And Symptoms On 16th Day

Signs and Symptoms	Mean		%	SD ± SE	"t" Value	"p" Value
	BT	AT				
Ruk	3.4	1.5	**56**	0.718 ± 0.160	11.831	**<0.001**
Stambha	3.4	1.45	**57**	0.223± 0.050	39	**<0.001**
Toda	3.1	1.2	**61**	0.307 ± 0.068	27.606	**<0.001**
Spandana	2.85	1.15	**60**	0.571 ± 0.127	13.309	**<0.001**
Tandra	0.9	0.15	**83**	0.910 ± 0.203	3.683	**0.001**
Aruchi	1.15	0.4	**65**	0.910 ± 0.203	3.683	**0.001**
Gaurava	0.9	0.15	**83**	0.966 ± 0.216	3.470	**0.002**
SLR test	43.25	54	**25**	2.446 ± 0.547	19.648	**<0.001**
Duration of walking test	2.6	1.45	**44**	0.366 ± 0.081	14.038	**<0.001**

Table No: 04 Effect Of Treatment On Signs And Symptoms On 24th Day

Signs and Symptoms	Mean		%	SD ± SE	"t" Value	"p" Value
	BT	AT				
Ruk	3.4	1.35	**60**	0.604 ± 0.135	15.158	**<0.001**
Stambha	3.4	1.35	**60**	0.223± 0.050	41	**<0.001**
Toda	3.1	1.1	**65**	0.324 ± 0.072	27.568	**<0.001**
Spandana	2.85	1.15	**60**	0.571 ± 0.127	13.309	**<0.001**
Tandra	0.9	0.15	**83**	0.910 ± 0.203	3.683	**0.001**
Aruchi	1.15	0.4	**65**	0.910 ± 0.203	3.683	**0.001**
Gaurava	0.9	0.15	**83**	0.966 ± 0.216	3.470	**0.002**
SLR test	43.25	55.75	**29**	3.034 ± 0.679	18.419	**<0.001**
Duration of walking test	2.6	1.3	**50**	0.470 ± 0.105	12.365	**<0.001**

Table No: 05 Overall Effect Of The Treatment

Effect of Therapy	No of patients	%
Cured 100 % Relief	00	**00.0**
Markedly Improved >75% Relief	00	**00.0**
Moderately Improved 50-75 % Relief	12	**60%**
Partially Improved 25-50 % Relief	08	**40%**
No Change <25 % Relief	00	**00.0**

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Discussion:

Basti Karma is one of the prime modality of treatment for *Vata Dosha*. It has multi dimentional action viz *Shodhana, Shamana, Bramhana, Lekhana* etc. This treatment may be implemented in conditions where, either individual or combinations of *Dosha* are involved. So it is often considered as *Chikitsaardha*.[18] *Yapana Basti* being a variety of *Madhu Tailika Basti* can be administered at any time. *Musthadi Yapana Basti*, often called as *Raja Yapana Basti*, acts by the virtue of action of ingredients present in it. *Mustadi Yapana Basti* as a whole has *Tridosha Shamaka* action. It produces *Shodhana* action due to the presence of *Madhana phala* in it. *Pancha Tikataka Ghritam* plays a major role in the action of combination. *Tikataka Saghrita Ksheera Basti* is more praised in the management of *Asthivaha Sroto Vikara*. It is believed to impart *Poshana, Shoshana* and *Kathinata* to the *Asthi*.[19] *Gridhrasi* being one of the *Vata Vyadhi* involving *Asthivaha Srotas* might have got treated well through *Mustadi Yapana Basti*. Mamsarasa present in the *Mustadi Yapana Basti* might have played a major role in mitigating *Vata* and thus produced symptomatic relief in cases of Gridhrasi. *Mustadi Yapana Basti* is often considered as *Napumsaka Basti* due to *Naati snigdha Naati Ruksha* property. Thus it might have alleviated both Vata and Kapha. Kalka Dravyas viz *Yastimadhu, Kutajaphala, Rasanjana, Priyangu & Satapushpa, having Vatapittahara and Vatakaphahara properties*. *Kwatha Dravya viz Musta, Ushira, Bala, Aragwada, Rasna, Manjistha, Katurohini, Trayamana, Punarnava, Vibhithaki, Guduchi, Saliparni, Prishniparni, Brihathi, Katakari, Gokshura and Madanaphala* possess *Vatapittahara*, *Vatakaphahara* and *Tridoshahara* properties. This might be the reason for getting equal benefits in cases of *Vataja* and *Vata Kaphaja* varieties of *Gridhrasi*. During follow up study also results remained significant which proved that *Mustadi Yapana Basti* imparted good relief in the patients of Gridhrasi by relieving all signs and symptoms immediately after treatment and during follow up. Moreover, *Basti* is believed to impart significant improvement in *Parihara Kala* which is confirmed in the present study.

Conclusion:

Musthadi Yapana Basti provided significant relief in *Ruk* (26%), *Stambha* (31%),*Toda* (29%), *Spandana* (33%), *Tandra* (33%), *Aruchi* (35%), *Gourava* (33%), SLR test (12%) and Duration of walking (40%). In this series 12 patients showed Moderate Improvement (60%) and 8 patients showed mild Improvement (40%). There is sustained effect seen in *Musthadi Yapana Basti* on symptoms like *Ruk, Stambha* and SLR test. So it can be concluded that *Musthadi Yapana Basti* is effective in the management of *Gridhrasi* (sciatica).

References

1. Punnett L, Prüss-Utün A, Nelson DI, et al. Estimating the global burden of low back pain attributable to combined occupational exposures. Am J Ind Med. 2005;48:459–469. doi: 10.1002/ajim.20232.
2. Woolf AD, Pfleger B. Burden of major musculoskeletal conditions. Bull World Health Organization. 2003;81(9):646–56.
3. Gureje O, Von Korff M, Simon GE, Gater R. Persistent pain and well-being. A World Health Organization Study in Primary Care. JAMA. 1998;280(2):147–51.
4. 5. Brooks P. Issues with chronic musculoskeletal pain. Rheumatology. 2005;44:831–3.
5. Hoy D, March L, Brooks P, Blyth F, Woolf A, Bain C, et al. The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. Ann Rheum Dis. 2014. Epub 24 March 2014.
6. 9. Murray CJL, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet. 2012;380:2198–227.
7. Institute for Health Metrics and Evaluation. http://www.healthmetricsandevaluation.org/gbd Seattle: Bill and Melinda Gates Foundation; 2013 [6 June 2013].
8. Brooks PM. The burden of musculoskeletal disease—a global perspective. Clinical Rheumatology. 2006;25 778–81.
9. Walker BF. The prevalence of low back pain: a systematic review of the literature from 1966 to 1998. J Spinal Disord. 2000;13:205–217. doi: 10.1097/00002517-200006000-00003.
10. **Agnivesha**: Charaka Samhita with Chakrapani

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Theeka,edited by Yadavji Trikamji Acharya, Published by Chaukhamba Samskrita Samsthana, reprint(2004), Chikitsa Sthana, 28:56, pp 619

11. **Agnivesha**: Charaka Samhita with Chakrapani Theeka,edited by Yadavji Trikamji Acharya, Published by Chaukhamba Samskrita Samsthana, reprint(2004), Chikitsa Sthana, 28:59, pp 619

12. **Agnivesha**: Charaka Samhita with Chakrapani Theeka,edited by Yadavji Trikamji Acharya, Published by Chaukhamba Samskrita Samsthana, reprint(2004), Chikitsa Sthana, 28:101, pp 621

13. **Sushruta :** Sushruta Samhita with Dalhana Theeka, edited by Jadavji Trikamji Acharya, Published by Chukhamba Orientalia, Varanasi,eighth edition(2005), Chikitsasthana:35:3,pp 525.

14. **Sushruta :** Sushruta Samhita with Dalhana Theeka, edited by Jadavji Trikamji Acharya, Published by Chukhamba Orientalia, Varanasi,eighth edition(2005), Chikitsasthana:35:18, pp526.

15. **Sushruta :** Sushruta Samhita with Dalhana Theeka, edited by Jadavji Trikamji Acharya, Published by Chukhamba Orientalia, Varanasi,eighth edition(2005), Chikitsasthana:38:106-111,pp 547-548.

16. **Agnivesha**: Charaka Samhita with Chakrapani Theeka,edited by Yadavji Trikamji Acharya, Published by Chaukhamba Samskrita Samsthana, reprint (2004), SiddhiSthana, 12:16-1, pp 731

17. **Govinda Dasa:** Baishajya Ratnavali,edited by Yadavji Trikamji Acharya, Published by Chaukhamba Samskrita Samsthana, reprint(2004), 54:257-260, pp 633-634.

18. **Agnivesha**: Charaka Samhita with Chakrapani Theeka,edited by Yadavji Trikamji Acharya, Published by Chaukhamba Samskrita Samsthana, reprint (2004), Siddhi Sthana, 1:38-39, pp 683

19. **Vagbhata:** Asthanga Hridaya, with Vidyotini hindi commentary by Kaviraja Atridev Gupta, published by Chaukhamba Sanskrit Sansthan, Varanasi, Sutrasthana:11:30-33, pp 88.

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Clinical Study

A Comparative Study of The Efficacy of Tagar-Rhizome (Valeriana wallichii) Dried Crude Water Extract As Pre-Medication With Diazepam on The Emergence Reactions Of Ketamine Anaesthesia

*Dr. Saval Pratap Singh Jadoun,** Dr.Rajesh Arora,***Dr. Narinder Singh

Abstract

Clinical trial of *Tagar*-Rhizome (*Valeriana wallichii*) Dried CrudeWater Extract as a pre-medicant is conducted on 30 female patients undergoing various surgical procedures under Ketamine anaesthesia. An effort has been made during this study to clinically analyze the efficacy of *Tagar*-Rhizome (*Valeriana wallichii*) Dried Crude Water Extract as pre-medication agent in comparison to the diazepam. Iit is found that both *Tagar*-Rhizome (*Valeriana wallichii*) Dried Crude Water Extract& diazepam were not able to fully control the cardiovascular stimulations along with visual & auditory hallucinations, terrifying delirium during induction and vivid (pleasant or unpleasant) dreams, purpose less movements, psychotic behavior during emergence, but the patients in whom *Tagar*-Rhizome (*Valeriana wallichii*) Dried Crude Water Extract as this was administrated continuously for seven days as pre-medication showed better control over these adverse reactions.

The incidences of pre-procedure & post-procedure amnesia are significantly less in the*Tagar*-Rhizome (*Valeriana wallichii*) Dried Crude Water Extract as pre-medicated group.

Keywords - Anaesthesia, Ketamine, Dissociation, Emergence phenomenon, Premedication.

सारांश–

चिकित्सकीय परीक्षण हेतु 30 विभिन्न महिला रोगियों को जिन्हें विभिन्न प्रकार की शल्य क्रिया के लिए सार्वदैहिक कीटामाइन संज्ञा:हरण से पूर्व तगर कंद (वैलेरियाना वैल्चीयाई) शुष्क जल निर्यास देने हेतु चयन किया गया।

तगर कंद (वैलेरियाना वैल्चीयाई) शुष्क जल निर्यास की कार्मुकता का विश्लेषणात्मक एवम् तुलनात्मक अध्ययन डायजेपाम के साथ प्री–मेडिकेशन के रूप में किया गया।

इस अध्ययन में ऐसा पाया गया की तगरकंद (वैलेरियाना वैल्चीयाई)शुष्क जल निर्यास एवम् डायजीपाम ने हृदय उत्तेजक, दृष्टि भ्रम, कर्णनाद, प्रलाप, सम्प्रेषण, विविध (सुखद अथवा दुखद) स्वप्न, अनैच्छिक गति एवं अस्पष्ट मानसिक व्यवहार का आविर्भाव मिला। लेकिन तगर कंद (वैलेरियाना वैल्चीयाई) शुष्क जल निर्यास जो सात दिन पहले से प्री–मेडिकेशन के रूप में दिया गया उसने उपर्युक्त आविर्भूत क्रियाओं को रोकने के लिए अच्छा प्रभाव दिखाया। शल्य पूर्व एवम् शल्य पश्चात् तगर कंद (वैलेरियाना वैल्चीयाई) शुष्क जल निर्यास से उपचारित रोगियों में स्मृतिनाश प्रभावी रूप से कम मिला।

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Clinical Study

A Comparative Study of The Efficacy of Tagar-Rhizome (Valeriana wallichii) Dried Crude Water Extract As Pre-Medication With Diazepam on The Emergence Reactions Of Ketamine Anaesthesia

Dr. Saval Pratap Singh Jadoun, Dr.Rajesh Arora, Dr. Narinder Singh

Introduction

Keatmine produces a most useful state of dissociative anaesthesia. The patient rapidly goes in to a trance like state, with widely open eyes & nystagmus before proceeding towards unconsciousness, amnesia & deep analgesia. Although it is a marvelous drug that has made many operations possible that would otherwise have been impossible for lack of a trained anesthetist & adequate equipment.

Ketamine also has a few disadvantages as it produces frightening hallucinations, terrifying delirium, vivid (pleasant or unpleasant) dreams, purpose less movements, psychotic behavior during induction & emergence. These emergence reactions are common in young adults recovering from Ketamine anaesthesia, but are much less common in children & in very old patients. Several drugs, including haloperidole, can usually prevent these emergence reactions, but Promethazine or Diazepam[1] are the best. Although these drugs often referred to as "premedication", specifically to counter the undesirable emergence reactions.

Materials & Methods

Tagar (Valeriana wallichi) Pure Root Herb Extract, is compared in two therapeutic doses Group A Single dose of Tagar (Valeriana wallichi) Pure Root Herb 10mg/ kg body weight with a sip of water approx. 2 hours prior to induction & Group B Tagar (Valeriana wallichi) pure Root Herb Extract 5mg/ kg body weight twice daily for continuously for 7 days prior to surgery ,along with the similar dose approx. 2 hours prior to induction.) with Group C (Standard group) diazepam 0.2 mg/kg body weight which is administered 1-3 min. prior to induction through I.V route.

After thorough pre-anesthetic assessment including complete examination & routine investigations 30 female patients of age group 20-45 years posted for short surgical procedures under Ketamine I.V bolus dose of 2mg/kg body had been selected for the trial. These were randomly divided in three groups:

Group A

In this single dose of *Tagar*-rhizome (*Valeriana wallichii*) dried crude water extract 10mg/ kg body weight with a sip of water orally 2 hours prior to induction had been administered as premedication.

Group B

In this group *Tagar*-rhizome (*Valeriana wallichii*) dried crude water extract 5mg/kg body weight twice daily for continuously 7 days orally prior to surgery, along with the similar dose 2 hours prior to induction had been administered as premedication.

Group C (Standard group)

In this group Diazepam 0.2 mg/kg body weight which had been administered 2 hours prior to induction through oral route, as premedication.

Atropine sulphate[2] as 0.02 mg/kg body weight and Ondasetrone 8 mg/kg body weight as per pre-medication had been given to all the patients.

Before shifting to the OT thorough examination along with the proper recording of parameters viz. orientation, temp., R/R, P/R, & B.P had been done. Two memory picture cards for performing amnesia test, were shown to the patient & told them to remember these two pictures.

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Observation Period - 2 hour prior to Anaesthesia up to 7th- post operative period

Follow up – up to 7thpost operative day

Observations

Pre-operative Observations-

Majority of the patients enrolled for the study were having *Pitta-kaphaj deh prakriti* (40%) followed by vat *kaphaj* (33.33%) *deh prakriti* and *kapha-Vataj deh prakrat* i.e (26.66%). On further scrutiny it was observed that majority of the patients i.e six patients belonging to group B were of *kapha-Vataj deh prakriti.*

Majority of the patients enrolled for the study were having *Tamsik manas prakriti* (53.33%) followed by *rajsik manas prakriti* (46.66%). On further scrutiny it was observed that majority of the patients i.e seven patients belonging to group B and A were of *rajsik* and *tamsik manas prakriti* respectively.

Majority of the patients enrolled for the study were of *Pravar sat*va.i.e 36.66% followed by *Madhyam satva* (33.33%) and *avar satva*.e (30%). On further scrutiny it was observed that majority of the patients i.e five patients belonging to group B and C were of *Pravr Satva.*

Majority of the patients enrolled for the study were of *Madhyam sara* i.e 63.33% followed by *Pravr sara* (13.33%) and *avar sara i*.e. (10%). On further scrutiny it was observed that majority of the patients i.e seven patients belonging to group B were of *Madhyam sara.* Majority of the patients enrolled for the study were of *Madhyam sahanan* i.e. 60 % followed by *avrar sahanan* (30%) and *Pravar sahanan* i.e. (10%). On further scrutiny it was observed that majority of the patients i.e. seven patients belonging to group A were of *Madhyam Sahanan.*

Majority of the patients enrolled for the study were of *Madhyam and Pravar Vyayam Shakti i*.e. 36.66 % followed by *Avar Vyayam Shakti*(26.66%). On further scrutiny it was observed that majority of the patients i.e five patients belonging to group B were of *Pravar Vyayam Shakti.*

Majority of the patients enrolled for the study were of *Sthool* Body Built i.e 53.33% followed by *Madhyam* Body Built (26.66%) and *Krish* Body Built i.e (23.33%). On further scrutiny it was observed that majority of the patients i.e seven patients belonging to group B were of *Sthool* Body Built.

On scrutiny it was observed that 50 % study subjects were having the history of sound sleep and 50 % of the study subjects were having the history of disturbed sleep. On further scrutiny it was observed that majority of the patients i.e seven patients belonging to group B that is 70% of the total were having history of sound sleep.

On further scrutiny it was observed that majority of the patients i.e six patients belonging to group B that is 60% of the total were having history of exertinous physical labour.

On further scrutiny it was observed that majority of the patients i.e six patients belonging to group B that is 60% of the total were belonging to *Lower middle class* segment.

On further scrutiny it was observed that majority of the patients i.e eight patients belonging to group B that is 60% of the total were married. Majority of the patients enrolled for the study were of either 20-25 years or of 41-45 years of age. On further scrutiny it was observed that majority of the patients i.e five patients belonging to group B were of the age group 41-45 years and majority of the patients i.e four patients belonging to group A and C.

Table No -1 Showing Pre-operative Status of the vitals in study subjects

Group	No. of patients	Average age	Average systolic B.P	Average diastolic B.P	Average P/R	Average R/R
A	10	32.6	116.1	76.8	69.2	15.01
B	10	38.7	118.4	73.4	71.1	13.7
C	10	33.2	108.6	70.1	69.4	12.99

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Post –induction Assessment

Intra-venous line is maintained with 18-20 FG intra-venous cannula in all the patients. Just prior to induction proper recording of parameters viz. orientation, temp., R/R, P/R, & B.P had been done.

After pre-oxygenation Ketamine in the dose of 2mg/kg body weight as bolus intra-venous was administered to all the patients. During the intra-operative phase a proper vigil was kept on the general condition & vitals of the patient. During intra-operative phase assessment were made every 5th minute.

Peri–Procedure observations

Patients were kept in recovery room under observation until they regained full recovery. During recovery periodic assessment were made every 1/2 hourly for 4 hours & 4 hourly for 12 hours. Recording of R/R, P/R, & B.P had been done along with the strict vigil upon nausea, vomiting or any type of emergence reaction i.e. visual & auditory hallucinations, nystagmus,[3] terrifying delirium, vivid (pleasant or unpleasant) dreams, purpose less movements, psychotic behavior during recovery. After the patients had gained complete recovery few question regarding the experience of anesthatic drug administration/surgical procedure/recovery phase were asked along with the query about the two memory picture cards shown for performing amnesia test that were shown to the patient in pre-operative phase.

Table No- 2 showing The Variations In Vitals (After 5 min. of induction-Peri-operative)

Group	Sign	Mean diff	S.D	S.E	'T'	'P'
A	Systolic BP	22.3	2.32	1.8	7.33	>0.05
	Diastolic BP	10.1	2.84	1.2	6.2	>0.05
	Pulse rate	10.9	2.32	1.31	2.5	>0.05
	Resp. Rate	1.69	0.22	1.2	2.1	>0.05
B	Systolic BP	12.5	3.1	6.2	8.2	<0.001
	Diastolic BP	4.1	4.5	2.8	5.2	<0.005
	Pulse rate	8.2	3.5	2.32	4.8	<0.001
	Resp. Rate	1.6	0.22	0.12	0.33	>0.5
C	Systolic BP	41.5	6.1	3.3	5.7	<0.001
	Diastolic BP	20.50	5.6	4.2	5.43	<0.001
	Pulse rate	22.6	7.2	3.9	6.7	<0.001
	Resp. Rate	1.01	0.3	0.5	1.2	>0.05

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Table No -3 Showing The Variation In Vitals (After 10 min of induction-Peri operative)

Group	Sign	Mean	S.D	S.E	'T'	'P'
A	Systolic BP	33.2	4.4	2.1	6.22	<0.05
	Diastolic BP	12.6	2.3	3.6	3.1	<0.05
	Pulse rate	8.8	4.5	1.9	1.4	>0.05
	Resp. rate	2.8	0.5	0.2	1.3	>0.05
B	Systolic BP	11.5	12.3	6.8	8.9	<0.001
	Diastolic BP	10.6	6.8	3.2	6.0	<0.001
	Pulse rate	8.8	4.3	3.5	4.6	<0.001
	Resp. Rate	1.8	0.6	0.02	0.04	>0.05
C	Systolic BP	21.51	16.8	8.6	10.2	<0.001
	Diastolic BP	14.60	8.9	6.6	9.0	<0.001
	Pulse rate	12.80	12.9	8.2	6.1	<0.001
	Resp. Rate	1.21	0.6	0.2	1.1	>0.05

Table No – 4 Showing The Variation In Vitals (After 2 hour of completion of procedure)

Group	Sign	Mean	S.D	S.E	'T'	'P'
A	Systolic BP	12.1	4.8	3.6	5.98	<0.05
	Diastolic BP	6.7	2.8	2.0	3.9	<0.05
	Pulse rate	7.9	2.6	2.0	4.03	<0.05
	Resp. rate	0.39	0.8	0.36	1.05	>0.05
B	Systolic BP	8.6	5.8	3.1	4.8	<0.001
	Diastolic BP	4.7	5.8	2.9	2.3	<0.001
	Pulse rate	6.7	5.0	1.0	2.3	<0.001
	Resp. Rate	1.3	0.02	0.04	0.02	>0.05
C	Systolic BP	1290	10.2	4.6	3.9	<0.001
	Diastolic BP	9.4	3.8	1.6	2.80	<0.05
	Pulse rate	8.4	10.2	4.5	4.9	<0.001
	Resp. Rate	1.19	0.5	0.12	0.5	>0.05

Statistical observation

Induction was comparatively prompt in Group B 24.20 ± 0.36 seconds as compared to Group C (28.22 ± 2.16 seconds) and Group A patients (30.90 ± 3.10 seconds). Blood pressure & Pulse rate -Variation in the blood pressure and pulse rate was of less variation (rise) in group B as compared to group A & C.

After induction and during procedure group B 80% patient has less variation(rise) in blood pressure and pulse rate as compared to. 40% in group C and 20% in group A. Group B showed comparatively less variation (rise) in Blood pressure & pulse rate (Hemodynamic status) as compared to group A & C.

Respiration -Variation in the respiration

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rate was of nearly equal significance in all the three groups. Respiratory pattern after induction and during procedure in group B 60% patients has regular where as 80% patients of group A were found irregular respiration. Hic cough was found 30% in group A, 20% in group B & 10% only in standard group C.

Coughing were noticed in group A of patient 40& 10% in group B. Breath Holding (Apnea) were found 30% in group A, 20% in group B & 10% in group C. NO incidence of laryngospasm, bronhospasm were found in any group, no incidence of cough noticed in group C.

On comparing Group A and Group C Group C is having better outcome in concern to the effect of intervention in comparison to group A. On comparing Group B and Group C, Group B is having similar outcome in concern to the effect of intervention in comparison to group C.

Secretions - Increased salivary secretions were noticed in 20% of patients of group B and C, and 40% in group A.

Excitatory phenomenon- Excitatory phenomenon were found in 10% patients of Group B, 20% patients of group C and 40% patients of group A.

Adequacy of Anaesthesia[4] - Plane of Surgical anaesthesia was adequately achieved in 90% in patients of Group B as compared to 80%patients of Group C & 60% patients of Group A. Overall statistical observation on secretion, excitatory phenomenon, adequacy of anaesthesia proves that on comparing Group A and Group B, Group B is having better outcome in concern to the effect of intervention in comparison to group A.

On comparing Group A and Group C, Group C is having better outcome in concern to the effect of intervention in comparison to group A. On comparing Group B and Group C, Group B is having similar outcome in concern to the effect of intervention in comparison to group C. Calmness The calmness was observed, 90% in patients of Group B, 60% in patients of Group C and 40% in patients of Group A.

Disorientation The disorientation was peculiarly absent in patients of Group B, was observed 10% in patients of Group C and 50% in patients of Group A.

Restlessness The restlessness was observed 10% in patients of Group B, was observed 30% in patients of Group C and 60% in patients of Group A.

Depression The depression was observed 20% in patients of Group A and Group B and was observed 30% in patients of Group C. Delirium The delirium was observed 40% in patients of Group A, 30% in patients of Group C and 10% in patients of Group B. Over all statistical observation proves that on comparing Group A and Group B Group A is having similar outcome in concern to the effect of intervention in comparison to group B. On comparing Group A and Group C, Group C is having better outcome in concern to the effect of intervention in comparison to group A. On comparing Group B and Group C, Group C is having similar outcome in concern to the effect of intervention in comparison to group B.

Anterograde Amnesia-The anterograde amnesia was observed 40% in patients of Group A, 20% in patients of Group C and 10% in patients of Group B.

Retrograde Amnesia The retrograde amnesia was observed 10% in patients of Group A and Group C and was absent in patients of Group B.

Vivid dreams Feeling of auditory/visual hallucination, visual disturbances, bizarre feelings, floating sensations & sickness, clonus, convulsion, headache, purpose-less movement nausea and vomiting were reported to different extent ranging from 0%-20% in group B which were comparatively less in comparison to group A and group C.

Table No 5 Showing Acceptability of Ketamine anaesthesia in different groups[5]

Group	Yes	No	Don't know
A	4(40%)	5(50%)	1(10%)
B	7(70%)	2(20%)	0(0%)
C	9(90%)	1(10%)	0(0%)

Acceptability- Ketamine with Diazepam as pre-medication is found to be more acceptable (90%)

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in comparison to 70% acceptability in Group B & 40% acceptability in group A.

Overall statistical observation proves that on comparing Group A and Group B (Tagar[6]) Group B is having better outcome in concern to the effect of intervention in comparison to group A. On comparing Group A and Group C, Group C is having better outcome in concern to the effect of intervention in comparison to group A. On comparing Group B and Group C, Group B is having similar outcome in concern to the effect of intervention in comparison to group C.

Neuro-psychiatric adverse reactions are comparatively less in a pre-treated patients of group B treated patients.

Table No- 6 Showing Ques. Regarding Pre-anaesthetic drug

Group	A	B	C
Good	1(10%)	6(60%)	7(70%)
Satisfactory	2(20%)	2(20%)	3(30%)
Unsatisfactory	7(70%)	2(20%)	0(0%)

Diazepam as pre-medication is found to be more acceptable(70%) in comparison to 60% acceptability in Group B (Tagar[7])& 10% group A.

Overall statistical observation proves that on comparing Group A and Group B, Group B is having better outcome in concern to the effect of intervention in comparison to group A.

On comparing Group A and Group C, Group C is having better outcome in concern to the effect of intervention in comparison to group A.

On comparing Group B and Group C, Group B is having similar outcome in concern to the effect of intervention in comparison to group C.

Table No- 7 Showing questions regarding surgical procedure

Group	A	B	C
Good	2(20%)	4(40%)	6(60%)
Satisfactory	2(20%)	2(20%)	2(20%)
Unsatisfactory	6(60%)	4(40%)	2(20%0

Question regarding surgical procedure- Ketamine with Diazepam as pre-medication is found to be more acceptable 60% in comparison to 400% acceptability in Group B (Tagar[8]) & 20% acceptability in group A.

Overall statistical observation proves that on comparing Group A and Group B, Group B is having better outcome in concern to the effect of intervention in comparison to group A.

On comparing Group A and Group C, Group C is having better outcome in concern to the effect of intervention in comparison to group A.

On comparing Group B and Group C, Group B is having similar outcome in concern to the effect of intervention in comparison to group C.

Table 9 Question Regarding recovery Period

Group	A	B	C
Good	0(0%)	6(60%)	4(40%)
Satisfactory	1(10%)	3(30%)	6(60%)
Un-satisfactory	9(90%)	1(10%)	0(0%)

Question regarding recovery period- Ketamine with Diazepam as pre-medication is found to be more satisfactory 60% in comparison to 30% acceptability in Group B & 10% acceptability in group A. statistical observation proves that on comparing Group A and Group B, Group B is having better outcome in concern to the effect of intervention in comparison to group A.

On comparing Group A and Group C, Group C is having better outcome in concern to the effect of intervention in comparison to group A

On comparing Group B and Group C, Group B is having similar outcome in concern to the effect of intervention in comparison to group C.

Probable mode of action

The effects of Tagar(*Valeriana-wallichi*) can be explained on the bases of it characters having effects on CNS viz. *Sangya-sthapan*, *Medhya, Balya, Akshep-shaman, vedna-sthapan, nidrajanan* & CVS viz. *Hridya-niyamak & Rakta-bharshamak*. As per current available literature this can be explained by the fact that the roots of *Tagara* contain Valerianic

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acid (VA), Valerosidatum (iso-valery) glycoside, Valepotriates (a derivative of iridoid or monoterpene). VA in particular affects the GABA concentration at the corresponding receptors with GABA-A receptor modulation is responsible for its trenqulizing sedative and hypotensive actions.

Conclusion

- Present study was done on 30 female patients of age group 20-45 years posted for short surgical procedures under Ketamine I.V bolus dose of 2mg/kg body weight as sole anesthetic agent as emergence reactions are more commonly seen in females.
- Induction was found to be more prompt in patients in which Tagar (Valerianawallichi)-is given in the dose of 5 mg/kg body weight as 7 days prior to the surgery twice daily.
- Neither *Tagar* (*Valerianawallichi*) nor Diazepam efficiently controlled the rise in P/R & Respiration after induction with Ketamine as sole anesthetic agent.
- In Tagar (*Valerianawallichi*) pre-treated patients incidences of disorientation after recovery were significantly less.
- Feeling of auditory / visual hallucination, visual disturbances, bizarre feelings, floating sensations & sickness are less in Tagar (*Valerianawallichi*) pre-treated patients in which this was administrated in the dose of 5mg/kg body weight twice daily for seven days prior & than in immediate pre-operative phase.
- Incidence of vivid dreams were seen in 10 % of the patients in all the groups.
- Anterograde amnesia was significantly less in group B pre-treated patients as compared to group A pre-treated group
- Retrograde amnesia is not seen in group B pre-treated patients & is seen in 10% patients of group A and C pre-treated group.
- Neuro-psychiatric adverse reactions are comparatively less in pre-treated patients of group B treated patients.
- In regard to acceptability Ketamine with Diazepam as pre-medication is found to be more acceptable as compared to *Tagar* (*Valeriana wallichi*) pre-treated patients of group A and B.

Suggestions

During this study it is found that both *Tagar* (*Valeriana wallichi*) & diazepam were not able to fully control various emergence reactions, but the patients in whom the *Tagar* (*Valeriana wallichi*) was administrated continuously for seven days as pre-medication showed better control over these adverse reactions in comparison to the patients in which *Tagar (Valeriana wallichi)* was given in the dose of 10 mg/kg body weight as a single dose 2 hours prior to the surgery & diazepam pre-treated group. To establish this fact study with bigger sample size & more assessment criteria is needed.

References-

1. Martin SM. The effect of diazepam on the body temperature change in human being cold exposure. *J clim pharmacol* 1985; 25: 611-13
2. matsukawa T, *et al*. atropine prevent midazolam-induced core hypothermia in elderly patients. *J clin anesth* 2001; 13: 504-8
3. Elder MJ. Diazepam aand its effect on visual field. Aust N Z J opthalmol 1992; 20: 267-70
4. Ben-Shlomo I, *et al.* Midazolam acts synergistically with fentanyl for induction of anaesthesia. *Br J Anaesth* 1900; 64:45-7
5. Kumagai K, *et al* Antiarrhythmic and proarrhythmic properties of diazepam demonstrated by electrophysiological study in humans. *Clin Cardiol* 1991; 14: 397-401
6. The decoction prepaired from *haridra (*Curcuma langa Linn.*) Vidang* (Embelia ribes Burm.), *tagar and daruharidra*(Berberis aristata DC.) is used to management of *kaphaj premeha*.
7. An ointment is used in headache, chest and shoulder pain of *yakshma* patient, prepaired from *satpuspa* (Anethum sowa), *yastimadhu* (Glycryrrhiza gabra Linn.), *kushta* (Saussura lappa Linn.), *tagar and chandan* (Santalum album Linn.).
8. Used as *vishagn,* an imporent constituents in *Mritijeevanagada, mahagandhahastiagada, masayadi yoga, kutajadi pradhaman nasaya.*

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Clinical Study

Clinical Evaluation Of Efficacy Of *Kusthadi Churna* With *Udumbaradi Tail* In The Management Of *Karnini Yonivyapada* W.S.R. To Cervical Erosion

*Dr.Chaurasia Ranju Kumari ** Dr. Diksha Khathuria ***Prof. C.M. Jain ****Dr. B. Pushplatha

Abstract:

Karnini yonivyapad is one of the gynaecological disorder in Ayurveda are found under the umbrella of the *yonivyapad*. According to the sign and symptoms, it is more nearer to the disease, cervical erosion. Benign lesion is sometimes much troublesome due to its chronicity and nature of recurrence. It is the replacement of the stratified squamous epithelium of the portio-vaginalis by the columnar epithelium of endocervix. The treatment is designed to destruct the columnar epithelium by any methods and to promote the re-epithelization of the squamous tissues. Keeping this point in view, the present clinical trial, clinical evaluation of efficacy of *kusthadichurna*with *udumbaradi tail* in the management of *karniniyonivyapad* with special reference to cervical erosion" was taken.The *kusthadichurna* was applied locally on the eroded area and *pichu* of *udumbaradi tail* was used in one group, and other group contain only *pichu* of*udumbaradi tail*, and result were assessed on the basis of the epithelization of erosion and improvement in the symptoms. The study reveals that the mixed therapy group showed better results than thesingle druggroup.

Key words: *Karnini*, Cervical Erosion, *Yonivyapad,* Benign Lesion

सारांश–

कर्णिनी योनिव्यापद (सर्वाइकल इरोजन) महिलाओ में होने वाली व्याधि है, जो प्रजनन काल की अवस्था तक होती है । सर्वाइकल इरोजन में कोलुम्नरइपीथिलियम जो कि सर्वाइकल कैनाल में रहती है, बढ़कर गर्भाशय ग्रीवामुख को ढ़क लेती है। जिसके कारण योनि से लगातार श्वेत स्राव होता है। इसकी चिकित्सा न होने पर यह व्याधि कैन्सर का रुप धारण कर सकती है। यह व्याधि कफ की वृद्धि तथा अपान वायु के वैगुण्य से होती हैं। अतः कफ वात नाशक चिकित्सा लाभदायक हैं। जोकि बढी हुई कोलुम्नरइपीथिलियम को नष्ट करे। अतः इस शोध कार्य में रुग्णाओं केा दो वर्गों में यथा 'ए' वर्ग; (कुष्ठादि चूर्ण और उदुम्बरादि तैल की पिचु) तथा 'बी' वर्ग (उदुम्बरादि तैल की पिचु) का प्रयेागकर चिकित्सा की गयी है। जिसमें 'ए' (कुष्ठादि चूर्ण और उदुम्बरादि तैल पिचु) से चिकित्सकीय परिणाम 'बी' वर्ग (उदुम्बरादि तैल की पिचु) की अपेक्षा अच्छे परिणाम प्राप्त हुए हैं।

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Clinical Study

Clinical Evaluation Of Efficacy Of *Kusthadi Churna* With *Udumbaradi Tail* In The Management Of *Karnini Yonivyapada* W.S.R. To Cervical Erosion

Dr.Chaurasia Ranju Kumari, Dr. Diksha Khathuria, Prof. C.M. Jain, Dr. B. Pushplatha

Introduction:

When looking in to the *Ayurvedic* literature it becomes evident that all the gynaecological disorders are included in the *yonivyapad*. No direct reference regarding the *karniniyonivyapad is* present in the text which make it's resemblance with cervical erosion. However, considering the pathology and main symptoms of cervical erosion, discharge and erosion (like in *karnika*) and the treatment mentioned in the *Ayurvedic* texts, it can be correlated with the *karniniyonivyapad*. On the basis of the etiology we can conclude that *karnini*is chiefly the disease of reproductive age group, and is more commonly seen in sexually active female.[1]

Cervical erosion is one of the commonest gynaecological conditions seen in the OPDs. About 80% women suffer from the cervical erosion i.e. benign condition of female genital tract during their life time. It is not an area denuded of epithelium as its name implies.[2] It appears as red velvet like area or raw-looking granular appearance on the ectocervix when visualized with speculum.In cervical erosion the cervix is not eroded and there is no ulceration, the reason to make cervix look red and raw is that the columnar epithelium is much thinner than the squamous epithelium and so the underlying blood vessels seen more clearly from outside.[3] Although the cardinal symptom of the disease is excessive vaginal discharge, but often the long term sequel of the disease like lower abdominal pain, lower back ache, fatigue, joint pain etc become too much troublesome to the patients and start affecting their daily routine. So they visit the physician with this problem posing them as their chief complaint. In chronic stage it can show malignant changes. So treatment must be started as soon as the diagnosis of erosion is confirmed. Though it is not fatal, yet the long term association with the disease and a number of symptoms both related to the genitourinary system as well as psychological imbalance in the patient needs attention.[4]

*Nidanasevan*vitiate the *vata (apanavayu). Kha-vaigunya* is present in the *artavahastrotas* so here the vitiated *vata*get mixed with *kaphadosha* and *raktadhatu* and in this way the *dosha-dushyasammurchana* is completed. *Adhisthana* of disease is the *garbhashayadwaramukha* i.e. cervix, so in the stage of *vyaktaavashtha, karnika* is formed here which is the cardinal symptom of *karnini-yonivyapada*. So the Ayurvedic treatment having the properties of *lekhana, sodhana, ropana, stambhana, kaphaghna* can effectively cure this disease. *Kapha-vatashamakdoshakarma* of drugs in the trial group were responsible for *sampraptivighatana* of *karnini-yonivyapada* as vitiation of *vatakaphadosha* is responsible for this disease.[5]

Over all the aim of treatment is to destruct the over grown columnar epithelium by use of local drugs. After the destruction of the columnar epithelium the normal squamous epithelium from the basal cell grows and heals the erosion.[6] To enhance this process of epithelization, drugs were used which helps in the healing and regeneration of the tissue.With this background, drugs named *'kusthadi churna* (same ingredients of *Kusthadi Varti* of Charaka Chikitsa 30/109*)* for local application on the eroded area for about 10 minutes, and after washing it with sterile water a *pichu* soaked in the *udumbaradi tail* was put in the vagina for about 4-6 hours. A comparative study has been made to see the effect of the *kusthadi churna* with *udumbaradi tail*and *udumbaradi tail*pichu in cervical erosion. *Kusthadi churna*[7] (all the content of *Kusthadi Varti Ch. Chi* 30/109) the drug were collected and, dried in shade, and *churna* was prepared with the help of grinder, trituration of this *churna* was done with

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vastamutra for twenty one time and dried in shade every time. *Udumbaradi Tail* (Ch, Chi. 30/73-76) was prepared according to *'TailaPakaVidhi'* mentioned in *Sharangdhara Samhita*. *Paka* was done till 5 days daily for two hours on *manda* heat) till the *samyakalakshana* of *madhyamapaka* were obtained.

Aims And Objective:

1. To study the pathogenesis and concept of cervical erosion as per Ayurvedic and modern literature.
2. To compare the clinical efficacy of *kusthadichurna* and *udumbaradi tail pichu* and only *udumbaraditailapichu* in the management of *karnini yonivyapad* (cervical erosion) and to assess the reduction in the symptoms of both subjective as well as objective criteria.
3. To study any side effect related to the drug.
4. To stablish the Ayurvedic treatise in the management of cervical erosion.

Material And Methods

Study design-

Randomized control trial, Open trial, on a single centre.

Selection of cases

- Total 30 clinically diagnosed and confirmed cases of cervical erosion were registered for the present clinical trial, from the O.P.D. / I.P.D. of P.G. Department of *Prasuti-StreeRoga*, National Institute of Ayurveda(N.I.A.) Hospital, Jaipur.
- Those patients were selected who had given '**informed consent'.**
- Selected patients were examined thoroughly with the help of proforma especially designed for the study.

Inclusion criteria

- Clinically diagnosed and confirmed patients of cervical erosion who were married and having the age in between 18-45 years, were registered for the present clinical trial.
- Patient willing to go through trial.

Exclusion criteria: Women of age less than 18 and above the age of 45 years, Adolescent girl, Pregnant women, Organic pathology of uterus and adnexae like cervical carcinoma,any malignant growth, Patient having coagulation disorders, Patient having 2nd and 3rd degree of prolapsed, HIV, VDRL, HBsAg positive patients, Patient using I.U.C.D., Patient having Genital tuberculosis, Diabetes mellitus, Congestive cardiac failure.

Grouping of Patients:

Group A: *Kusthadichurna*as local application on eroded area and*Udumbaradi Tail Pichu*both were given maximum seven seating alternate day for maximum two consecutive menstrual cycles.

Group B: *Udumbaradi tail pichu* administered for fourteen days for maximum two consecutive cycles after the bleeding phase of menstrual cycle.

The treatment should be started after bleeding phase of menstrual cycle is over. Abstinence from sex will be advised during the period of treatment. Patients were called for drug application on the 2nd or 3rd day after clearance of menstrual flow.

Investigation-Blood-Hb, T.L.C, D.L.C, E.S.R, R.B.S, HIV, HBsAg, VDRL, MT, Urine for routine and microscopic examination,Pap's smear for cervical cytology. All investigations were done before and after the completion of trial.

Assessment Criteria-

1. Amount of Vaginal Discharge

0 (-)	:	Absent
1 (+)	:	Persistent vulvae moistening only.
2 (++)	:	Persistent staining of undergarments
3 (+++)	:	Profuse / heavy and needs applying of vulval pads

2. Pruritis vulvae

0 (-)	:	Absent
1 (+)	:	Itching occasionally

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2 (++) : Itching during day & night with disturbed sleep

3 (+++) : Intolerable itching

3. Dysmenorrhoea

0 (-) : Absent

1 (+) : Mild pain throughout the day but relieved by rest

2 (++) : Moderate pain interfering physical activity & not relieved by rest

3 (+++) : pain interfering physical activity & relieved by taking analgesics

4. Pain in lower abdomen

0 (-) : Absent

1 (+) : Mild pain throughout the day but relieved by rest

2 (++) : Moderate pain interfering physical activity & not relieved by rest

3 (+++) : pain interfering physical activity & relieved by taking analgesics

5. Fatigue

0 (-) : Absent

1 (+) : Occasionally on doing heavy work

2 (++) : After doing extra work

3 (+++) : Even without doing work

6. Joint Pain

0 (-) : Absent

1 (+) : Pain increase on exertion, relieved by rest

2 (++) : Pain increase on exertion, not relieved by rest

3 (+++) : Day & night & relieved by pain killers & rest

7. Lower Backache

0 (-) : Absent

1 (+) : Pain increase on exertion, relieved by rest

2 (++) : Pain increase on exertion, not relieved by rest

3 (+++) : Day & night & relieved by pain killers & rest

B. Objective parameters

1. Extent of cervical erosion:[8] Cervix was measured at six to eight different angles with modified compass and measurements were marked on a graph paper having 100 divisions in one square inch and shape and size of cervix was drawn. Now the area covered with erosion was also measured and drawn on the graph paper over diagram of cervix. The squares of graph paper covered with cervix and erosion were counted separately and percent area of cervix covered with erosion was calculated by following formula.

$$\frac{\text{No. of square covered with erosion}}{\text{No. of square covered with cervix}} \times 100$$

0 (-) : No erosion

1 (+) : Erosion covering less than 25% area of cervix.

2 (++) : Erosion covering, 26 to 50%

3 (+++) : Erosion covering 51 to 75% as

4(++++) Erosion covering 75% to above

2. Oozing of blood on rubbing with a gauze piece

0 (-) : Absent

1 (+) : 3-5 pin points of oozing on rubbing with gauze

2 (++) : >5 pin points of oozing on rubbing with gauze

3 (+++) : Excessive oozing / bleeding on touching with gauze

Statistical analysis - All the information which were based on various parameters were gathered and statistical study was carried out in terms of mean (x) standard deviation (S.D), standard error (S.E.) paired test. (t. value) Finally result were shown in terms of probability (P) as $p>0.05$-Insignificant, $p<0.05$-Significant, $p<0.01$ and $P<0.001$- Highly significant

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Observation And Results - The observation and results were concluded in 2 groups-

1. **General demographic profile of the patients under study.**
2. **Clinical observation of group A and group B**

Table No.I: Shows the incidence of sign and symptoms of cervical erosion.

Sign and Symptoms	Group A	Group B	Total	%age
a)Vaginal Discharge	15	15	30	100%
b)Pruritus vulvae	2	6	8	26.66%
c)Dysmenorrhoea	5	7	12	40%
d)Pain in lower abdomen	10	11	21	70%
e)Fatigue	12	15	27	90%
f)Joint pain	6	7	13	43.33%
g)Low back pain	13	12	25	83.33%
h)Erosion on cervix	15	15	30	100%
i)oozing of blood on rubbing with gauze	15	15	30	100%

Results of assessment criteria given below-

Table No.II: Shows the pattern of clinical recovery in various symptoms of Cervical erosion in 15 patients treated *with Kusthadi Churna and Udumbaradi Tail Pichu'* - Group A

S No.	Symptoms	Mean		Dif	% of Change	SD (±)	SE (±)	P value	Results
		BT	AT						
1.	Vaginal discharge	2.2	0.53	1.66	75.75	0.488	0.126	<0.0001	E.S
2.	Dysmenorrhoea	0.8	0.2	0.6	75	0.91	0.23	0.0625	NQS.
3.	Pruritus Vulvae	0.26	0.06	0.2	75	0.56	0.14	0.50	N.S.
4.	Lowerabdominal pain	1.33	0.26	1.06	80	1.09	0.28	.0039	V.S.
5.	Fatigue	2.46	1.46	1	40.54	0.84	0.21	0.0024	V.S.
6.	Joint Pain	0.933	0.5	0.4	42.85	0.63	1.163	0.0625	NQS
7.	Lower Backache	2.2	1.2	1	45.45	0.84	0.21	0.001	E.S.

Table No.III: Showing the pattern of clinical recovery in various objective parameters of Cervical Erosion in 15 patients treated with *Kusthadichurna*and*Udumbaradi Tail* Group A.

S No.	Symptoms	Mean		Dif	% of Change	SD (±)	SE (±)	t value	P value	Res-ults
		BT	AT							
1.	Extent of erosion	1.66	0.53	1.13	68	0.83	0.21	5.26	0.0001	E .S.
2.	Oozing of blood on rubbing with a gauze piece.	1.6	0.466	0.13	70.833	0.51	0.13	8.5	<0.0001	E .S.

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Table No.IV: Shows the pattern of clinical recovery in various symptoms of cervical erosion in 15 patients treated with ' *Udumbaradi Tail*' - Group B

S No.	Symptoms	Mean		Dif	% of Change	SD (±)	SE (±)	P value	Results
		BT	AT						
1.	Vaginal discharge	2.4	1.53	0.86	36.11	0.63	0.16	0.001	E.S.
2.	Dysmenorrhoea	1.2	0.5	0.8	57.89	0.96	0.24	0.0156	S.
3.	Pruritus Vulvae	1.26	0.6	0.66	52	1.2	0.31	0.0625	NQS.
4.	Lower abdominal pain	1.67	0.6	1.06	64	0.96	0.24	0.0020	V .S.
5.	Fatigue	2.3	1.5	0.8	34.28	0.82	0.21	0.0010	E .S.
6.	Joint Pain	0.86	0.26	0.6	69	0.82	0.21	0.0313	S.
7.	Lower Backache	1.46	0.53	0.93	63.63	0.79	0.20	0.0020	V.S.

Table No.V: Shows the pattern of clinical recovery in various objective parameters of Cervical Erosion in 15 patients treated with *Udumbaradi Tail pichu*.

S No.	Symptoms	Mean		Dif	% of Change	SD (±)	SE (±)	t value	P value	Res-ults
		BT	AT							
1.	Extent of erosion	1.86	1.26	0.6	32.14	0.73	0.19	3.15	0.0070	V .S.
2.	Oozing of blood on rubbing with a gauze piece.	1.467	1.067	0.4	27.27	0.63	0.16	2.44	0.0281	S.

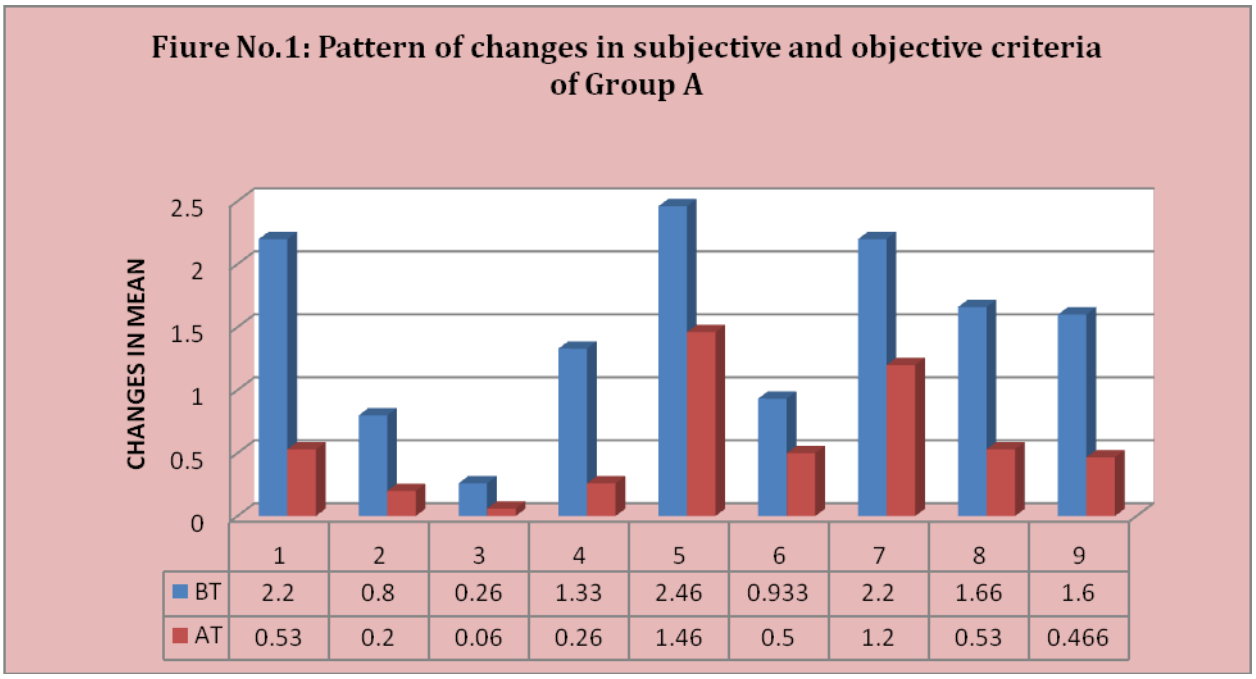

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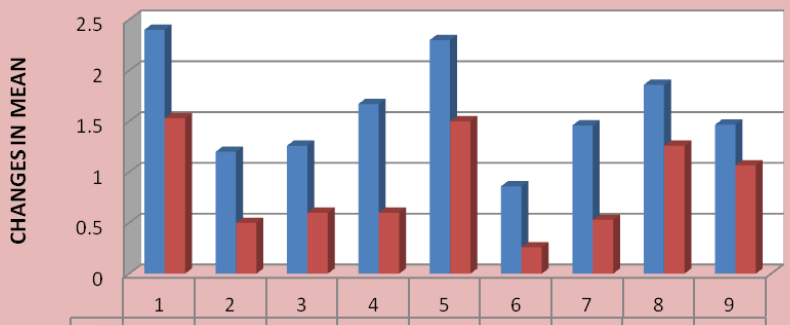
Figure No.2: Pattern of changes in subjective and objective criteria of Group B

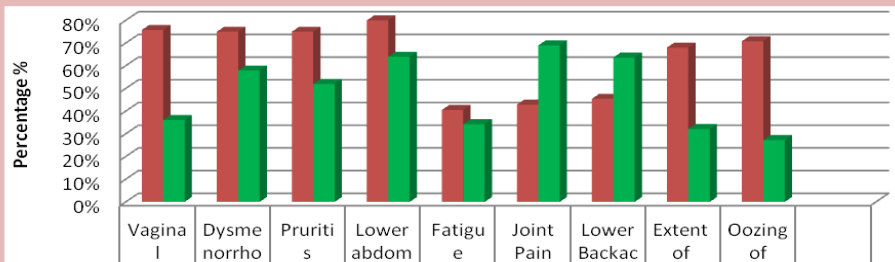


	1	2	3	4	5	6	7	8	9
BT	2.4	1.2	1.26	1.67	2.3	0.86	1.46	1.86	1.467
AT	1.53	0.5	0.6	0.6	1.5	0.26	0.53	1.26	1.067

Table No.VI: Shows the % improvement of symptoms and signs in both groups

Cardinal Symptoms	Result In Percentage	
	Group A	Group B
Vaginal discharge	75.75 %	36.11%
Dysmenorrhoea	75%	57.89%
Pruritis Vulvae	75%	52%
Lower abdominal pain	80%	64%
Fatigue	40.54%	34.28%
Joint Pain	42.85%	69%
Lower Backache	45.45%	63.63%
Extent of erosion	68%	32.14%
Oozing of blood on rubbing with gauze.	70.83%	27.27%

Graph No.3: Comparative study of result of both groups



	Vaginal discharge	Dysmenorrhoea	Pruritis Vulvae	Lower abdominal pain	Fatigue	Joint Pain	Lower Backache	Extent of erosion	Oozing of blood on rubbing with a gauze piece.
Group A	76%	75%	75%	80%	40.54%	42.85%	45.45%	68%	70.83%
Group B	36.11%	57.89%	52%	64%	34.28%	69%	63.63%	32.14%	27.27%

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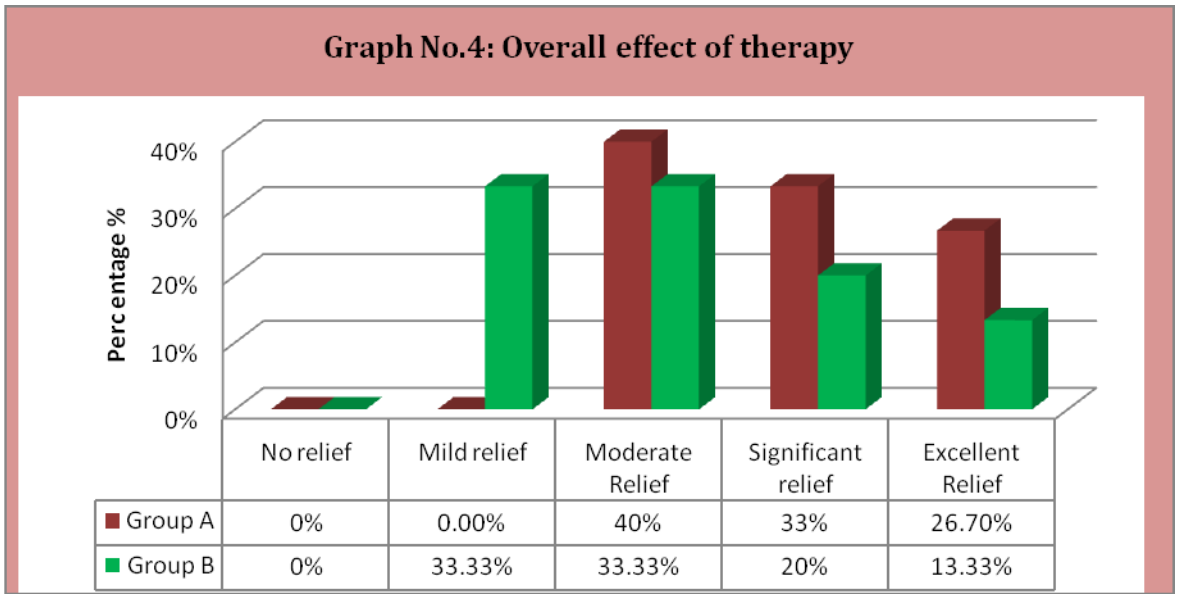
Table No.VII: Overall effect of therapy

S. No.	Effect of therapy		No. of patients			
			Group A	%	Group B	%
1	No relief	0%	0	0%	0	0%
2	Mild relief	25%	0	0%	5	33.33%
3	Moderate Relief	26-50%	6	40%	5	33.33%
4	Significant relief	51-75%	5	33.3%	3	20%
5	Excellent Relief	76-100%	4	26.7%	2	13.33%



Discussion:

Discussion on demographic data[9]

The maximum number of patients was in the age group of 31-35 (36.67%). This incidence of age manifest that the disease mainly affects the reproductive age group as the period is the greater sexual activity, child birth, abortion, trauma, and infections. 100% women were married. This shows that the disease is more prone to the sexually active females. Maximum patients belong to Hindu religion i.e. 63.33%, may be due to Hindu dominant population. Maximum 73.33% were housewife, this may be due to they often neglect their own health related issue and remain busy in family care. Maximum 40% of patients were educated up to primary level only; this may be because of their unawareness towards health care. Maximum 56.67% were having increased micturition, may be due to the local irritation of the organ near by the cervical region,or the vitiation of *apana vayu* may cause the increase frequency of micturation.There was no definite relationship found between menstrual disturbances and cervical erosion. Observation related to parity showed that the incidence of the disease increases with the parity because 50% patients among study were having parity more than two this is because during child birth there is more chances of development of cervical erosion due to *Akalevahamanaya*. 70% patients were of *VK prakriti*, it deals with the causative *dosha* involved in this disease was also *vata*and *kapha* so these patients were more prone to suffer from vitiation of *vatakaphadosha*. 40% patients had duration of illness was in between 1-2, this shows the chronicity nature of the disease, symptomless in starting but along with due course of time when associated with other complications, then only the patients visit a doctor. 53.33% were showing normal sized cervix, followed 46.67% patients were having hypertrophied

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cervix. Cervix become hypertrophied when there was any infection present as incidence of vaginal discharge, and maximum no. of patients were having mucoid discharge i.e. in maximum patient there were involvement of secondary infection was absent this direct related with condition of cervix i.e. it was normal in size. 66.67% were showing erosion on both lips of cervix, 53.33% were having erosion on cervix up to 25% area of the cervix, followed by 23.33% patients in whom the extent of erosion was between 26-50%and 51-75% which was probably due to the reason that generally the disease is symptomless in starting but along with due course of time when associated with other complications, then only the patients visit a doctor. Due to chronicity of disease more area of cervix may be involved in erosion.

Discussion of comparison of Results between Group-A & Group-B

Vaginal discharge and extent of erosion: Out of total 100% patient complained for vaginal discharge and having eroded cervix. It may be due to the hyperplasia of cervical glands, which causes the excessive vaginal discharge and over growth of columnar epithelium which make cervix to look roded. Corresponding to epithelization of cervical erosion the vaginal discharge was one of the symptoms also disappeared earlier in more number of cases in group A. Use of the *udumbaradi tail* probably preventedcongestion or hyperamemia, thus prevented regeneration of superficial few columnar cell left over after destruction by *kusthadichurna* and helped in better epithelization. Anti-inflammatory activities of *arka, pippali, kustha* and *saindhav* in the *kusthadichurna* along with the *garbhashayashothahara, stambhana*and uterine tonicproperties of *udumbaraditail*. The re-epithelization takes place rapidly on the destruction of the columnar epithelium. Most of drug present in the *kusthadichurna* having the anti-inflammmatory, antiseptic and antimicrobial activities which helps in fast healing of the erosion area, which may helped in decrease vaginal secretion, and also prevent invasion of the microorganisms. Most of the drugs in *kusthadichurna* having *deepana, pachan* properties, this may increase the metabolic activities of the cell and the generation of new DNA materials so that new squamous cell are formed. As the squamous cell formed properly the vaginal discharge will minimize.

Pruritis vulvae: This is because antimicrobial & anti-inflammatory activities was present in almost 80-90% drugs of *udumbaraditaila*. As the symptoms present in few patients (2 patients in group A and 6 patients in group B) in both group that's why the improvement was insignificant.

Dysmenorrhoea: Maximum percentage of relief was found in group A,this may be because of anti-inflammatory activities were present in almost 80-90% drugs and uterine tonic effect of *udumbaraditaila,* which may helps in decrease prostaglandin secretions which is major cause of the pain during menses.

Lower abdominal pain : Maximum percentage of improvement i.e. 80% was recorded in group A. Improvement was very significant in both the groups almost equal and differences were minimal, because in both the group the *sothahara*, and anti-inflammatory drugs are present due to which the congestion in the lower abdomen is minimized. Improvement in group B is more because of the presence of the *Arka* and *pippali* of *kusthadi churna* which having the analgesic properties.

Fatigue : This is due to overall effect of *kusthadichurna* and *udumbaraditailapitchu* which decreases in amount of vaginal discharge (*shwetapradar*) which is also responsible for fatigue.

Joint Pain : Percentage of improvement i.e. 42.85% was recorded in group A and 34.28% in group B. This was probably due to virtue of *sukshma, vyavayi* and *vikasiguna of taila*, due to these properties drug is easily absorbed thorough the mucosa when taila used alone. *Tail* is the best *vatashamaka*. The joint pain is produced by the effect of *Vata*. So it gives considerable relief in lower backache.

Oozing blood from erosion on rubbing with gauze piece : It was reduced in both groups and improvement was more in group A. Changes in haematological investigations In all the two groups although some improvement was noticed i.e. group A followed by improvement in group B but the result were not significant.

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Conclusion:

- *Bahirparimarjanchikitsa* in the form of *kusthadichurna* and *udumbaradi taila pichu* group A is highly effective in disintegration of the pathogenesis of the disease.
- Re-epithelisation occurs earlier when both the trial drugs *kusthadi churna* and *udumbaradi taila pichu* (Group A) are used in combination, it become more effective in removing of *karnika* (nobothian follicles) and managing the associated chronic cervicitis as compared to *udumbaradi tailapichu.*
- No adverse effect or complications is produced with the use of this treatment. This is treatment is safe economic, non surgical, very effective and can be used for treatment of cervical erosion
- Better results was observed in Group A patients, suggest that probably both the drugs *kusthadi churna* and *udumbaradi taila pichu* act synergistically, the therapeutic effects of are potentiated with the use of *udumbaradi taila pichu*.
- Comparing the symptomatic improvement in both groups it was found that overall relief was highest in group A followed by group B i.e. Hence it can be concluded that combined use of *kusthadi churna* and *udumbaradi taila pichu* is effectively helps in managing the disease cervical erosion. But in joint pain and low back pain the relief was seen well in group B.
- Infertility was not taken in assessment criteria of this trial. But it was observed that relief in infertility associated due to the erosion by this drug. Out of 30 registered patients 3 were conceived after trial was completed. So the drug should be used for the treatment of infertility associated with cervical erosion.

References

1. Dadlani Bharti ; Nidanatmaka Study of Karnini Yonivyapad with special reference to Chronic Cervicitis with Erosion 2003 , P.G. Deptt. of Rog Nidana & VikritiVigyana , National Institute of Ayurveda
2. Dutta D.C, Text book of Gyanaecology.fifth Edition: revised reprint: 2009; Kolkata; New Central Book Agency (P) Ltd, 2008.
3. Howkins and Bourne, shaw's textbook of gynacology. Elsevier publications; 14th edition 2008.
4. Berek & Novak's Gynaecology, 14th edition, edited by Jonathen S. Berek, Lippincott William & Wilkins Publishers
5. Tiwari Premvati, Ayurvedia Prasuti tantra Avam Striroga, Vol.2 Second Edition. Chaukamba Orientalia Varanasi;1999.
6. Herrison's principle of internal medicine, McGraw Hill Companies Publication, 16th edition.
7. Charaka, CharakaSamhita, ChikitsaSthan 30, Vol.2 Commented By ShastriKashinath And ChaturvediGorakhanath, Published By ChaukhambhaBharti Academy, Varanasi, Reprint Year 2003.
8. http://www.google.com/derekeqplan.hmt site visited on 25 Dec. 2012.
9. Kulkarni RN, Durge PM: Role of socioeconomic factors and cytology in cervical erosion in reproductive age group women: Indian J Med. Sci.2002,Dec. 56 (12): 598-601

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Clinical Study

Anatomical Explanation on method of *Abhyanga* w.s.r. to muscle attachments

*Dr. Sunil Kumar, **Dr. Jula Rani, ***Dr. Sunil Kumar Yadav

Abstract:

Massaging the body with oil in specific direction is well known by the name *Abhyanga* in *Ayurveda*. The beneficial effects of this process are brought about by the medicines as well as the manoeuvres adopted for this process. A survey carried out among one hundred patients of fifty *Ayurvedic* centres revealed that in the upper limb, lower limb and back regions, the direction of *Abhyanga* was mainly from origin to insertion of muscle and random method was employed over the chest and abdomen. The comparative effectiveness of two different methods of *Abhyanga* was tested through a clinical trial and the results showed that, the direction of *Abhyanga* from origin to insertion of muscle is more effective than the random method.

Key words: *Abhyanga*, muscle attachments

सारांश–

तेल द्वारा विशेष दिशा में शरीर की मालिश को आयुर्वेद में अभ्यंग के नाम से कहा गया है। इस प्रक्रिया का लाभकारी प्रभाव जैसा औषधि से मिलता है वैसा ही अभ्यंग विधि से भी प्राप्त होता है इस प्रक्रिया में 100 आतुरों में अभ्यंग विधि का 50 आयुर्वेदिक केन्द्रों पर उर्ध्व शाखा, अधः शाखा, कोष्ठ तथा पृष्ठ पर अवलोकन किया गया अभ्यंग विधि की दिशा मुख्यतः उर्ध्व शाखा, अधः शाखा तथा पृष्ठ में मांसपेशी की उद्भव स्थल से निवेश स्थल से निवेश की ओर थी तथा उदर और वक्ष में अनिर्धारित दिशा का उपयोग किया गया। अभ्यंग में प्रयुक्त इन दो विभिन्न विधियों का तुलनात्मक प्रभाव एक नैदानिक परीक्षण द्वारा परीक्षित किया गया जिससे यह परिणाम हुआ की अभ्यंग की अनिर्धारित दिशा की अपेक्षा अभ्यंग की निर्धारित दिशा पेशी की उत्पति से निवेश की ओर ज्यादा लाभकारी है।

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Clinical Study

Anatomical Explanation on method of *Abhyanga* w.s.r. to muscle attachments

Dr. Sunil Kumar, Dr. Jula Rani, Dr. Sunil Kumar Yadav

Introduction

Abhyanga therapy is an ancient practice which predates the *Vedic* period. Early humans practiced life-sustaining ways, for manipulating the body to produce strength, mobility, flexibility and memory which interlaced with the cosmos. Application of oil over the body followed by massage in specific directions is well known by the name *Abhyanga* in *Ayurveda*.[1] *Abhyanga* is not a simple procedure of oil application and manoeuvres rather it maintains the excellence of body tissues, if the oil applied is suitable for the *Prakriti* of the patients.[2] Hence it is recommended in normal persons for routine daily practice. Added to this in a plethora of diseases *Abhyanga* has curative effect by the pharmacological action of the drugs used in the processing of the oil.[3] Considering these advantageous effects of this special manoeuvre, in the promotion and maintenance of health in the healthy, as well as cure of illness in diseased, this procedure has gained ample importance in the clinical practice. Thus two factors are responsible for the beneficial effects of *Abhyanga*; the drug and the method employed for this process. Neither the *Ayurvedic* classics nor the modern *Ayurvedic* books depict the modus operandi of *Abhyanga*. Thus practitioners adopt their own way for conducting this process.

The study entitled as **"Anatomical explanation on method of *Abhyanga* w.s.r to muscle attachments"** is aimed to find out the relationship in between method of *Abhyanga* and muscle attachments. Survey is the right option for collecting the details of different methods of *Abhyanga* which is in practice. Thus a survey about the method of *Abhyanga* was conducted among *Ayurvedic* doctors and traditional *Vaidyas*.

Methodology

Aims of the study

1. To find out the relationship between method of *Abhyanga* and the muscle attachments.
2. To compare the effectiveness of *Abhyanga* of two different methods: from origin to insertion of muscle direction and random direction i.e. without any particular direction excluding origin to insertion of muscle direction.

The study was designed to conduct in two parts: (1) survey study and (2) clinical study.

Survey: The survey was done to draw information about the method of *Abhyanga* and to deduce its relationship with the muscular system. The information was collected from *Ayurvedic* doctors and traditional *Vaidyas*.

Materials and Methods

A questionnaire was prepared for the survey in a view to get information about the methods of *Abhyanga* adopted at various centres. Fifty *Ayurvedic Panchakarma* centres were selected randomly from Kerala and Rajasthan and sent the questionnaires. The doctors were asked to fill up two questionnaires for two separate cases. Out of fifty, doctors of 47 centres were responded and based on the questionnaire, doctors observed the *Abhyanga* procedures and filled up two questionnaires of different cases and sent back.

Assessment

An assessment chart was made in order to compare the act of *Abhyanga* and the attachments of muscle fibres.[4] The superficial muscles which form the contour of the body were listed and the direction of *Abhyanga* was compared with each muscle

Observations of survey study:

1. Over the limbs, 76 (80.85%) patients showed, the direction of *Abhyanga* as from origin to insertion of muscle, 16(17.02%) patients showed random type of *Abhyanga*, and 2 (2.13%) patients showed the direction of *Abhyanga* as from insertion to origin of muscle.

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Table No.1 showing the relationship between the method of *Abhyanga* and the attachments of superficial muscles of upper limb

Region	Muscle	No. of patients	Direction of *Abhyanga*					
			From origin to insertion of muscle		From insertion to origin of muscle		Random	
			No.	%	No.	%	No.	%
Upper arm	Deltoid	94	76	80.85	2	2.13	16	17.02
Upper arm	Biceps brachii	94	76	80.85	2	2.13	16	17.02
Upper arm	Triceps brachii	94	76	80.85	2	2.13	16	17.02
Forearm	Superficial flexors of forearm	94	76	80.85	2	2.13	16	17.02
Forearm	Superficial extensors of forearm	94	76	80.85	2	2.13	16	17.02
Hand	Thenar muscles	94	76	80.85	2	2.13	16	17.02
Hand	Hypothenar muscles	94	76	80.85	2	2.13	16	17.02

Table No.2 showing the relationship between the method of *Abhyanga* and the attachments of superficial muscles of lower limb

Region	Muscle	No. of patients	Direction of *Abhyanga*					
			From origin to insertion of muscle		From insertion to origin of muscle		Random	
			No.	%	No.	%	No.	%
Gluteal	Gluteus maximus	94	76	80.85	2	2.13	16	17.02
Thigh	Quadriceps femoris	94	76	80.85	2	2.13	16	17.02
Thigh	Hamstring muscles	94	76	80.85	2	2.13	16	17.02
Leg	Tibialis anterior	94	76	80.85	2	2.13	16	17.02
Leg	Calf muscles	94	76	80.85	2	2.13	16	17.02
Foot	Flexor digitorum brevis	94	76	80.85	2	2.13	16	17.02
Foot	Abductor digiti minimi	94	76	80.85	2	2.13	16	17.02
Foot	Abductor hallucis	94	76	80.85	2	2.13	16	17.02

2. Over the chest and abdomen, 28 (29.79%) patients underwent *Abhyanga* of the direction from origin to insertion of muscle and 66 (70.21%) patients underwent random way of *Abhyanga*. The direction of *Abhyanga* from insertion to origin of muscle was not found in this region.

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Table No.3 showing the relationship between the method of *Abhyanga* and the attachments of superficial muscles of chest and abdomen

Region	Muscle	No. of patients	Direction of *Abhyanga*					
			From origin to insertion of muscle		From insertion to origin of muscle		Random	
			No.	%	No.	%	No.	%
Chest	Pectoralis major	94	28	29.79	0	0	66	70.21
Abdomen	External oblique abdominis	94	28	29.79	0	0	66	70.21
Abdomen	Rectus abdominis	94	28	29.79	0	0	66	70.21

3. Over the back, the direction of *Abhyanga* was from origin to insertion of muscles in 68 (72.34%) patients, 22 (23.40%) patients underwent random type of *Abhyanga* and 4 (4.26%) patients showed the direction of *Abhyanga* from insertion to origin of muscle.

Table no.4 showing the relationship between the method of *Abhyanga* and the attachments of superficial muscles of back

Region	Muscle	No. of patients	Direction of *Abhyanga*					
			From origin to insertion of muscle		From insertion to origin of muscle		Random	
			No.	%	No.	%	No.	%
Back	Trapezius	94	68	72.34	4	4.26	22	23.40
Back	Latissimus dorsi	94	68	72.34	4	4.26	22	23.40

Results of survey study

The survey results showed that in the upper and lower limbs the direction of *Abhyanga* was mainly from origin to insertion of muscle direction (80.85%). Random type of *Abhyanga* was found in 17.02% and insertion to origin type was found in 2.13%.

Table no.5 showing the results of survey study

Sl. No.	Region	Direction of *Abhyanga*		
		Origin to insertion of muscle	Insertion to origin of muscle	Random
1	Upper limb	76(80.85%)	2(2.13%)	16(17.02%)
2	Lower limb	76(80.85%)	2(2.13%)	16(17.02%)
3	Chest and abdomen	28(29.79%)	0(0%)	66(70.21%)
4	Back	68(72.34%)	4(4.26%)	22(23.40%)

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Clinical study: A clinical trial of *Abhyanga* was conducted on *Katigraha* patients in order to compare the effectiveness of method of *Abhyanga*, done from origin to insertion of muscle and *Abhyanga* done randomly (*Abhyanga* without a particular direction).

Methodology: The study was conducted at department of *Panchakarma,* National Institute of *Ayurveda,* Jaipur. 60 cases of *Katigraha* were selected randomly according to the proforma prepared for this purpose after thorough examination. The patients were divided into two groups of equal size: Group A and Group B. In GroupA *Abhyanga* was done from origin to insertion of muscle while in Group B random method of *Abhyanga* was adopted.

Period of clinical trial: The duration of clinical trial was 2 weeks.

Follow up study: Each case was reviewed at the end of the clinical trial, and follow up was done after one month.

Criteria for assessment

The difference in the scores at the end of the clinical trial from the scores recorded at the beginning of the clinical trial was taken as the assessment criteria of the study.

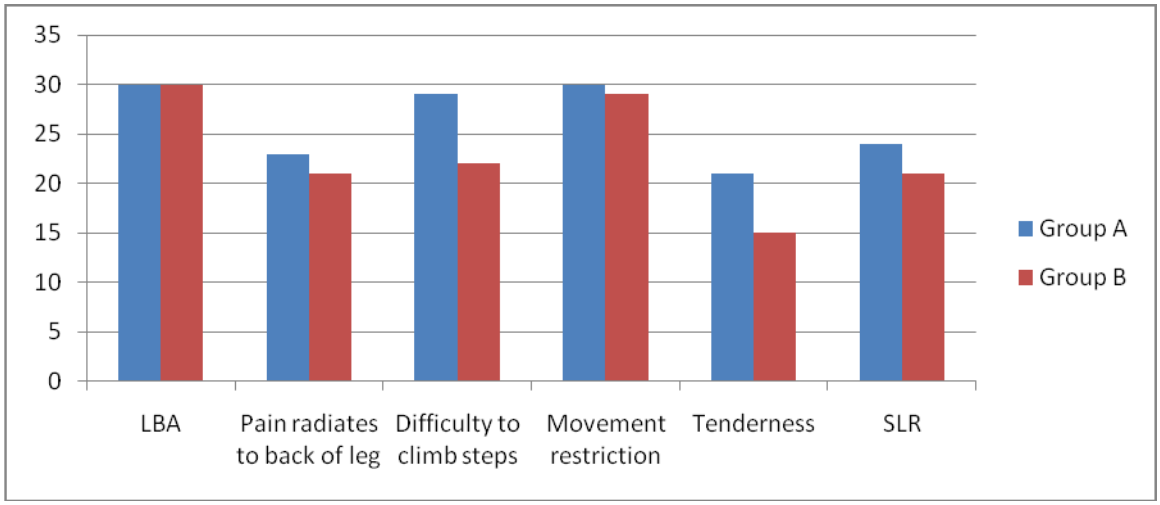
Observations Of Clinical Study

Symptoms and signs of *Katigraha*

100% of both groups had low back ache (LBA) as the main presenting complaint. The pain was radiated to back of the leg in 73.33% of total patients and 98.33% of total patients had movement restriction of various degree. 85% of total patients complained of difficulty to climb steps and tenderness over the lower back were elicited in 60% of total cases. Straight leg raising test was positive for 75% cases with various degrees.

Table No.6 and Graph No.1 Showing the symptoms and signs of *Katigraha*

Sl. No	Symptoms	Total patients	Number of patients		Grp A %	Grp B %
			Group A	Group B		
1	LBA*	30	30	30	100	100
2	Pain radiates to back of leg	30	23	21	76.66	70
3	Difficulty to climb steps	30	29	22	96.66	73.33
4	Movement restriction	30	30	29	100	96.66
5	Tenderness over the lower back	30	21	15	70	50
6	SLR**	30	24	21	80	70



*LBA – low back ache **SLR - straight leg raising test

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1. Pattern of symptom relief in GroupA patients

The symptom score for low back ache was 88 before the clinical trial and was reduced to 37 after the trial, which showed a relief of 40.8%. The associated symptom, pain radiates to back of leg was relieved by 67.86%. Its symptom score was 47 before the trial and was reduced to 9 after the trial. The symptom score for difficulty in climbing steps was 50 before the trial and 19 after the trial. Movement restriction showed a symptom score of 56 before the trial and 15 after the trial. Symptom score for tenderness over the lower back was 22 before the trial and 4 after the trial. Straight leg raising test showed a symptom score of 49 before the trial and 15 after the trial.

Table No.7 Symptom scores before and after the clinical trial in Group A

Group	Symptoms	Symptom score BT*	Symptom score AT**	Symptom score difference	Symptom score difference %
1	LBA	88	37	51	40.8
2	Pain radiates to back of leg	47	9	38	67.86
3	Difficulty in climbing steps	59	19	40	51.28
4	Movement restriction	56	15	41	57.75
5	Tenderness over the lower back	22	4	18	69.23
6	SLR	49	15	34	53.13

*BT – Before treatment **AT – After treatment

Pattern of symptom relief in Group B patients

Low back ache showed a symptom score of 82 before the trial and 46 after the trial. The symptom score for pain radiates to back of leg was 38 before the trial and 23 after the trial. Difficulty in climbing steps showed a symptom score of 41 before the trial and 27 after the trial. Symptom score for movement restriction was 48 before the trial and 24 after the trial. Before the trial symptom score for tenderness over the lower back was 19 and after the trial it was reduced to 12. Straight leg raising test showed a score of 34 before the trial and was reduced to 24 after the trial.

Table No. 8 Symptom scores before and after the clinical trial in Group B

Group	Symptoms	Symptom score BT*	Symptom score AT**	Symptom score difference	Symptom score difference %
1	LBA	82	46	36	28.13
2	Pain radiates to back of leg	38	23	15	24.59
3	Difficulty in climbing steps	41	27	14	20.59
4	Movement restriction	48	24	24	33.33
5	Tenderness over the lower back	19	12	7	22.58
6	SLR	34	24	10	17.24

*BT – Before treatment **AT – After treatment

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Results of clinical study - The outcomes of the clinical trial are tabulated below.

Effects of *Abhyanga* on symptoms of Group A patients

In Group A, symptoms were reduced considerably after the clinical trial. Paired t test shows that all the t values are more than the table value at 0.1% level. Thus, the method of *Abhyanga* of Group A is effective for reducing the symptoms of *Katigraha*.

Table No. 9 Showing effect of *Abhyanga* on symptoms of Group A patients

Sl. no.	Symptom	Time of assessment	Mean symptom score	SD	SE	Mean difference	t value	P value
1	LBA	BT	2.933	±0.583	±0.106	1.700	15.624	<0.001
		AT	1.233	±0.817	±0.149			
2	Pain radiates to back of leg	BT	1.567	±0.935	±0.171	1.267	7.990	<0.001
		AT	0.300	±0.466	±0.085			
3	Difficulty to climb steps	BT	1.967	±0.556	±0.102	1.333	13.359	<0.001
		AT	0.633	±0.556	±0.102			
4	Movement restriction	BT	1.867	±0.629	±0.115	1.367	12.173	<0.001
		AT	0.500	±0.572	±0.104			
5	Tenderness over the lower back	BT	0.733	±0.740	±0.135	0.600	5.288	<0.001
		AT	0.133	±0.346	±0.063			
6	SLR test	BT	1.633	±1.098	±0.2	1.133	7.999	<0.001
		AT	0.500	±0.630	±0.115			

Effects of *Abhyanga* on symptoms of Group B patients

In Group B there is marked difference in symptom scores after the clinical trial. The t value of paired t test shows that the results are statistically significant. Hence the clinical trial is effective for reducing the symptoms of *Katigraha*.

Table No.10 Showing effect of *Abhyanga* on symptoms of Group B patients

Sl. no.	Symptom	Time of assessment	Mean symptom score	SD	SE	Mean difference	t value	P value
1	LBA	BT	2.733	±0.450	±0.082	1.200	10.770	<0.001
		AT	1.533	±0.730	±0.133			
2	Pain radiates to back of leg	BT	1.267	±0.907	±0.166	0.500	4.349	<0.001
		AT	0.767	±0.679	±0.124			

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3	Difficulty to climb steps	BT	1.367	±0.890	±0.162	0.467	4.474	<0.001
		AT	0.900	±0.712	±0.130			
4	Movement restriction	BT	1.600	±0.563	±0.103	0.800	9.049	<0.001
		AT	0.800	±0.484	±0.088			
5	Tenderness over the lower back	BT	0.633	±0.718	±0.131	0.233	2.971	<0.005
		AT	0.400	±0.498	±0.091			
6	SLR test	BT	1.133	±0.860	±0.157	0.333	3.808	<0.001
		AT	0.800	±0.714	±0.13			

1. Comparative effectiveness of *Abhyanga* on LBA: Group A upon Group B

Since the student t test is statistically significant, the *Abhyanga* method used in Group A is more effective than Group B to relieve LBA statistically.

Table No. 11 Showing comparative effectiveness of *Abhyanga* on LBA: Group A upon Group B

Sl.	Group	Mean	SD	SE	Mean Difference	t value	P value
1	A	1.7	±0.586	± 0.107	0.5	3.267	<0.001
2	B	1.2	±0.6	± 0.110			

2. Comparative effectiveness of *Abhyanga* on pain radiates to back of the leg: Group A upon Group B

The student t test is statistically significant at 0.1% level. Therefore, *Abhyanga* employed in Group A is more effective than Group B for relieving the symptom, pain radiates to the back of the leg statistically.

Table No. 12 Showing comparative effectiveness of *Abhyanga* on pain radiates to back of the leg: Group A upon Group B

Sl.	Group	Mean	SD	SE	Mean Difference	t value	P value
1	A	1.267	±0.854	± 0.156	0.767	3.97	<0.001
2	B	0.5	±0.619	± 0.113			

3. Comparative effectiveness of *Abhyanga* on difficulty to climb steps: Grp A upon Grp B

Since the t value of student t test is more than the table value at 0.1% level, the test is statistically highly significant. Hence the *Abhyanga* method employed in Group A is more effective than Group B to relieve the symptom, difficulty to climb steps statistically.

Table No. 13 Showing comparative effectiveness of *Abhyanga* on difficulty to climb steps: Group A upon Group B

Sl.	Group	Mean	SD	SE	Mean Difference	t value	P value
1	A	1.333	0.537	± 0.098	0.866	6.098	<0.001
2	B	0.467	0.562	± 0.103			

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4. Comparative effectiveness of *Abhyanga* on movement restriction: Group A upon Group B

Student t test proved that the test is highly significant at 0.1% level. Thus the method of *Abhyanga* employed in Group A is more effective than Group B to improve movement restriction statistically.

Table No. 14 Showing comparative effectiveness of *Abhyanga* on movement restriction: Group A upon Group B

Sl.	Group	Mean	SD	SE	Mean Difference	t value	P value
1	A	1.367	0.604	± 0.110	0.567	4.139	<0.001
2	B	0.8	0.447	± 0.081			

5. Comparative effectiveness of *Abhyanga* on tenderness: Group A upon Group B

The t value of student t test showed that the test is significant at 1% level. So *Abhyanga* method used in Group A is more effective than Group B to reduce tenderness statistically.

Table No. 15 Showing comparative effectiveness of *Abhyanga* on tenderness: Group A upon Group B

Sl.	Group	Mean	SD	SE	Mean Difference	t value	P value
1	A	0.6	0.611	± 0.112	0.367	2.698	<0.01
2	B	0.233	0.423	± 0.077			

6. Comparative effectiveness of *Abhyanga* on SLR test: Group A upon Group B

Since t value of student t test is more than the table value at 0.1% level, the test is highly significant. Thus the *Abhyanga* method used in Group A is more effective than Group B to improve the test straight leg raising statistically.

Table No. 16 Showing comparative effectiveness of *Abhyanga* on SLR test: Group A upon Group B

Sl.	Group	Mean	SD	SE	Mean Difference	t value	P value
1	A	1.133	0.763	± 0.139	0.8	4.878	<0.001
2	B	0.333	0.471	± 0.086			

The results obtained after the clinical trial were as follows:

1. The clinical trial was effective for relieving the symptoms of *Katigraha* in both groups (Paired t test done after the clinical trial was highly significant for both groups).
2. The *Abhyanga* method of Group A (from origin to insertion of muscle direction) is more effective than that of Group B (random method). Student t test conducted to compare the effectiveness of *Abhyanga* between the groups proved that *Abhyanga* method of group A is more effective than Group B.

Discussion

Survey study - The *Mamsapeshi* (muscles) form the smooth outer contour of the body. Since it is derived from the *Mamsadhatu* through the act of *Vata Dosha* during the foetal period, *Vata Dosha* must have dominance in its performance.[5] Muscles are the prime movers and *Vata Dosha* is responsible for movements. Contraction and relaxation of muscle fibres brings about all types of movements in the body and the motor nerve fibres provide sufficient impulses to the muscles. *Abhyanga* stimulates the cutaneous nerve endings, muscle spindles, Golgi tendon organs and fibres of the autonomic nervous system.[6]

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Twenty superficial muscles / muscle groups were selected for the study. Deltoid, biceps brachii, triceps brachii, extensors of forearm, flexors of forearm, thenar muscles and hypothenar muscles were selected from the upper limb for the study. The muscles selected from the lower limb were gluteus maximus, hamstring group muscles, quadriceps femoris, tibialis anterior, calf muscles, flexor digitorum brevis, abductor digiti minimi and abductor hallucis. The superficial muscles of upper and lower limbs have linear orientation. They have a proximal origin and, cross one or more joints and inserted into a lower region.[7] Since superficial muscles of upper and lower limbs have this type of attachments *Abhyanga* from above downwards means a direction from origin to insertion of muscle.

In the upper and lower limbs *Abhyanga* was carried out from origin to insertion of muscles in 76 (80.85%) cases, and in 16 (17.2%) cases, the *Abhyanga* was done without any particular direction (randomly). Only 2 (2.13%) cases showed *Abhyanga* direction, from insertion to origin of muscle.

Over the back of neck, the *Abhyanga* was commenced from the cervical spine and passes downwards and laterally towards the shoulder in 68 (72.34%) cases, which is the origin and insertion of trapezius (descending part) muscle.[7] And the centre part of the back was massaged from the thoracic spine to the shoulder in the same cases, i.e. the middle and ascending parts of trapezius. In the lower back, 68 (72.34%) cases showed the direction of *Abhyanga* as from the lower back to the shoulder that means along the direction of origin to insertion of latissimus dorsi muscle.[7]

On the back, 22 (23.40%) cases underwent *Abhyanga* randomly, i.e. they did not follow any particular direction, or in other words muscle attachment was not considered in these cases. 4 (4.26%) cases showed direction of *Abhyanga*, from insertion to origin of muscles.

Direction of *Abhyanga* on the chest and abdomen showed that, 28 (29.79%) cases underwent *Abhyanga* along the direction of origin to insertion of muscles. Pectoralis major, rectus abdominis and external oblique abdominis muscles were selected from the region, chest and abdomen. Pectoralis major muscle covers the front of chest wall and converges to the arm pit. The fibres of external oblique abdominis arises from the ribs and passes downwards and laterally towards the groin, and that of rectus abdominis passes upwards from the midline to the sternum.[7] Thus all these muscles form a circular course roughly, begin and end at the sternum. 66 (70.21%) cases were presented with random type of *Abhyanga* over the chest and abdomen. Since muscles of chest and abdomen cover the vital organs, while performing *Abhyanga* importance was given to the underlying organs rather than the muscles. So a soft massage is preferred in these sites without harming the underlying structures and no preference was given to the direction of muscle fibres. Direction of *Abhyanga* from insertion to origin of muscle was not found over the chest and abdomen.

Clinical study - Low back ache, pain radiates to back of leg, difficulty to climb steps, movement restriction, and tenderness over the low back and straight leg raising test (SLR test) were the symptoms taken for assessment. The symptoms of *Katigraha* are caused by vitiation of *Vata Dosha*.[8] Since *Abhyanga* is a treatment for vitiated *Vata Dosha* it relieves the symptoms of *Katigraha* in both groups.[9] Paired t test conducted after the clinical test is highly significant, which proved that the clinical trials of both groups are effective for relieving the symptoms of *Katigraha*. The comparative effectiveness of two *Abhyanga* methods was tested statistically by student t test. The t values of student t test were highly significant, which proves that the *Abhyanga* from origin to insertion is more effective than the random method of *Abhyanga*.

Presumed mechanisms of *Abhyanga* therapy on *Katigraha* - After the clinical trial it was obvious that, *Abhyanga* was truly effective for relieving the symptoms of *Katigraha*. Since *Katigraha* is a *Vata* predominant disease, measures that help to pacify the *Vata Dosha* are prescribed for this condition.[8] *Abhyanga* is one of the *Upakramas* (prescriptions) for *Vata Dosha*. It provides both *Snehana* and *Swedana*, which is the basic treatment principle of *Vata Roga*.[10] Proper *Snehana* and *Swedana* offered at the right time, in a patient of *Vata Roga*, helps to alleviate its symptoms.[10]

The theories regarding the analgesic effects of *Abhyanga* include the gate theory, the serotonin hypothesis, and the restorative sleep hypothesis.[11]

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According to gate theory, pressure receptors are longer and more myelinated than pain fibres, and thus the pressure signals from *Abhyanga* are transmitted faster, closing the gate to pain signals. The serotonin hypothesis maintains that massage increases levels of serotonin, a neurotransmitter that modulates the pain control system. The restorative sleep hypothesis holds that because substance P, a neurotransmitter associated with pain is released in the absence of deep sleep, the ability of *Abhyanga* to increase restorative sleep, reduces substance P and consequent pain.

In essence, *Abhyanga* create *Vatanuloma*, i.e. it pacifies the *Vata Dosha*. *Abhyanga* is the manipulation of soft tissues of the body. Hence its method has crucial role, to bring about the desired tasks in the body. Most of the *Ayurvedic* practitioners conducted *Abhyanga*, along the direction of body hair, since this direction is *Anuloma* to *Vata Dosha* (calm down the *Vata Dosha*). The course of muscle fibres from origin to insertion is identical to the direction of body hair in most part of the body. Thus an *Anuloma* direction of *Ayurvedic* view is same as origin to insertion of superficial muscles.

Skin, fascia and muscles are the structures that get benefits through this process. The superficial fascia can stretch in any direction and adjust quickly to strains of all kinds.[12] The smooth coating of deep fascia permits neighbouring structures to glide and slide over one another. The collagen fibres of the deep fascia are oriented in a wavy pattern parallel to the direction of pull. Deep fasciae are flexible structures able to resist unidirectional tensile forces until the wavy pattern of the fibres has been straightened by the pulling force.[13]

The microscopic structure of muscle shows that, it is composed of parallel fibres, enveloped in connective tissue sheath. The epimysial, perimysial and endomysial sheaths coalesce where the muscles connect to adjacent structures: tendons, aponeurosis and fasciae.[4] The vessels course and branch within the connective tissue framework of the muscle, with the smaller arteries and arterioles ramifying in the perimysial septa and giving off capillaries that run in the endomysium. While the smaller vessels lie mainly parallel to the muscle fibres they also branch and anastomose around the fibres forming an elongated mesh. When abhyanga was conducted from origin to insertion of muscle, the muscle fibres and bundles were not disturbed, instead it provides a soothing effect and also manipulate the deep fascia in a favourable manner. This way of *Abhyanga* is also supportive for the neurovasculatue of skeletal muscles. This methodical process is good enough to bring about flexibility at joints. On the other hand the *Abhyanga* of random type disrupt the muscle bundles as it is handled physically without considering the muscle arrangement.

Conclusions

The outcomes of the study are as follows:

Survey study revealed that:

1. The direction of *Abhyanga*, over the limbs and back of the body was from origin to insertion of muscle, in majority of cases.
2. Over the chest and abdomen, random type of *Abhyanga* was mainly employed.
3. The direction of *Abhyanga* from insertion to origin of muscle, was not found in the region of chest and abdomen, and is negligible in limbs and back.
4. Random type of *Abhyanga* comes in the second position after origin to insertion of muscle direction of *Abhyanga*.

Clinical trial revealed that:

5. The direction of *Abhyanga* from origin to insertion of muscle was more effective than the random type of *Abhyanga*, to relive the symptoms of *Katigraha*.

References

1. Kasthuri Haridas Vaidya, Ayurvedeeya Panchakarma Vijnaan, Illahabad: Sri Baidyanath Ayurveda Bhavan Ltd, Seventh Edition 2003, pages 104-107
2. Ashtanga Samgraha of Vagbhata, Hindi Commentary By Kaviraj Atridev Gupt, Edited By Rajvaidya Nandkishor Sharma Bhishgaacharya, Published By Choukamba krishnadas academy Varanasi (2011) Sutrasthana 3/55, Page29
3. Sushutra Samhita of Sushutra With Ayurveda Tatva Sandipika, Hindi Commentary By Kaviraja Ambika Dutta Shastri, Published By Choukhambha Sanskrit Sansthan , Varanasi. Reprint 2009, (Su. Chi. 24/30)Page133
4. Gray, Henry, Williams. Peter. L, Bannister, Lawrence H, Gray's Anatomy: The Anatomical Basis

PDF Created with deskPDF PDF Writer - Trial :: http://www.docudesk.com

of Medicine and Surgery,38th edition, Churchill Livingstone (1995)

5. Sushutra Samhita of Sushutra With Ayurveda Tatva Sandipika, Hindi Commentary By Kaviraja Ambika Dutta Shastri, Published By Choukhambha Sanskrit Sansthan, Varanasi. Reprint 2009, (Su.Sha.4/28)Page42

6. Internet references about massage

7. Romanes G.J, Cunningham's Manual of Practical Anatomy, Volume-1 and 2, Oxford medical publication (2006)

8. Astanga Hridaya of Vagbhata With Vidyotini The Commentary By Kaviraj Atridev Gupt, Edited By Vaidya Yadunandan Upadhyay, Published By Choukhambha Prakashan Varanasi,, Reprint 2007 (A.Hr.Su.13/1) Page 96

9. Astanga Hridaya of Vagbhata With Vidyotini The Commentary By Kaviraj Atridev Gupt, Edited By Vaidya Yadunandan Upadhyay, Published By Choukhambha Prakashan Varanasi,, Reprint 2007 (A.Hr.chi.21/4) Page 416

10. Astanga Hridaya of Vagbhata With Vidyotini The Commentary By Kaviraj Atridev Gupt, Edited By Vaidya Yadunandan Upadhyay, Published By Choukhambha Prakashan Varanasi,, Reprint 2007 (A.Hr.chi.21/6-7) Page 416

11. Internet references about the effects of massage

12. www.learnmuscle.com

13. http://en.wikipedia.org/wiki/Fascia

Clinical Study

A Clinical Study To Evaluate The Efficacy Of *Patolyadi Kwath* & *Kampillakadi Tail* In The Management Of *Vrana*

*Dr.Shikha Nayak, **Dr.B.B.Pandey, ***Dr. B. Swapna

Abstract:

Sadyo-Vrana with a correlation to traumatic wound is frequently encountered into routine life and routine surgical practice. The patient demands the relief of pain and healing simultaneously. The incidence of traumatic wound has risen significantly, therefore, taken up in the present study with an objective to provide relief from pain and complete healing. Based on *Ayurvedic* principles, 30 patients suffering from traumatic wounds were selected. Complete history and clinical data were recorded in a specific designed Performa and divided into three Groups, viz. Group-A: sterile gauze dressing after cleaning with normal saline. Group-B: Treated with *Patolyadi Kwath prakshalan* and dressed with sterile dressing materials and Group-C: Treated with application of *Kampillakadi Tail* followed by *Patolyadi Kwath prakshalan* and dressed with sterile dressing materials. Duration of treatment in all three Groups was 7 days. After therapy statistical analysis concluded that Group- C showed better result in comparison to Group-A and Group-B.

Key words: *Sadyo Vrana, Agantuja Vrana,* Traumatic Wound, *Patolyadi Kwath, Kampillakadi Tail.*

सारांश –

सद्य एवं आगन्तुज व्रण हमारी दैनिक जीवन शैली व शल्य अभ्यास के दौरान सर्वाधिक मात्रा में आने वाला व्रण है। रूग्ण व्यक्ति वेदना शमन व व्रण रोपण की सर्वप्रथम् अपेक्षा करता है। आगन्तुज व्रण के बढ़ते अनुपात को ध्यान में रखकर उपरोक्त शोध कार्य वेदना शमनार्थ व व्रण रोपणार्थ किया गया है। आयुर्वेदिक तथ्यों पर निर्धारित घृष्ट व्रण से पीड़ित 30 रोगियों को शोध में सम्मलित किया गया।

सम्पूर्ण जानकारी अंकित करने के पश्चात् 30 रोगियों की 3 ग्रुप में क्रमशः ग्रुप–ए (10 रोगी) जिसकी चिकित्सा नार्मल सेलाइन प्रक्षालन व जीवाणु मुक्त व्रण बन्धन से की गयी। ग्रुप–बी (10 रोगी) जिसकी चिकित्सा पटोल्यादि क्वाथ प्रक्षालन व जीवाणुमुक्त व्रण बन्धन से की गयी। ग्रुप– सी (10 रोगी) चिकित्सा पटोल्यादि क्वाथ प्रक्षालन के पश्चात् कम्पिल्लकादि तैल सिंचित विकेशिका व जीवाणुमुक्त व्रण बन्धन से की गयी। सम्पूर्ण चिकित्सा अविध 7 दिन तक रोजाना एक बार की रखी गयी। सांख्यकीय आकलन के पश्चात् यह पाया गया कि ग्रुप–ए का परिणाम अन्य दोनों ग्रुप से अच्छा रहा।

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Clinical Study

A Clinical Study To Evaluate The Efficacy Of *Patolyadi Kwath* & *Kampillakadi Tail* In The Management Of *Vrana*

Dr. Shikha Nayak, Dr. B.B. Pandey, Dr. B. Swapna

Introduction:

Vrana may be classified as *Nija & Agantuj*, where *Sadyovrana*[1] with a correlation to traumatic wound are of six types and free from *Tridosha* involvement which may be converted into *Dusta-vrana* if not treated properly. In *Sadyovrana*, pain, edema and fresh bleeding are main features .So basic principle of management runs through[2] –*Shothahara* and *Rakta stambhaka aushadhi prayoga (*that should have *Vedana shamaka guna, Shodhan* and *Ropana karma)* and *pathya -apathya prayoga .Kampillakadi tail* application after washing by *Patolyadi kwath* seems to possess above mentioned properties and hypothetical support. The results are encouraging. This study has opened a new avenue for further exploration in the field.

Aims & Objectives:

To evaluate the efficacy of *Patolyadi Kwath* and *Kampillakadi Tail* in the management of *Sadyo Vrana* (traumatic wound).

Materials & Methods:

1. Method of collection of data: -The study was Randomized Controlled clinical Trial, in which 30 patients were selected by simple random sampling procedure. The selected patients were divided into three Groups, 10 in each. Initially all wounds were cleaned by normal saline.

Group – A (Control Group): In this Group patients were treated with sterile dressing with normal saline and sterile dress materials once daily for 7 days.

Group – B – In this Group wound have been washed with *PATOLYADI KWATH*.

Group – C – In this Group the patients have been treated with *PATOLYADI KWATH & KAMPILLAKADI TAIL*.

Duration of treatment– Once daily for 7 days.

2. Follow up period –7 days (changes were assessed on 3rd day, 5th day, 7th day), where Initial sign & symptoms were taken as 1st day (i.e. B.T.).

3. Inclusion Criteria –

i. Patients having traumatic wounds up to 6x8 cm. size of any site.

ii. Acute traumatic wound (upto 4 weeks).

iii. Patients of 20-50 year age Group of any sex.

4. Exclusion Criteria –

i. Infected wounds.

ii. Punctured, stabbed & surgical wounds.

iii. Wound with systemic involvement and morbid changes.

vi. Wound with visceral, bony & spinal injury.

5. Investigation:

Complete blood count., Blood sugar, Urine examination.

6. Selection of Drugs:

Selected drugs for study *Kampillakadi Tail*[3] are mentioned in *Charak Samhita* in the reference of *Vrana Chikitsa* and *Patolyadi Kwath*[4] is mentioned in *Chakra Datt Samihata.*

7. Preperation of Drugs:

Both the drugs have been prepared in the GMP Certified pharmacy of N.I.A. ,Jaipur, under close supervision of the experts.

8. Parameter of assessment:-

The patients were assessed on the basis of subjective and objective parameters before and after treatment:

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A. Colour:-

- Grade – 0 – healed wound/equivalent to skin colour.
- Grade – 1 - healing wound/equivalent to brownish-white.
- Grade – 2 –Cleaned wound/equivalent to reddish-white.
- Grade – 3–Contaminated with dust or soiled wound/equivalent to congested Reddish-black.

B. Discharge:-

- Grade – 0 - No discharge
- Grade – 1 - If wound wets 1 pad of4x4 cm gauze piece (mild) per day.
- Grade – 2 - If wound wets 2 pads of 4x4 cm gauze piece (moderate) per day.
- Grade – 3 - If wound wets more than 2 pads of4x 4 cm gauze piece (Profuse) per day .

C. Pain on VAS- As the patient himself/herself expressed the pain in his/her own terms, so this was Graded, starting from mild to severe as par with the VAS.

- G_0 – 0 -Absence of pain/no pain.
- G_1 – 1 to 3 mark on scale - Mild – Pain that can easily be ignored.
- G_2 – 4 to 6 mark on scale - Moderate – pain that cannot be ignored, interferes with function, and needs treatment from time to time.
- G_3 – 7 to 10 marks on scale - Severe – That is present most of the time demanding constant attention.

D. Swelling of the surrounding area:

- G_0 – Absent
- G_1 - Slight swelling around the wound margin without induration.
- G_2 - Swelling around wound margin with little area of induration.
- G_3 - Swelling with marked induration.

- **Size of wound:** The size was directly recorded with sterile blotting paper was placed over the wound.
- Grade - 0 – 0 to 1 cm^2
- Grade – 1 - Within 1.1- 4 cm^2
- Grade – 2 - Within 4.1-9 cm^2
- Grade – 3 -Within 9.1-16 cm^2 or more

E. Unit healing time (cm^2 / day) = Initial surface area of wound – surface area of wound after 7 days of treatment / duration of study (7 days) = surface area healed in sq cm / no of days.

Observation And Results:

Table No.1: Effect Of Group-A, Group-B And Group-C On Intensity Of Pain:-

Grp	Mean B.T.	Mean A.T.	Mean Dif.	Mean %	N	S.D.	S.E.	P	S
Group A	7.00	5.10	1.90	27.14%	10	3.03	0.96	0.08	I.S.
Group B	6.90	4.60	2.30	33.33%	10	2.16	0.68	0.019	S.
Group C	7.40	0.80	6.60	89.19%	10	1.71	0.54	0.002	H.S.

Table No.2: Effect Of Group-A, Group-B And Group-C On Swelling:-

Grp	Mean B.T.	Mean A.T.	Mean Dif.	Mean %	N	S.D.	S.E.	P	S
Group A	1.60	1.00	0.60	37.50%	10	0.52	0.16	0.03	S.
Group B	1.70	0.80	0.90	52.94%	10	0.74	0.23	0.015	S.
Group C	1.60	0.40	1.20	75.00%	10	0.42	0.13	0.002	H.S.

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Table No.3: Effect Of Group-A, Group-B And Group-C On Colour:-

Grp	Mean B.T.	Mean A.T.	Mean Dif.	Mean %	N	S.D.	S.E.	P	S
Group A	2.90	2.30	0.60	20.69%	10	0.97	0.31	0.09	I.S.
Group B	2.90	2.50	0.40	13.79%	10	0.70	0.22	0.15	I.S.
Group C	2.90	1.80	1.10	37.93%	10	1.10	0.35	0.019	S.

Table No.4: Effect Of Group-A, Group-B And Group-C On Discharge:-

Grp	Mean B.T.	Mean A.T.	Mean Dif.	Mean %	N	S.D.	S.E.	P	S
Group A	2.50	1.40	1.10	44.00%	10	0.99	0.31	0.015	S.
Group B	2.80	1.90	0.90	32.14%	10	0.74	0.23	0.015	S
Group C	2.60	1.30	1.30	50.00%	10	1.06	0.33	0.01	S.

Table No.5: Effect Of Group-A, Group-B And Group-C On Size Of Wound (M):-

Grp	Mean B.T.	Mean A.T.	Mean Dif.	Mean %	N	S.D.	S.E.	P	S
Group A	7.55	7.11	0.44	5.83%	10	0.73	0.23	0.1	I.S.
Group B	7.12	6.06	1.06	14.89%	10	1.41	0.45	0.013	S.
Group C	6.88	2.11	4.77	69.33%	10	1.31	0.41	0.002	H.S.

Table No.6:- Showing Symptoms Wise Improvement After Each Follow-Up In All Groups:

	Group A			Group B			Group C		
	3rd day	5th day	7th day	3rd day	5th day	7th day	3rd day	5th day	7th day
Pain	14.29%	18.57%	27.14%	15.94%	28.99%	33.33%	17.57%	58.11%	89.19%
Swelling	12.50%	25.00%	37.50%	17.65%	47.06%	52.94%	12.50%	37.50%	75.00%
Colour	6.90%	17.24%	20.69%	3.45%	10.34%	13.79%	10.34%	27.59%	37.93%
Discharge	4.00%	20.00%	44.00%	3.57%	14.29%	32.14%	11.54%	19.23%	50.00%
Size of wound	1.72%	4.24%	5.83%	3.09%	8.01%	14.89%	10.90%	24.27%	69.33%

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Table No.7:Inter-Group Comparison Between Gr-A And Gr-B For Effectiveness On Sign & Symptoms: (Mann-Whitney Test)

Parameters	U- value	P- value	Result
Pain	37.00	0.32	I.S.
Swelling	27.50	0.05	S
Colour	47.00	0.8	I.S.
Discharge	45.00	0.7	I.S.
Size of Wound (M)	9.50	0.002	H.S.
Unit Healing Time 3rd	9.50	0.002	H.S.

(HS: Highly Significant S.: Significant I.S.: In Significant)

TABLE NO.8: Inter-Group Comparison Between Gr-A And Gr-C For Effectiveness On Sign & Symptoms: (Mann-Whitney Test)

Parameters	U- value	P- value	Result
Pain	18.50	0.01	S
Swelling	20.00	0.008	H.S.
Colour	19.50	0.01	S
Discharge	24.50	0.04	S
Size of Wound (M)	0.00	0.002	H.S.
Unit Healing Time	0.00	0.0002	H.S.

(HS: Highly Significant S.: Significant I.S.: In Significant)

Table No.9:- Showing Improvement After Each Follow Up In All Groups:

Effect of therapy	No. of Patients								
	Group A			Group B			Group C		
	3rdday	5thday	7thday	3rdday	5thday	7thday	3rdday	5thday	7thday
Unimproved (0-25%)	10 (100%)	5 (50%)	1 (10%)	9 (90%)	5 (50%)	0	6 (60%)	0	0
Partial improved (25%-50%)	0	5 (50%)	4 (40%)	1 (10%)	4 (40%)	4 (40%)	4 (40%)	4 (40%)	0
Moderate improved (50%-75%)	0	0	5 (50%)	0	1 (10%)	4 (40%)	0	6 (60%)	4 (40%)
Marked improved (above 75%)	0	0	0	0	0	2 (20%)	0	0	6 (60%)

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DISCUSSION:

Effect on Group- A (Sterile Dressing): On the 7th day 27.14% relief in pain, 37.25% relief in swelling, 20.69% improvement in colour 44% relief in discharge and 5.83% improvement in size of wound was observed. On statistical analysis the overall effect of Group- A was Significant on swelling and discharge and In-significant on Intensity of pain, colour and size of wound.

Effect on Group- B (*Patolyadi Kwath*): On the 7th day 33.33% relief in pain, 52.94% relief in swelling, 13.79% improvement in colour, 32.14% relief in discharge and 14.89% improvement in size of wound were observed. On statistical analysis the overall effect of Group- B was significantly effective on Intensity of pain, on swelling, on discharge and on size of wound. Group-B was In-significant on discharge.

Effect on Group- C (*Patolyadi Kwath* + *Kampillakadi Tail*): On the 7th day 89.19% relief in pain, 75% relief in swelling, 37.93% improvement in colour, 50% relief in discharge and 69.33% improvement in size of wound was observed. On statistical analysis the overall effect of Group- C was highly-significant on Intensity of pain, on swelling and size of wound. Group-C was significantly effective on colour and discharge.

Comparative Analysis Of Groups On Subjective And Objective Parameters:

Inter Group Comparison between Group-A and Group-B:

* Out of this study the statistical analysis as a whole signifies that the trial Group-B (*Patolyadi Kwath*) is showing significant effect in reducing swelling on 7th day over control Group-A with p-value 0.0469 and in improving Granulation tissue with p-value 0.0234.

*Group-B also showed very-significant effects over Group- A on 7th day in reducing size of wound and unit healing time with p-values 0.002 res.

* Regarding the Pain, Colour and Discharge Group-B and Group-A showed In-significant effects.

Inter Group Comparison between Group-A and Group-C:

* On Inter-Group comparison between Group-A and Group-C, stastical analysis signifies that Trial Group-C (*Patolyadi Kwath* + *Kampillakadi Tail*) showed significant effect over Control Group-A in 7th day-up in reducing pain with p-value 0.01, in improving colour with p-value 0.01 and in reducing discharge with p-value 0.049.

* Regarding swelling, Granulation tissue, size of wound and unit healing time Trial Group-C showed Very-significant and highly-significant effect over Control Group-A on 7th day-up with p-value 0.008, 0.005, 0.0002, 0.0002 res.

Probable Mode of action of Drugs:

Both the drugs possess *Tikta, Kashaya* as predominant *rasa*, as well as *Laghu* and *Ruksha Guna* and *Sheeta Virya* and *Katu Vipaka* followed by some *Madhur vipaka* also. So as such the Gross action of *Kampillakadi Tail* on the *Dosha* should be definitely *Tridosha shamaka,* mainly *Pitta* and *vata dosha shamaka* as *Vrana* is *Pitta* (causes burning sensation) and *Vata dosha* (causes pain) *pradhanaya vyadhi*. The contents of *Patolyadi Kwath* and *Kampillakadi Tail* do *Vrana-Shodhana*, *Vrana-Ropana*, *Rakata-Stambhana*, *Vedana-Sthapana*, *Shothahara* and *Daha-Shamaka karma*. Due to *Laghu Guna*[5], *Tail* absorbed in *Vrana* deeply and due to *Ruksha Guna* it does *Shodhana* of *Vrana*.

As well *Til Tail* has Vitamin-A, which increases the inflammatory responses, stimulates collagen synthesis and epithelialisation[6] by topical application. It also acts as anti-keratinizing property. Vitamin-A can reverse the inhibitory effect of corticosteroids on wound healing, thus, acting as anti-inflammatory[7].

CONCLUSION:

Overall assessment shows that application of ***Kampillakadi Tail* followed by *Patolyadi Kwath prakshalan*** accelerate healing process of *Vrana* (*Agantuja* type) by giving relief in all cardinal sign & symptoms than only ***Patolyadi Kwath prakshalan*** (Group-B) and **only sterile dressing** (Group-A).

Since the clinical study was conducted on a limited number of patients, it may not be claimed as final, so detailed study should be done on a large sample size.

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References:

1. Sushruta Samhita; Hindi commentary of Kaviraj Ambikadatt Shastri, Ayurvedatatva Sandipika; Chaukhamba Sanskrit Sansthan, Varanasi; reprint 2008; Chikitsa Sthana; 2/4-9.
2. Sushruta Samhita; Hindi commentary of Kaviraj Ambikadatt Shastri, Ayurvedatatva Sandipika; Chaukhamba Sanskrit Sansthan, Varanasi; reprint 2008;Chikitsa Sthana; 2/23-25.
3. Charaka Samhita Dvitiya Bhag; Hindi Commentary of Pt. Kashinath Shastri and Dr. Gorakhnath Chaturvedi, Chaukhambha Bharati Academy, Varanasi; reprient 2006; Chikitsa Sthana; 25/91.
4. Chakrapanidatta. CharakaSamhita of Agnivesh.5th edition, New Delhi, Chaukhambha publications, 2001; 44/25.
5. Charaka Samhita Pratham Bhag; Hindi Commentary of Pt. Kashinath Shastri and Dr. Gorakhnath Chaturvedi, Chaukhambha Bharati Academy, Varanasi; reprient 2005; Chikitsa Sthana; 27/286-288.
6. S.Das:A concise textbook of surgery; S.Das; 6th edition: 1;1-7.
7. Baily & Love's Short Practice of Surgery, edited by Norman S. Williams, Christopher J.K. Bulstrode, P. Ronan O'Connel; 26th edition, 2013: 3; 24-25.

Clinical Study

A clinical study on Diet and *Yoga* in the Management of *Sthaulya* (Obesity)

*Dr Ravi Kumar, **Dr Mangalagowri V. Rao

Abstract

Due to the faulty lifestyle and over consumption of sweet and unctuous substances etc Sthaulya (Obesity) and its complications like reduced life span, debility, diabetes mellitus, cardiovascular diseases etc are increasing day by day and causing morbidity and mortality worldwide. The ideal way to break the etiopathogenesis of Sthaulya is through the modifications of diet, conduct and actions advised in Ayurvedic and Yogic texts. The aim and objective of this study was to evaluate the role of diet management and some yogic practices in prevention and management of *Sthaulya* (Obesity). This study was conducted at OPD and Department of Swasthavritta and Yoga as well as at OPD and Department of Kayachikitsa, Sir Sundar Lal Hospital, B.H.U., Varanasi. Research design selected for the present study was consist of intra group comparison of BT and AT as well as inter group comparison between three groups A, B and C respectively. It was an open, prospective and randomized clinical trial. Conclusion treatment was most effective in the group C treated with diet and Yogic practices.

Keywords : sthaulya, diet, yogic practices etc

सारांश –

विकृत गलत जीवन शैली, मधुर एवं स्निग्ध द्रव्यों के अतिसेवन से स्थौल्य एवं स्थौल्य जनित उपद्रव जैसे दौर्बल्य, आयुह्रास, मधुमेह हृदयविकारादि दिन–प्रतिदिन बढ़ते जा रहे हैं। अस्वस्थता एवं मृत्यु दर में वृद्धि के ये प्रमुख कारण हैं। आयुर्वेद एवं योगशास्त्र द्वारा प्रतिपादित व्याधियों के अनुसार जीवन शैली एवं आहार में परिवर्तन द्वारा स्थौल्य जैसे अपथ्यनिमित्तज विकारों की उचित प्रकार से रोकथाम तथा उपचार संभव है। आहार एवं योग का स्थौल्य में प्रभाव के मूल्यांकन हेतु यह शोध किया गया था; यह एक रेण्डमाईज्ड ओपन प्रोस्पैक्टिव ट्रायल था। यह कार्य स्वस्थवृत्त एवं योग तथाा कायचिकित्सा विभाग, बी.एच.यू वाराणसी (उत्तरप्रदेश) में किया गया था; जिसमें कुल 60 स्थौल्य के मरीजों को तीन ग्रुप में बाँटकर आहार, योग एवं आहार–योग दोनों अलग–अलग प्रत्येक ग्रुप में प्रभाव देखा गया था। इस शोध कार्य में यह निष्कर्ष निकलता है कि ग्रुप सी में (आहार–योग दोनों का प्रयोग किया गया) सर्वाधिक लाभ देखा गया।

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Clinical Study

A clinical study on Diet and *Yoga* in the Management of *Sthaulya* (Obesity)

Dr Ravi Kumar, Dr Mangalagowri V. Rao

Introduction

Sthoulya (Obesity) is one of the major causes of morbidity and mortality worldwide [1]. Sthaulya mammoth is stamping the universe by its giant feet due to this people are suffocated with its complications like reduced life span, debility, diabetes mellitus, cardiovascular diseases etc. Sedentary lifestyle and over consumption of fatty foods etc. is the main cause of this disease.[2,3,15] The mention of this disease can be traced back to the period of Vedas and even mythological era where in Lord Ganesha suffered from Obesity and its complications diabetes mellitus due to his overeating habit accompanied with sedentary life style. Even in Ayurvedic texts like Charaka Samhita as early as 2 century B.C. etiological factors have been discussed in detail. Acharya Charaka considers Sahaja or *Beeja-svabhavavaja* (Hereditary) and *Apathyanimittaja* (Life style) S*thaulya*[4], among types of Obesity which can be compared to the contemporary concept of Obesity.

The ideal way to manage is to break the etiopathogenesis of Obesity. According to Ayurvedic concepts pathophysiolgy of Sthaulya includes overeating of *Kaphavardhaka* foods like sweet and unctuous food items. Excess consumption of these food items leads to production of *Ama* at *Dhatvagni* level due to *Dhatvagni mandya*. *Deeptagni* at Jatharagni level further increase the appetite, leading again a morbid increase of Medas and improper formation of other *Dhatus*, leading to again loss of strength and shortening of life span. Even heredity is also one among the contributing factors, as it is impossible to change them, but the life style factors should be addressed by means of diet control and change of life style[4]. In *Charaka Samhita* modifications of diet, conduct and actions are advised[5]. One desirous of well being in this world and the world beyond should try his level best to follow the principles of health relating to diet, conduct and action.

The diet advised should be heavy to counteract the enhanced digestive power and non-nourishing to bring about depletion of abnormally increased adipose tissue[6]. In this study food items like sprouted green gram (Mudga) is used which is one among Sada Pathyas[7], heavy at the same time; non-nourishing due to high fiber content is chosen for breakfast along with large servings of fresh vegetables like cucumber, onion, radish etc which are again heavy due to high fiber content and non-nourishing as they yield less calorie. Further low fat diet is suggested along with advocating of pathyas and apathyas.

Life style modification in the form of Yogic practices like asana, pranayama and nadishodhana help to bring about physical and mental equipoise along with opening a gateway for spiritual path are advocated in this study.

Aim and objective

The aim and objective of this study was to evaluate the role of diet management and some yogic practices in prevention and management of Sthaulya (Obesity)

Material and Methods

This study was conducted at OPD and Department of Swasthavritta and Yoga as well as at OPD and Department of Kayachikitsa, Sir Sundar Lal Hospital, B.H.U., Varanasi. Patients were registered with consent from hospital directly, while a few of them registered in the camp organized by the Department of Swasthavritta and yoga. Some of them were registered from surrounding area of the hospital.

Research design

Research design selected for the present study was consist of intra group comparison of BT and AT as well as inter group comparison between three groups A, B and C respectively. It was an open,

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prospective and randomized clinical trial.

Inclusion Criteria

Age	:	16-60 years
BMI	:	BMI $\geq$ 25 and BMI < 40
WHR	:	Women > 0.7 Men > 0.9

Exclusion criteria

Age below 16 and above 60 years. Hypothyroidism, Hypogonadism, Hyperandrogen, ovary syndrome, Cushing's syndrome, GH abnormality, Pseudo hyperparathyroidism, hypertension, cardiovascular diseases and other metabolic disorders.

Study design and treatment schedule

In this study 60 patient having BMI $\geq$ 25 and < 40 were selected. The cases were randomly selected regardless of their age, sex and socioeconomic considerations, but fully satisfying the diagnostic criteria for *Sthaulya* (Obesity) as per modern medicine as well as in Ayurvedic system of medicine. All the 60 patients were divided into three groups each having 20 patients.

I. Group A -Treated with yogic practices.

Patients of this group were advised to practice regularly yogic practices in following order. A general schedule for yoga was designed as follows

A Standing Asanas

1.	Tadasana	:	5 rounds/day
2.	Padahastasana	:	5 rounds/day
3.	Ardhakatichakrasana	:	5 rounds/day
4.	Trikonasana	:	5 rounds/day

B.Sitting Asana

1.	Paschimottanasana	:	5 rounds/day

C.Supine Asanas

1.	Pawanmuktasana	:	5 rounds/day
2.	Naukasana	:	5 rounds/day

D.Prone Asanas

1.	Bhujangasana	:	5 rounds/day
2.	Shalabhasana	:	5 rounds/day

E.Relaxing Asana

1.Shavasana : Minimum- 10min/day after performing above asanas.

F.Others

1.	Agnisara Kriya	:	upto 100 rounds/day
2.	Kapalabhati	:	upto 100 rounds/day
3.	Anuloma-viloma	:	10 rounds/day

II.Group B-Treated with diet management

Patients of this group were advised to adhere to the Pathya ahara and vihara according to the principles of Ayurveda. Each patient was advised to follow instructions given below

1. Eat 50gms sprouted *Mudga*(green gram) per day in breakfast with lemon juice, salt and black piper powder according to taste.
2. Decrease 1/2 chappati (35 gm of wheat flour or 35 gm of rice per day approximately 120 cal/ meal).
3. Generous servings of fresh vegetables and fruits like Carrot, Cucumber, Radish, Jamun, Mango or any other seasonal fruit .

Apart from this following Pathya and Apathya chart was also given to the patients of group B and were advised to select food items from this chart and to follow conducts.

DIET REGIMEN FOR OBESITY

GENERAL Katu-Tikta-Kashaya Rasa dravya, Ruksha dravya, Low salt diet and Green salad,

DIET

- FLOUR-Wheat, Barley, Jvara, Bajra
- RICE-Old Shali or Sathi rice
- PULSES-Moonga, Chana, Masoora, Arhar, Rajma, Kulatha
- VEGETABLES-Green leafy vegetables, Brinjal, Kohda, Tauri, Karaila, Parval, Sobhanjana
- FRUITS-Jamuna, Mango, Ber, Guava, Amla, Unripe Bel, Citrus fruit
- OTHERS-Ginger, Lasuna, Black Maricha, Pippali, Elaichi, Dhaniya, Turmeric, Hingu

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LIQUIDS - Honey with water, Lukewarm water in morning, Hot Manda, Water before meals, Mustard oil for preparation of vegetable and Takra

DIET SHOULD NOT BE TAKEN - New cereals, sugarcane products, Meat, Black gram, Fried items, Dry fruits, Potato, Alcohol, Junk food and Soft drinks

III. Group C - Treated with yogic practices and diet management. Patients of this group were advised to follow instructions given to group A and B respectively. After giving the treatment for all three groups, patients were reviewed at an interval of one month for total period of three months.

STATISTICAL METHODS - All the data was collected in tabulated form. The intra-group comparison was done to see the effect of treatment using c^2 test for subjective and paired t test for objective parameters. The inter-group comparison between different groups was done using the unpaired t test.

Following statistical formulas were applied to obtain results: Mean, Standard deviation, Standard Error, Paired't' tests (Intra group comparison), Unpaired't' test (Inter-group comparison), Friedman's analysis test, Cochran's Q test, Pearson's chi-square test

Diagnostic criteria

A. Clinical diagnosis - It was made on the BMI, WHR, weight and symptoms of Sthaulya described in Ayurvedic classics.

B. Laboratory diagnosis

Routine investigations: Hb%, TLC, DLC, ESR, Blood Sugar, Lipid profile and urine microscopy.

Assessment criteria - The assessment of the treatment was based on objective parameters.

- Weight
- BMI (body mass index)
- WHR (Waist Hip Ratio)

Investigations

- Serum Cholesterol
- Serum LDL
- Serum HDL
- Serum triglyceride

Observation and results

Table 1.Effect of treatment on weight

Group	Mean ± SD BT	Mean ± SD FU_1	Mean ± SD FU_2	Mean ± SD FU_3 (AT)	Mean ± SD BT-AT	Intra group comparison paired 't' test
Group A	75.2±10.44	74.47±10.17	73.70±10.12	72.55±9.82	2.65±1.23	t = 7.04 p < 0.001
Group B	76.55±10.67	76.27±10.60	75.58±10.58	74.45±10.40	2.1±1.984	t = 6.02 p < 0.001
Group C	79.70±8.14	77.30±8.08	76.00±8.02	75.30±7.73	4.4±2.92	t = 8.25 p < 0.001

Table 2. Effect of treatment on BMI

Group	Mean ± SD BT	Mean ± SD FU_1	Mean ± SD FU_2	Mean ± SD FU_3 (AT)	Mean ± SD BT-AT	Intra group comparison paired 't' test
Group A	30.35±1.74	30.35±1.74	30.17±1.73	29.72±1.67	0.63±0.3	t = 8.99 p < 0.001
Group B	29.95±1.46	29.89±1.46	29.66±1.33	29.40±1.21	0.54±0.37	t = 7.02 p < 0.001
Group C	30.13±1.67	29.64±1.52	28.36±1.50	27.79±1.39	2.34±2.37	t = 11.75 p < 0.001

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Table 3. Effect of treatment on WHR

Group	Mean ± SD BT	Mean ± SD FU_1	Mean ± SD FU_2	Mean ± SD FU_3 (AT)	Mean ± SD BT-AT	Intra group comparison paired 't' test
Group A	0.99±0.9	.97±0.9	0.94±0.20	0.93±0.76	0.06±0.11	t = 4.98 p < 0.001
Group B	0.97±0.07	0.96±0.07	0.95±0.07	0.93±0.06	0.04±0.019	t = 03.49 p < 0.001
Group C	1.06±0.13	1.06±0.13	1.03±0.12	0.98±0.10	0.08±0.05	t = 5.05 p < 0.001

Table 4. Effect of treatment on Serum cholesterol (mg/dl)

Group	Mean ± SD BT	Mean ± SD FU_1	Mean ± SD FU_2	Mean ± SD FU_3 (AT)	Mean ± SD BT-AT	Intra group comparison paired 't' test
Group A	172.75±47.80	172.25±47.38	170.45±46.82	168.55±46.11	4.2±0.67	t = 4.2 p < 0.001
Group B	183.60±42.30	181.10±36.55	180.05±35.41	180.10±33.72	3.5±0.29	t = 5.75 p < 0.001
Group C	179±42.30	178±39.05	176±39.62	174.40±38.58	5.15±0.79	t = 6.56 p < 0.001

Table 5. Effect of treatment on Serum Triglyceride (mg/dl)

Group	Mean ± SD BT	Mean ± SD FU_1	Mean ± SD FU_2	Mean ± SD FU_3 (AT)	Mean ± SD BT-AT	Intra group comparison paired 't' test
Group A	60.90±21.36	60.19±21.20	58.57±20.47	57.40±20.79	3.5±1.48	t = 10.51 p < 0.02
Group B	65.59±21.96	64.93±21.45	63.33±21.13	61.95±20.67	3.64±1.7	t = 9.2 p < 0.02
Group C	65.29±22.46	65.27±22.42	64.39±22.27	61.13±20.57	4.16±1.16	t = 11.63 p < 0.001 (HS)

Table 6. Effect of treatment on Serum LDL (mg/dl)

Group	Mean ± SD BT	Mean ± SD FU_1	Mean ± SD FU_2	Mean ± SD FU_3 (AT)	Mean ± SD BT-AT	Intra group comparison paired 't' test
Group A	76.21±18.95	76.21±18.95	74.50±18.00	71.50±15.63	4.71±5.03	t = 03.88 p < 0.001
Group B	83.09±24.82	84.63±23.07	83.98±22.84	81.40±21.55	01.69±07.4	t = 2.01 p > 0.05
Group C	77.02±23.25	76.24±22.58	73.95±22.02	71.15±21.19	5.87±2.85	t = 4.19 p < 0.001

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Table 7 Effect of treatment on Serum HDL (mg/dl)

Group	Mean ± SD BT	Mean ± SD FU_1	Mean ± SD FU_2	Mean ± SD FU_3 (AT)	Mean ± SD BT-AT	Intra group comparison paired 't' test
Group A	49.84±16.96	51.50±13.47	53.15±13.31	54.65±13.06	-4.81±2.98	t = -2.71 p < 0.02
Group B	50.35±12.58	49.90±12.05	50.70±11.66	52.80±11.27	-2.45±3.052	t = -1.82 p < 0.05
Group C	54.40±19.10	55.25±18.91	57.40±18.29	60.00±17.89	-5.6±2.85	t = -2.84 p < 0.001 (HS)

On intragroup comparison (between BT and AT), the effect of therapy was significant with respect to weight, BMI and WHR. These values were significantly reduced in all the groups. In the patient of Obesity, the weight, BMI and WHR remain high due to the accumulation of excess body fat. There was gradual decrease in the said parameters after therapeutic intervention. On inter group comparison between three groups; group C was most effective with respect to weight, BMI and WHR. This is due to the synergetic effect of Yogic practices and diet management. On intragroup comparison, the effect of therapy was highly significant ($p < 0.001$) with respect to serum cholesterol. The serum cholesterol reduced after treatment in all the groups. On inter group comparison result was found non significant statistically. On Intra group comparison (between BT-AT) in group A serum triglyceride level decreased significantly, serum LDL level highly significantly and serum HDL level increased statistically significantly. While in group B improvement by therapeutic intervention was non significant for serum LDL and found significant for serum triglyceride and serum HDL. In group C result was found statistically highly significant for all the parameters i.e. serum triglyceride, serum LDL and serum HDL. A inter group comparison of the means for the serum triglyceride, serum LDL and serum HDL level under study, revealed non significant differences. These findings revealed that group C was most effective group with respect to plasma lipid level. On intra group comparison (between BT and AT), the effect of therapy revealed promising results.

Disscusion -

There were some limitations in this study. The sample size was small; the follow up period was short as the study was time bound. Sthaulya vis-à-vis Obesity is a condition considered under eight undesirable constitutions[8]. It is difficult to manage because it needs depletion of Medodhatu by using non-nourishing and heavy substances having Kapha,Vata and Medohara properties. Ideal management for this disease is modification of life style and diet. In the present study Yogic practices and Ayurvedic diet were included for the management of Sthaulya vis-à-vis Obesity. The Yogic practices established a harmony in the orchestra of body organs associated with bringing about control over mind by vitalizing and purifying them and connecting with internal self. Even though Yogic practices, the asanas involve stretching and relaxation of various muscles steadily without jerky movements. This steady movement activates slow twitch muscle fibers which metabolize fatty acids efficiently without forming lactic acid, this help to reduce fat (Guyton). In the same way probably fat utilization increases due to release of epinephrine and nor epinephrine by the adrenal medulla as a result of sympathetic stimulation. These two hormones directly activate hormone sensitive triglyceride lipase that is present in abundance in the fat cells and this cause rapid breakdown of triglycerides and mobilization of fatty acids [9]. Yoga practices increases adreno-cortical efficiency and competence, endocrine and metabolic competence [10]. Asanas like Ardhakatichakrasana, Trikonasana, Paschimottanasana etc. tone and massage the entire abdominal and pelvic regions and remove fat especially from abdominal areas. Anuloma-Viloma pranayama increase respiratory efficiency has positive effect on pulmonary and respiratory functions. It helps people with respiratory problems. In obese patients Kshudrashwasa improved with regular practice of yogic practices [11].Anuloma-

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Viloma pranayama. Kapalabhati and Agnisara kriya possibly act on central Obesity dissolve abdominal fat; increase dhatvagni at cellular level as a result fat metabolism is corrected leading to normalcy of succeeding dhatus. These practices purify the nadis and open obstructed microchannels, alleviate lethargy and sleepiness.

The diet is one of the governing factors in causation of Obesity [12]. The patients were advised to take 50gms sprouted green gram in the breakfast, which is one among sada pathyas and guru as it is taken uncooked, so that it helps to pacify the Tikshanagni. It is having more fiber content so gives feeling of satiety. The ruksha, vishada and sleshmahara properties help in alleviation of Medas. The sprouted green gram is rich in proteins and vitamins, with an added advantage of preservation of thermo labile nutritients. This helps to reduce constipation which is one of the common complaints among obese. Lemon salt and pepper powder were used to provide taste. Lemon is Hridya, ruchikara and Pepper is pramathi, helps in srotoshodhana[13]. According to Ayurvedic principles in the condition of tikshnagni excessive reduction of food leads to dhatupaka which may further complicate already existing dhatu depletion, so only 240 cal/day was reduced. Further the patients were suggested to minimize the intake of sweets, oily foods, junk foods, potato, meat and alcohol. Generous servings of fresh vegetables and fruits were advocated as they are rich in antioxidants, vitamins, and minerals, provide good nourishment to the dhatus, help to prevent atherosclerosis, cancer etc. at the same time help in reducing Obesity. Starchy part of vegetables and grains are complex carbohydrates, thus they supply minimum calories. These fresh fruits and vegetables are heavy and help to counteract Tikshnagni. Patients were advised to drink water before and in between meals as it produce leanness and pacifies Tikshnagni which is the culprit in Sthaulya[14]

Conclusion -

Tikshnagni at *Jatharagni* level due to entrapment of *Vata* in *Kostha* and *agnimandya* as well as amotpatti at *dhatvangi* level produce Sthaulya and its complications. So it has to be managed with guru, apatarpana, Kaphavata-Medohara drugs and diets along with exercise. The diet sprouted Mudga, generous servings of fresh vegetables and fruits accompanied with reduction in the intake of food (approximately 240cal/day) help in reduction of weight. The group C treated with diet and Yogic practices was most effective showing the synergistic effect of diet and Yoga. The treatment is cost effective and devoid of side effects, so it can be applied in the community.

References

1. Must A, Spadano J, Coakley EH, Field AE, Colditz G, Dietz WH. The disease burden associated with overweight and obesity. JAMA 1999; 282: 1523-9.
2. Blair SN, Brodney S. Effects of physical inactivity and obesity on morbidity and mortality: current evidence and research issues. Medicine and science in sports and exercise. 1999 Nov 1; 31:S646-62.
3. Must A, Jacques PF, Dallal GE, Bajema CJ, Dietz WH. Long-term morbidity and mortality of overweight adolescents: a follow-up of the Harvard Growth Study of 1922 to 1935. New England journal of medicine. 1992 Nov 5;327(19):1350-5.
4. Charaka Samhita edited by Vaidya Jadavaji, Trikamji Acharya, Chaukhamba Surbharati Prakashan, Varanasi Reprint edition, 1992 sutrasthana 21 shloka 4.
5. Charaka Samhita edited by Vaidya Jadavaji, Trikamji Acharya, Chaukhamba Surbharati Prakashan, Varanasi Reprint edition, 1992 sutrasthana 21 shloka 28.
6. Charaka Samhita edited by Vaidya Jadavaji, Trikamji Acharya, Chaukhamba Surbharati Prakashan, Varanasi Reprint edition, 1992 sutrasthana 21 shloka 20.
7. Charaka Samhita edited by Vaidya Jadavaji, Trikamji Acharya, Chaukhamba Surbharati Prakashan, Varanasi Reprint edition, 1992 sutrasthana 05 shloka 12.
8. Charaka Samhita edited by Vaidya Jadavaji, Trikamji Acharya, Chaukhamba Surbharati Prakashan, Varanasi Reprint edition, 1992 sutrasthana 21 shloka 3
9. Seo DY, Lee S, Figueroa A, Kim HK, Baek YH, Kwak YS, Kim N, Choi TH, Rhee BD, Ko KS, Park BJ. Yoga training improves metabolic parameters in obese boys. The Korean Journal of Physiology & Pharmacology. 2012 Jun 1;16(3):175-80.
10. Ross A, Thomas S. The health benefits of yoga and exercise: a review of comparison studies. The journal of alternative and complementary medicine. 2010 Jan 1;16(1):3-12.
11. Posadzki P, Cramer H, Kuzdzal A, Lee MS, Ernst E.

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Yoga for hypertension: a systematic review of randomized clinical trials. Complementary therapies in medicine. 2014 Jun 30; 22(3):511-22.

12. Cani PD, Bibiloni R, Knauf C, Waget A, Neyrinck AM, Delzenne NM, Burcelin R. Changes in gut microbiota control metabolic endotoxemia-induced inflammation in high-fat diet–induced obesity and diabetes in mice. Diabetes. 2008 Jun 1;57(6):1470-81.

13. Charaka Samhita edited by Vaidya Jadavaji, Trikamji Acharya, Chaukhamba Surbharati Prakashan, Varanasi Reprint edition, 1992 sutrasthana 27 shloka 153-154.

14. Sushruta, Sushruta Samhita, 8th ed. Vaidya Jadavji Trikamji Acharya., editor. Varanasi: Choukhambha Orientalia; 2005; Sutra Sthana 46 shloka 488

15. Hill JO, Peters JC. Environmental contributions to the obesity epidemic. Science. 1998 May 29; 280(5368):1371-4.

Clinical Study

Clinical Evaluation of The Effect of *Anuvasana- Vasti* (*Matra-Vasti*) And *Pichu* In Pregnancy on The Phenomenon Of Labour

*Dr. Varsha Singh, *** Dr.(Mrs.)Hetal H. Dave

Abstract:

Garbhini Paricharya/Antenatal care in pregnancy is essential to achieve the aim to bring healthy offspring and to prevent the pathological changes that occur during pregnancy and labour. The present study was conducted on 30 patients who fulfill the exclusion and inclusion criteria. Study was conducted with an objective of evaluating the effect of *Madhura-aushadha-sidhha Taila,* if it used as both i.e. *Anuvasana Vasti* and *Pichu* or it is used as only *Pichu* have the same effect/ different effect on the phenomenon of labour. Group-A patients were treated with *Anuvasana Vasti* in the dose of 60 ml twice weekly and use of *Pichu* daily in night from the 9th month of pregnancy till delivery while Group-B patients were treated only with *Pichu* daily in night from the 9th month of pregnancy till delivery. Group-A was more effective on different parameters than Group-B.

Key-words: - *Garbhini Paricharya, Madhura aushadha sidhha Taila, Anuvasana-vasti, Pichu.*

सारांश:

आयुर्वेदीय संहिताओ मे सभी आचार्यो ने मासानुमासिक गर्भिणी- परिचर्या का विस्तृत वर्णन किया है। गर्भिणी-परिचर्या का मुख्य उद्देश्य गर्भावस्था के दौरान, प्रसव के दौरान तथा प्रसव के पश्चात् होने वाले उपद्रव को रोकना/ कम करना है। अत: आचार्य चरक द्वारा दिये गये 9वें माह के गर्भिणी-परिचर्या का अनुपालन प्रस्तुत शोध-कार्य में किया गया है।

प्रस्तुत शोध-कार्य में 30 गर्भिणी स्त्रियों का चयन बर्हिनिर्णयात्मक मापदंड एवं अंत:निर्णयात्मक मापदंड के आधार पर किया गया है, तथा उन्हें दो वर्गो (वर्ग-अ तथा वर्ग-ब) में विभाजित किया गया है। 'वर्ग-अ' के रोगियों को मधुरौषध सिद्ध तैल से अनुवासन वस्ति (मात्रा-वस्ति) सप्ताह में दो बार तथा प्रतिदिन रात्रि में मधुरौषध सिद्ध तैल से पिचु धारण कराया गया, तथा 'वर्ग-ब के रोगियों को प्रतिदिन रात्रि में केवल मधुरौषध सिद्ध तैल से पिचु धारण कराया गया। अनुवासन वस्ति की मात्रा 60 मिलि थी। यह प्रक्रिया 9वें माह से प्रारम्भ कर प्रसव तक किया गया, और शोध-कार्य के अंत में 'वर्ग -अ' के रोगियो को 'वर्ग-ब' के रोगियों से अधिक प्रभावकारी परिणाम प्राप्त हुयें।

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Clinical Study

Clinical Evaluation of The Effect of *Anuvasana- Vasti* (*Matra-Vasti*) And *Pichu* In Pregnancy on The Phenomenon Of Labour

Dr. Varsha Singh, Dr. (Mrs.) Hetal H. Dave

Introduction:

Ayurveda places an enormous emphasis on the importance of caring of mother before, during and after pregnancy. The prophylactic value of antenatal supervision is so much tested and recognized in the advanced countries that it is needless to stress its importance. Antenatal care is very much essential to prevent or to detect the medical obstetrical complications at the earliest. It also gives the psychological support to the patient so that, she finds herself confident during the ordeal of labour. Main aim of antenatal care is "to bring healthy offspring" into the society. To prevent the pathological changes that occur during labour proper antenatal care is essential.

8 *Acharyas* have described the *"Masanumasika Garbhini Paricharya"* from the 1st day of conception till labour. So it has been decided to work out the clinical efficacy of *Garbhini Paricharya* as mentioned by *Aacharya Charaka* in 9th month of pregnancy i. e. use of *Madhura - ausadha siddha taila Anuvasana-Vasti* and *Pichu* for the purpose of *Sukha* and *Nirupadrava prasava*

Charaka has used a new term "*Prasuti Maruta" Apana Vayu* is responsible for the *Nishkramana* of *Garbha*. Since, *Apana Vayu* controls specifically the process of expulsion of foetus; it can be referred to *Prasuti Maruta*. It may also be considered as a subtype of *Apana Vayu*, having a special function of *Garbha Nishkramana*. The *Vyana vayu* is essential for contraction and retraction of myometrium. So, the *Vyana* and *Apana vayu* have an important role in the fetal expulsion. To keep these two *Vayus* in balanced state, *Aacharyas* have advised administration of *Anuvasana-Vasti* and *Pichu*.

Aims And Objectives:

- To assess the efficacy of *Anuvasana Vasti and Pichu* in different parameters of labour as compared to only *Pichu*.
- As *Anuvasana Vasti* is a part of *Garbhini Paricharya*, so to establish the effect of *Garbhini-Paricharya* in minimizing the *Garbhini updravas*, getting healthy offspring.

Materials And Methods:

Material For present study two types of materials were utilized as furnished below:—

[1] Literary Material-

Literary references were collected from *Ayurvedic* as well as modern science.

[2] Clinical Material -

[A] Patients: - Patients were fulfilling all the selection (inclusion and exclusion) criteria, visiting NIA OPD and IPD.

[B] Laboratory: - Assistance had been taken from central lab of NIA hospital.

[C] Drug: - Drugs were purchased and medicine (*Madhura - ausadha siddha Taila)* prepared through pharmacy of NIA, Jaipur.

Drug ingredients of *Madhura - ausadha siddha Taila* are- *Tila-taila, Shatavari, Vidarikanda, Yastimadhu, Ashwagandha, Mudgaparni, Masaparni, Jeevanti* and *Bala*

Methods:

Source of Data: Total 30 patients fulfilling the criteria for inclusion were randomly selected from O.P.D. /I.P.D. of NIA Hospital, Jaipur. These patients were randomly divided into two groups of 15 patients each:

{1} Group A—15 registered patients of this group were given *Madhura - ausadha siddha Taila Anuvasana -Vasti (Matra-Basti)* in the dose of 60 ml twice weekly and *Madhura - ausadha siddha Taila Pichu* once daily in night till delivery.

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{2} Group B —15 registered patients of this group includes the patients under observation with the use of *Madhura -ausadha siddha Taila Pichu* once daily in night till delivery.

Instructions for administration of *Pichu* to pregnant lady- Patient was instructed to insert the *Pichu* which was soaked in *Madhura- aushadha Siddha Taila* herself daily at bed time after micturition and *Pichu* was removed in morning or that time if she passes urine in night. Before inserting the *Pichu* she must clean her hand and wear gloves. Ending part of *Pichu* was kept outside the vagina for ease of its removal.

Duration of trial: from 9th month of pregnancy up to delivery.

Follow Up: two times in a week.

Criteria for Inclusion –

- Patients who are ready to give written informed consent.
- Pregnant women of 9th month will be randomly selected for the trial with age-group between 18-35 years.
- Normal fetal position at the term.
- Normal pelvic measurement (adequate pelvis).
- Height of female more than 4 feet 10 inches.

Criteria for Exclusion- Patients having cephalopelvic-disproportion, malpresentations, abnormal size of foetus, contracted-pelvis, history of A.P.H, patients having systemic diseases (like diabetes-mellitus, thyroid-disorders, hypertension, tuberculosis, jaundice, pre-eclampsia, eclampsia, heart-diseases, epilepsy, polyhydroamnios, ascitis, generalized-edema, I.U.G.R., chronic renal diseases etc.) multiple-pregnancy, any type of malignancy, pelvic-masses causing obstruction and vaginal obstruction (atresia and stenosis), previous caesarean-delivery and bad-obstetrics history.

Criteria for Assessment:

[A] Assessment of present trial was done on the basis of sign and symptoms found during pregnancy such as—*Shevta-srava, Yoni-kandu, Vibandha, Udara-shoola, Katishoola, Kshudha-vaishmya, Daurbalyata, Nidra-Vaishmyata*. Assessment of present trial was also done on these parameters present during labour such as - incidence of *Prasava kala*, incidence of rupture of membrane, nature of labour, feeling of intensity of pain, use of episiotomy, cause of perineal tear, duration of labour, operative-procedure and symptoms observed in *Sutikas*.

[B] Results of the trial were assessed on the basis of time reduction as compared to standard time.

Observation & Result:

Table- I Effect of *Anuvaasana Vasti* on different *Lakshanas* of Group-A

S.N.	*Lakshanas*	Number of Patients		Percentage
		B.T.	A.T.	
1.	*Udarshoola*	09	02	77.77%
2.	*Katishoola*	10	02	08.00%
3.	*Darubalyata*	05	01	80.00%
4.	*Kshudha Vaishmya*	05	02	60.00%
5.	*Nidra Vaishamya*	08	04	50.00%
6.	*Vibandha*	08	00	100.00%

This table shows that in 100% relief was observed in *Vibandha*, 80% relief was observed in *Katishoola* and *Dourbalyata*, 77.77% relief in *Udarshoola,* 60% relief in *Kshudha Vaishmya* and 50% relief was observed in *Nidra Vaishyma*.

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Table-II Effects of *Pichu* on different *Lakshanas* on both Groups

S.N.	*Lakshanas*	Number of Patients					
		Group A			Group B		
		B.T.	A.T.	%	B.T.	A.T.	%
1.	*Sveta Shrava*	10	02	80.00	10	02	80.00
2.	*Yoni Kandu*	03	01	66.66	02	01	33.33

This table shows that administration of *Pichu* provided relief in *Shveta-srava* in 80% patients and *Yoni kandu* in 66.66% patients in Group-A and in Group-B *Pichu* provided relief in *Sveta srava* in 80% patients also but relief in *Yoni kandu* was 33.33%.

Table-III Incidence of *Prasava kala* in patients of both Groups

S.N.	*Prasava Kala*	Number of Patients		Total Patients	Percentage
		Group A	Group B		
1.	37-40 Wks	14	12	26	86.66
2.	< 37 Wks	01	01	02	6.66
3.	> 40 Wks	00	02	02	6.66

By observing the above table it is noted that among 30 patients, 86.66% i.e. maximum patients had onset of labour between 37-40 weeks, 6.66% had onset of labour after 40 weeks and 6.66 had onset of labour before 37 weeks.

Table-IV Incidence of Rupture of Membrane in Both Groups

S.N.	Rupture of Membrane	No. of Patients		Percentage (%)	
		Group A	Group B	Group A	Group B
1.	Pre-labour	02	04	13.33	26.66
2.	At Labour	13	11	86.66	73.33

Above table reveals that in Group-A 86.66% patients had rupture of membrane after the onset of labour while in Group-B 73.33% patients had rupture of membrane after the onset of labour and 26.66% patients had rupture of membrane before the onset of labour.

Table-V Incidence of Comparison of Intensity of pain

S.N.	Intensity of Pain	No. of Patients		Percentage (%)	
		Group A	Group B	Group A	Group B
1.	0	00	00	00	00
2.	+	00	00	00	00
3.	++	13	07	86.66	46.66
4.	+++	02	08	13.33	53.33

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Scoring system was adopted to assess the intensity of pain experienced by the patients during the entire process of labour. Gradation was done according to the history given by the patients.

No Pain	=	0
Easily tolerate pain	=	+
Moderate (but tolerable pain)	=	++
Severe (untolerable) pain	=	+++

Above table deciphers that in Group A moderate pain was observed in maximum no. of patients i.e. 86.66% whereas in Group B 53.33% patients, experienced severe pain followed by 46.66% experienced moderate pain.

Table-VI Incidence of Nature of Labour in Patients in Both Groups

S.N.	Nature of Labour	No. of Patients		Percentage (%)	
		Group A	Group B	Group A	Group B
1.	Spontaneous	13	08	86.66	53.33
2.	Induction	02	07	13.33	46.66

This table depicts that in Group A, 86.66% deliveries were spontaneous in onset while in Group B, 53.33% patients had spontaneous labour and 46.66% patients had induced labour.

Table-VII Incidence of condition of delivery in Patients

Sr. No.	Condition of Delivery	No. of Patients		Percentage (%)	
		Group A	Group B	Group A	Group B
1.	Normal	09	05	60.00	33.33
2.	Perineal Tear	00	04	00	26.66
3.	Episiotomy	04	05	26.66	33.33
4.	L.S.C.S.	02	01	13.33	06.66

Above table reveals that in Group-A maximum no. of patients i.e. (60%) delivered normally without episiotomy or without perineal tear.

Table-VIII Distributions of patients according to the cause of Perineal tear

S.N.	Cause of Perineal Tear	No. of Patients		Percentage (%)	
		Group A	Group B	Group A	Group B
1.	Poor Contraction	00	03	00	20.00
2.	Head Caput	00	01	00	06.66
3.	Increased head circumference	00	00	00	00
4.	Rigid Perineum	00	00	00	00

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Above table reveals that poor contraction was a cause of perineal tear in 20% patients in Group B and 6.66% patients of Group B have perineal tear due to caput formation.

Table-IX Symptoms observed in *Sutika*

S.N.	Symptoms in early *Sutika kala*	No. of Patients		% of Patients	
		Group A	Group B	Group A	Group B
1.	Post Partum Haemorrhage	01	03	6.66	20.00
2.	*Yoni Bhedan*	04	05	26.66	33.33
3.	*Yoni Kshat*	00	04	00	26.66
4.	*Udarashoola*	01	03	06.66	20.00
5.	*Kati Shoola*	01	02	6.66	13.33
6.	*Daurbalya*	01	01	06.66	06.66
7.	*Chhardi*	00	01	00	06.66
8.	*Ateesar*	00	01	00	06.66

The symptoms which were observed in maximum no. of patients of Group B are Post Partum Haemarrhage, *Yoni Bhedan, Yoni Kshat, Udarshoola, Kati Shoola, Daurbalya Chhardi and Ateesar*. In Group–A, immediately after the expulsion of placenta, P.P.H. (Post Partum Haemorrhage) was observed only in 6.66% (1 patient) of patient compare to 20% (3patient) patient of Group-B,

Udara shoola was observed in 6.66% patients in Group-A compare to 20% patients in Group-B. *Kati Shoola* was observed in 6.66% patients in Group-A while it was found 20% patients in Group-B.

In both group 6.66% of patient had shown the symptom of *Daurbalyata*. The other symptoms like *Chhardi* and *Ateesara* etc.were not observed in Group-A patients. In Group-B, *Chhardi* and *Ateesara* was observed in 6.66% patients

Statistical Assessment of Time Reduction as compared to Standard Time -

Table-X Time Reduction as Compare to Standard Time Required in Group-A

Group A	Mean Std Time (Hr.)	Mean Actual time (Hr.)	Mean Dif.	Mean %	N	S.D.	S.E.	t value	p value
Stage I	8.54	4.05	4.48	52.52%	13	1.32	0.36	12.29	< 0.001
Stage II	57.69	21.85	35.85	62.13%	13	30.58	8.48	4.23	< 0.001
Stage III	15.00	7.38	7.62	50.77%	13	4.25	1.18	6.46	< 0.001

1. Mean actual time consumed in stage I was 4.05 (Hr.) while standard mean time was 8.54 (Hr.) the mean difference got here 4.48 (Hr) the time reduction in stage I found to be 52.52% and statistically result found was highly significant ($p<0.001$)
2. Mean actual time consumed in stage II was 21.85 (Hr.) while standard mean time was 57.69 (Hr.) the mean difference got here 35.85 (Hr) the time reduction in stage I found to be 62.13% and statistically result found was highly significant ($p<0.001$)

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3. Mean actual time consumed in stage III was 7.38 (Hr.) while standard mean time was 15.00 (Hr.) the mean difference got here 7.62 (Hr) the time reduction in stage III found to be 50.77% and statistically result found was highly significant (p<0.001)

Table-XI: Time Reduction As Compare To Standard Time Required In Group-B

Group B	Mean Std Time (Hr.)	Mean Actual time (Hr.)	Mean Dif.	Mean %	N	S.D.	S.E.	t value	p value
Stage I	7.71	6.61	1.11	14.35%	14	1.24	0.33	3.34	< 0.001
Stage II	42.86	33.00	9.86	23.00%	14	11.20	2.99	3.29	< 0.001
Stage III	15.00	9.71	5.29	35.24%	14	3.24	0.87	6.10	< 0.001

1. Mean actual time consumed in stage I was 6.61 (Hr.) while standard mean time was 7.71 (Hr.) the mean difference got here 1.11 (Hr) the time reduction in stage I found to be 14.35% and statistically result found was highly significant (p<0.001)

2. Mean actual time consumed in stage II was 33.00 (Hr.) while standard mean time was 42.86 (Hr.)the mean difference got here 9.86 (Hr) the time reduction in stage II found to be 23.00% and statistically result found was highly significant (p<0.001)

3. Mean actual time consumed in stage III was 9.71 (Hr.) while standard mean time was 15.00 (Hr.) the mean difference got here 5.29 (Hr) the time reduction in stage III found to be 35.24% and statistically result found was highly significant (p<0.001)

Table-XII Comparison of the effect of therapy on the duration of 1st stage of labour in 27 patients

Stage –I	Mean Dif.	N	S.D.	F	T	P	S
Group A	-3.37	25	1.32	1.12	6.86	< 0.0001	H.S.
Group B			1.24				

Above table depicts that the mean difference between two groups is found to be -3.37, statistically two groups showed highly significant difference.

Table-XIII Comparison of the effect of therapy on the duration of 2nd stage of labour in 27 patients

Stage –II	Mean Dif.	N	S.D.	F	T	P	S
Group A	-25.98	25	30.58	7.44	2.97	<0.006	H.S.
Group B			11.20				

Above table depicts that the mean difference between two groups is found to be -25.98, statistically two groups showed highly significant difference.

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Table-XIV Comparison of the effect of therapy on the duration of 3rd stage of labour in 27 patients

Stage –III	Mean Dif.	N	S.D.	F	T	P	S
Group A	-2.33	25	4.25	1.71	1.60	0.12	I.S.
Group B			3.24				

Above table depicts that the mean difference between two groups is found to be -2.33, statistically insignificant difference got between two groups.

Discussion-

I. On Observation-

Effect of *Anuvaasana Vasti* on different *Lakshanas*

- *Vibhandha* is due to pressure of gravid uterus on the rectum, effect of progesterone and diminished physical activities. *Anuvasana Vasti* causes *Apana Vayu Anulomana* and expulsions of *Mala* out-side of the body.
- Relief in *Katishoola* and *Udarshoola* may be due to *Vedananashaka* property of *Madhura-aushadha Siddha Taila* and also *Anuvaasana Vasti* promotes the *Anulomana* of *Vayu.*
- The effect of therapy on *Daurbalyata* is due to *Balya, Brimhaneeya* and *Rasayana* property of *Madhura-aushadha Siddha Taila.*
- As the drugs of *Madhura-aushadha Siddha Taila* are *Deepaneeya* and *Pachaneeya* so that may cause relief in *Kshudhavaishmya.*
- Psychological preparation of patient for normal labour may play an important role in the relief of *Nidra Vaishmya* along with the effect of *Anuvaasana Vasti.*

Effects of *Pichu* on different *Lakshanas* :- Effect of therapy is due to local *Krimighna* effect of *Madhura-Aushadha Siddha Taila* and also *Pichu* might affect the pH of vagina.

Incidence of *Prasava-Kala*:- if *Apana Vayu* and *Vyana Vayu* are stated in *Samavastha,* they will initiate the labour at proper time with regular uterine contractions and *Anuvaasana Vasti* keeps these *Vayus* in *Samavastha.*

Incidence of rupture of membrane effect may be due to *Krimighna* property of *Madhura-aushadha Siddha Taila Pichu,* as infection plays on important role in the rupture of membranes.

Incidence of Comparison of Intensity of pain:-The effect of therapy in pain is due to psychological preparation of patients for easy delivery and *Balya* action of the drugs causing *Bala* in patients to tolerate pain. However, the contractions are equally painful in both groups.

Incidence of Nature of Labour:- That is due to softening of cervix because of lubricant action of *Pichu* of *Madhura-aushadha Siddha Taila* and *Anulomana* of *Vayu* due to *Vasti* effect.

Incidence of condition of delivery in Patients:- It is due to the effect of *Pichu* on vaginal passage and effect of *Vasti* on contraction.

Cause of Perineal tear:- Cause of the perineal tear in 20% patients was poor contraction of uterus, which may be probably due to use of only *Pichu* in Group-B not use of *Anuvaasana Vasti* along with *Pichu*, because *Anuvaasana-Vasti* keeps the *Apana vayu* and *Vyana vayu* in *Samavastha* , and in caput formation of head showed that it is due to delayed labour. It was also due to; *Anuvaasana Vasti* in Group-B is not given. In Group-B only use of *Pichu*, without use of *Anuvaasana vasti*, produces only local effect i.e. elasticity or *Mriduta* of perineal region not to allover body /or not its action on myometrium.

Symptoms observed in *Sutika*- *Vyana Vayu* is responsible for this function. Here more number of P.P.H. patients occur in Group-B as compare to Group-A that it is due to improper

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contraction of myometrium. Here, P.P.H. occurred means the *Vasti,* which was not given in Group-B to suppress the *Vitiated Vayu*.

II. On Result-

Time reduction- Although, both the groups have H. S. result, but there is markedly reduced time duration of all the stages in Group-A than Group-B. In Group-A *Vasti* by its nature caused *Vataanuloma*na and promoted *Prasuti marut* to expel the foetus in time without undue prolongation, as the birth canal also become soft and smooth due to *Vasti* and *Pichu* helped in easily and timely expulsion of foetus. *Vasti* also helped to coordinate uterine contractions. It shows that if larger sample-size taken, there may be stastically Group-A is more significant than Group-B, on the duration of labour .

Conclusion

1. Both Groups had approximately same effect on *Sveta-srava* and *Yoni-Kandu.*
2. *Anuvasana vasti* and *Pichu* were more effective than only use of *Pichu* on these symptoms- *Vibandha, Udarshoola, Katishoola, Dourbalyata, Kshudha-vaishmya, Nidra-vaishmya,* Intensity of pain, Nature of onset of labour, P.P.H., on duration of labour, rupture of membrane, on perineal tear.
3. Group-A and Group-B has H.S. result on 1st ,2nd and 3rd stage of labour but in Group-A mean duration time of labour-stages was markedly less than Group-B. It shows that if larger sample-size taken, then there may be stastically Group-A has better result than Group-B.
4. There was no marked result on episiotomy in primipara in both groups, as no. of primipara patients in this study were less.
5. Group-A had less no. of perineal tear patient as compared to Group-B.
6. No side effect of *Madhura aushadha sidhha Taila* is proved in present study. So the drug is safe.

Thus it can be concluded that the *Anuvasana-vasti and Pichu* (Group-A) is more effective than the only use of *Pichu* (Group-B).Since the sample of study is very small, so the conclusion drawn is not the ultimate.

References

1. Agnivesha, Charaka,CharakaSamhita, Sharirasthan 8/32 Hindi Commentary by Pandit Kashinath Shastri and Dr. Gorakhnath Chaturvedi, Chaukhambha Orientalia Publication Varanasi, Reprinted in 2013, page 939.
2. Ibidem, Charaka, Sharirasthan 6/24 page 906.
3. Ibidem, Charaka, Chikitsa-sthan 28/11 page 778.
4. Ibidem, Charaka, Chikitsa-sthan 28/9 page 777.

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Pharmacological Study

Pharmacognistical Study of Leaf of Prosopis Cineraria (L.) Druce

*Dr. Khandelwal Jyoti, **Dr.Rath Sudipt, ***Prof. Kotecha Mita, ****Garg Naveen K., *****Sharma Gaurav

Abstract:

Prosopis cineraria (L.) Druce commonly known as Shami or "Khejari" in *Hindi* is a small to moderate tree belonging to the family Fabaceae and a member of subfamily Mimosaceae. The present study deals macroscopic, microscopic, microchemical investigations of green and dry leaf of *Prosopis cineraria* (L.) Druce. Organoleptic charecters of leaves of plant are Color dark green, odorless, astringent in taste. The diagnostic characters of leaves of this plant are presence of multicellular trichomes, lignified fibers, tannin containing cells and Starch grains. The information generated in this study will provide relevant pharmacognostical data needed for proper identification and authentication of leaves of this particular species. *Prosopis cineraria* (L.) Druce exhibits antidysentric, antileprotic, antiasthamatic actions.

Key words: Pharmacognostical study, Shami, *Prosopis cineraria*, Microscopy & Macroscopy

सारांश–

प्रोसोपिस सिनेरेरिया सामान्यत: शमी व खेजड़ी नाम से जाना जाता है। प्रस्तुत अध्ययन में शमी के हरित तथा शुष्क पत्रों की बाह्य तथा आभ्यन्तरिक रचना का सूक्ष्मदर्शीय व सूक्ष्म रासायनिक विधियों के द्वारा परीक्षण किया गया है। इसके बाह्य अकारिकी अध्ययन में पाया गया है कि इसके पत्र गहरे हरित वर्ण के गन्ध रहित तथा कषाय रस युक्त होते हैं। इसके पत्रों के सूक्ष्मदर्शीय अध्ययन में बहुकोशिकीय रोम, लिग्निन युक्त, तन्तु टैटिन युक्त कोशिकायें और मण्ड कण इत्यादि रचनायें पायी गयी है। यह अध्ययन हमें इस जाति के वृक्षों की सही पहचान व प्रमाणीकरण के लिए आवश्यक जानकारी उपलब्ध करवाता है। प्रोसोपिस सिनेरेरिया अतिसार, कुष्ठ, अस्थमा आदि रोगों में लाभकारी है।

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Pharmacological Study

Pharmacognistical Study of Leaf of Prosopis Cineraria (L.) Druce

Dr. Khandelwal Jyoti, Dr.Rath Sudipt, Prof. Kotecha Mita, Garg Naveen K., Sharma Gaurav

Introduction

Prosopis cineraria (L.) Druce (family: *Fabaceae*, subfamily: Mimosaceae) commonly known as "Khejari" in Rajasthan. It is the State tree of Rajasthan, India.[1] Khejari is the golden tree of Indian deserts, plays a vital role in preserving the ecosystem of arid and semi-arid areas. Since all the parts of the tree are useful.

Distribution& habitat: Prosopis species of spiny trees and shrubs found in sub tropical and tropical regions of the America, Africa, Western Asia, & South Asia. The plant is distributed in the dry and arid regions of north-western India, southern India, Afghanistan, Pakistan, Arabia and Iran.[2]

Scientific Classification[3] :

Kingdom	- *Plantae*
Class	- *Angiospermae*
Order	- *Fabales*
Family	- *Fabaceae*
Genus	- *Prosopis*
Species	- *P. cineraria*
Binomial name	- *Prosopis cineraria* (L.) Druce

General description:[4]

Prosopis cineraria (L.) Druce is a small moderate sized evergreen thorny tree, with slender branches armed with conical thorns and with light bluish-green foliage. It does not exceed a height of 40ft. and a girth of 4 ft., the maximum attained being 50ft. and 6ft. respectively.

Bark - Rough, exfoliating in thin flakes.

Stem- Glabrous, green or reddish, covered with prickles.

Roots- Primary root long, thin, Lateral root few, short, fibrous, distributed down, main root: nodules present.

Leaves- are double compound. The leaflets are dark green, and have a tiny point. The tree is evergreen or nearly so. It produces new flush leaves before summer.

Flower- flowers are small in size and yellow or creamy white in color, appear from March to May after the new flush of leaves. Flowers are small, cream-yellow clustered in acute spikes with a 1-2.5 mm long peduncle.

Pods- The pods are formed soon thereafter and grow rapidly in size. Pods are pale yellow, 8-15 cm long x 4-8 mm wide, cylindrical and hanging, containing 10-20 seeds ovoid in shape and dark brown in color, packed in a brown pulp. Seed have a moderately hard testa. The seed retains its vitality for at least a year.

Khejari has played a significant role in the rural economy in the northwest arid region of Indian sub-continent. This tree is a legume and it improves soil fertility. It is an important constituent of the vegetation system. It is well adapted to the arid conditions and stands well to the adverse vagaries of climate and browsing by animals. Khejari is most important feed species providing nutritious and good palatable green as well as dry fodder, which is readily eaten by camels, goats, and sheep constituting a major feed requirement of desert livestock.

The leaves are of high nutritive value, locally it is called ''Loong". The pods are a sweetish pulp and are also used as fodder for livestock. Khejari Pods are locally called ''sangar'' or ''sangri''. The dried pods locally called ''Kho-Kha'' are eaten. Dried pods also form rich animal feed, which is liked by all livestock. Green pods also form rich animal feed.[5-8]

The bark of the tree is dry, acrid, bitter with a sharp taste, cooling, anthelmintic, tonic, cures leprosy, dysentery, bronchitis, asthma, leucoderma, hemorrhoids and muscle tremors.[9] The smoke of the

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leaves is good for eye troubles. Leaf paste is applied on boils and blisters, including mouth ulcers in livestock and leaf infusion on open sores on the skin.[10]

Aims & Objectives

1. Pharmacognostical Study of leaf of *Prosopis cineraria* (L.) Druce.

Material & Methods

Plant material

The leaves of Khejari *(Prosopis cineraria* (L.) Druce) were collected from the field area near Jamdoli, Jaipur (Raj.) for the present study.

Macroscopic study of leaf

Plant was macroscopically examined for shape of leaves, apex, base, margin etc. Organoleptic characters were recorded for usual parameters like color, taste and odour.

Microscopic study

Qualitative anatomical studies were done. Free hand cut transverse sections of leaf were studied for different microscopic characters. The sections were stained with saffrenine. Photographs of the section were taken with the help of Carlzeiss binocular microscope attached with camera.

Powder analysis[11]

The shade dried leaves were powdered, and powder was passed through 100 # sieve to get fine powder. The dried powder was mounted in the distilled water, ethenol, phloroglucinol, ferric chloride, sulphuric acid, millon's reagent, saffranine & iodine solution to detect the trichome, epidermal cells, allurone grains, tannin, lignin, protein, cellulose, calcium carbonate.

Results And Disscusion

I. Macroscopic Study:

Leaves- Leaf is compound and alternate bipinnate with oblong shape mucoranate apex and average length of leaf is 3-7cm. Single leaflet is 4–10 mm. long and 2–4.5 mm in breadth. First leaf pinnate, rachis 0.5 inch long with occasional rudimentary or minute prickles. On an average, in a mature compound leaf, there are 7-14 paired leaflets opposite, shaped oblong with an entire margin, & mucronate apex. Leaves are dark green in color on both upper and lower surface respectively.

Organoleptic charecters of leaf:

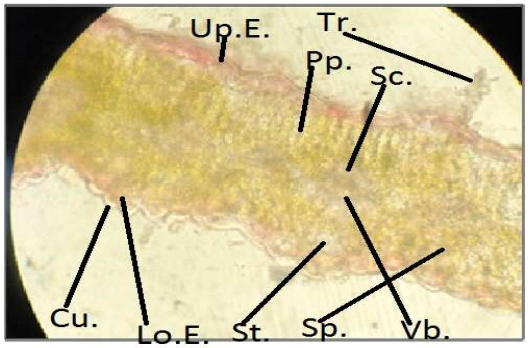
Color - Dark green

Odor - Odorless

Taste – Astringent

Microscopic Characters of leaflet[12]

The transverse section of leaf (Fig.1) showed dorsi-ventral condition with rectangular shaped cells of single layer epidermis with a thick cuticle. A bi-layered upper palisade was present on the inner side of upper epidermis respectively. Sclerenchyma forms a continuous zone connecting two or more vascular bundles, or it occurs as a patch flanking a vascular bundle. Vascular bundles were Consists of xylem, which always lies towards the upper epidermis. The phloem always lies towards the lower epidermis. A single layer lower epidermis with a thin cuticle is finding. It is interspersed with numerous stomata, the two guard cells of which contain some chloroplasts. Long multicellular trichomes were present on both the surfaces.



Cu-cuticle; Tr-trichome; Up E-upper epidermis; Pp-palisade parenchyma; Sc-sclerenchyma; Vb-vascular bundle; St-stomata; Spp- spongy parenchyma; Lo E-lower epidermis

Powder analysis

Organoleptic characters of dried powder: Organoleptic characters like color, odor and taste are recorded as shown in Table.1.

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Table 1: Organoleptic characters of leaf powder of *Prosopis cineraria* (L.) Druce

Sr. no.	Character	Observation
1.	Color	Light green
2.	Texture	Fine
3.	Taste	Astringent
4.	Smell	Odorless

Dried powder microscopy: Diagnostic characters of leaf powder like stomata from epidermis, simple trichomes of epidermis, parenchyma cells, aggregates of crystals of calcium carbonate, called as cystoliths, lignified fibres, dark bluish greenish black tannin fragments, protein contained cells, starch grains, aleurone grains. [Fig. 2-10].

Table 2: Microscopic chracters of leaves powder in different test reagent[13]

	Test reagent	Observation	Characteristics	Component
1.	Ethanol	Red	Aleurone grains consists of amorphous mass of protein	Aleurone grains
2.	Ferric chloride	Bluish or greenish black	Non-nitrogenous, phenolic compounds of high molecular weight.	Tannin containing cell
3.	Phloroglucinol	Deep purplish red	Hard, permeable to water. Lignified tissues provide mechanical rigidity of plant body	Lignified fiber, trichomes
4.	Iodine	Blue or purple	It is fibrous material of cell wall and together with lignin responsible for structural rigidity of plant.	Starch grains or cellulose content
5.	Saffranine	Pink	Hard, permeable to water. Lignified tissues provide mechanical rigidity of plant body	Lignified cells
6.	Millon's reagent	Brick red	Nitrogenous complex compound	Protein content
7.	Sulphuric acid	Dissolves with effervescence	Aggregates of crystals of calcium carbonate, called as cystoliths.	Calcium carbonate
8.	Water	Colorless cellular structure	Epidermal structure having two identical guard cells, forming a pore in centre.	Stomata

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Fig.2-Alleuron grains

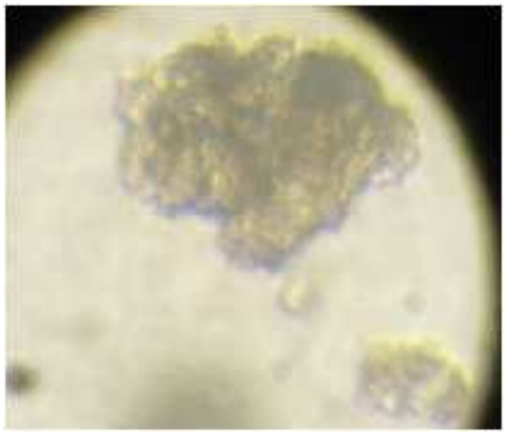

Fig.3-Tannin

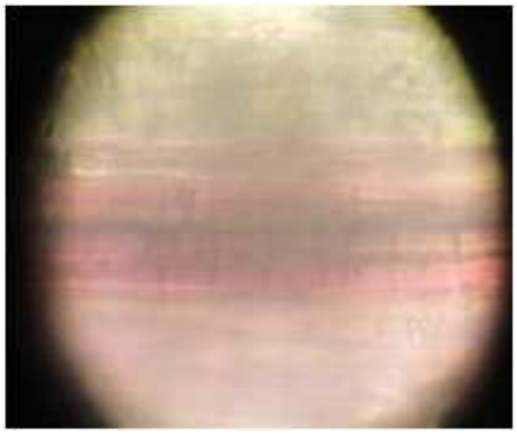

Fig.4-Lignified fiber

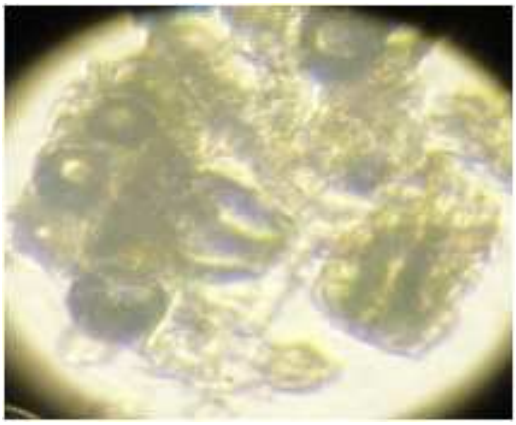

Fig.5-Multicelluler trichome

Fig.6-Starch grains

Fig.7-Parenchyma cell

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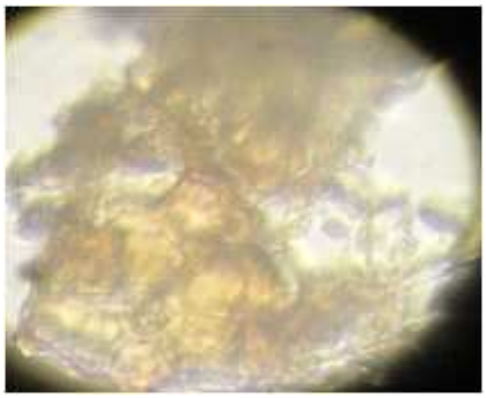

Fig.8-Protein

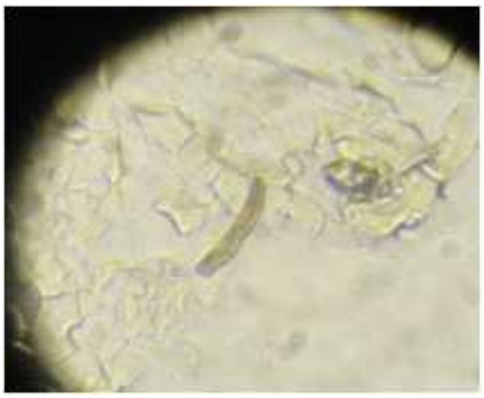

Fig.9- Stomata

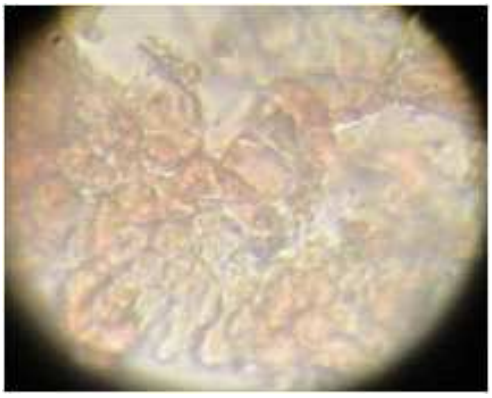

Fig.10- Cystolith

Conclusion:

Pharmacognostical evaluation of *Prosopis cineraria* (L.) Druce leaves provided specific parameters that will be useful in scientific evaluation, identification and authentication of the drug.

Reference

1. Kalwar SC, Sharma ML, Gurjar RD, Khandelwal MK, Wadhawan SK, *Geomorphology and environmental sustainability*, Edn. 1st , Concept Publishing Company, New Delhi, **2005**, 351.
2. Malik A, Kalidhar SB, Indian J Pharm Sci., **2007**, 69, 576-578.
3. http://en.wikipedia.org/wiki/Prosopis.
4. Khatri Anirudh, Rathore Anita, Patil U K, *PROSOPIS CINERARIA* (L.) DRUCE: A BOON PLANT OF DESERTAN OVERVIEW. International Journal of Biomedical and Advance Research(2010) 01(05)
5. Bari EA, Fahmy G, Thani NA, Thani RA, Dayem MA, *The Ghaf Tree, Prosopis cineraria in Qatar*, published by Qatar University and National Council for Culture, Arts and Heritage, Doha, **2007**
6. Gupta RK, Prakash I, *Environmental analysis of the Thar Desert*, English Book Depot., Dehra Dun, **1975**.
7. Kaul RN, *Trees or grass lands in the Rajasthan- Old problems and New approaches*, Indian Forester, **1967**, 93, pp 434-435.
8. Burdak LR, *Recent Advances in Desert Afforestation-Dissertation*, Forestry Research, F.R.I., Dehra Dun 1982
9. Medicinal-uses http://giveghaf.gecostore.com. 9Aug.,2012.
10. K. M. Nandkarni, Indian Materia Medica, vol. 1, Popular Prakashan, Mumbai, India, 2000.
11. Kokate CK, Purohit AP, Gokhale SB, Pharmacognosy, Edn.37st, Nirali prakashan, Pune, 2007, 99-103.
12. Dutta A.C., Botany, edn6th,Oxford university press, New Delhi, 2003, pp192-193.
13. Dr. Khandelwal KR, Practical pharmacognosy, Edn.12th, Nirali prakashan, Pune, 2010, 5.2-5.5.

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Conceptual Study

मनुस्मृति में वर्णित आयुर्वेदिय विषयों का वर्गीकरण एवं विश्लेषणात्मक अध्ययन

** डॉ. सुनील कुमार शर्मा, **डॉ. गोविन्द पारीक, ***डॉ. विपिन कुमार*

Abstract:-

Ayurveda is termed as *Sarvapaarishada shastra*. The essence of the knowledge of *Vedas*, *Puranas, Smriti* and *Darshanas* is included in *Ayurveda*.The knowledge of *Ayurveda* relevant in term of treatment is found in *'Manusmriti'* too. Hence in the present work the '*Manusmriti'* along with their available commentaries were studied and *Ayurvedic Samhita Grantas* with their commentaries were studied by which it was deciphered that out of this knowledge a part of it is found as it is in *Ayurvedic Samhitas*, another with a few contradictions and a part of is mentioned here which is not found in *Ayurvedic Samhitas* but is important in terms of treatment like number of the *Yamas and Niyamas*, number of *Malas* of the body, topic related to religion, appropriate age for marriage, inappropriate *Kula* of marriage, reparations of various *Paapa Karmas*, adverse results of marriages in the other cast and various food preparations that should not be consumed. The above mentioned facts found in '*Manusmriti'* actually complete the Ayurveda as a science in a distinct way.

Keywords: - Ayurveda, Vedas, Puranas, Manusmriti, Samhitas, treatment etc.

सारांश–

आयुर्वेद शास्त्र को सर्व पारिषत् शास्त्र भी कहा गया है, जिसमें वेदों, पुराणों, उपनिषदों, स्मृतियों तथा दर्शनों का सार भूत ज्ञान है। मनुस्मृति में भी आयुर्वेदीय चिकित्सा से सम्बन्धित विषयों का वर्णन मिलता है, मनुस्मृति का टीका के साथ विशद् विवेचन तथा आयुर्वेद शास्त्र के ग्रन्थों का भी विश्लेषणात्मक अध्ययन करके उपरोक्त शोध पूर्ण किया गया है। मनुस्मृति के बहुत से अंश आयुर्वेद शास्त्र को परिपूर्ण करने वाले है, इनमें से कुछ अंश आयुर्वेदीय विषयों से सामन्जस्य रखने वाले है, इसके अतिरिक्त कुछ विषय ऐसे है, जिनमें आयुर्वेद व मनुस्मृति में भिन्नता है, कतिपय विषय ऐसे भी है, जो आयुर्वेद में वर्णित नहीं है, परन्तु चिकित्सकीय दृष्टि से महत्वपूर्ण है जैसे–यमों व नियमों की संख्या, मलों की संख्या, धर्म से सम्बन्धित विषय, विवाह की उचित आयु, विवाह के लिए निषिद्ध कुल, विभिन्न पापकर्मों के प्रायश्चित्, अन्तर्जातीय विवाह के दुष्प्रभाव विभिन्न निषिद्ध भोज्य पदार्थ आदि। मनुस्मृति में वर्णित उक्त तथ्यों से आयुर्वेद विज्ञान की विशिष्ट प्रतिपूर्ति हुई है।

*स्नातकोत्तर अध्येता, ***पीएच.डी. अध्येता, **सहायक आचार्य, मौलिक सिद्धान्त एवं संहिता विभाग, राष्ट्रीय आयुर्वेद संस्थान, जयपुर।

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Conceptual Study

मनुस्मृति में वर्णित आयुर्वेदिय विषयों का वर्गीकरण एवं विश्लेषणात्मक अध्ययन

डॉ. सुनील कुमार शर्मा, डॉ. गोविन्द पारीक, डॉ. विपिन कुमार

प्रस्तावना -

आयुर्वेद शास्त्र को सर्व पारिषत् शास्त्र भी कहा गया है, जो वेदों, पुराणों, उपनिषदों का सारभूत ज्ञान है, जिस पर दर्शनों का भी प्रभाव पडा है। उसी दृष्टि से सृष्टि के कर्ता आचार्य मनु ने भी जीवन विज्ञान से संबंधित 'मनुस्मृति' की रचना की, जिसके बहुत से अंश आयुर्वेद शास्त्र को परिपूर्ण करनें वाले है, इनमें से कुछ अंश आयुर्वेदिय विषयों से सामंजस्य रखने वाले है, इसके अतिरिक्त् कुछ विषय ऐसे हैं, जिनमें आयुर्वेद व मनुस्मृति में भिन्नता है, कतिपय विषय ऐसे भी है, जो आयुर्वेद में वर्णित नहीं है, परन्तु चिकित्सकीय दृष्टि से महत्वपूर्ण है, जिनका आयुर्वेद में समावेश किया जाना अत्यावश्यक है।

अत: मनुस्मृति के विषयों को वर्गीकृत करके समान विषयों का लिपिबद्धकरण तथा भिन्न विषयों का विश्लेषणात्मक अध्ययन करना तथा अवर्णित विषयों का भी विश्लेषणात्मक अध्ययन करके आयुर्वेद वाङ्मय को पूरा करना वर्तमान समय में अत्यावश्यक है।

सामग्री एवं विधि -

मनुस्मृति का टीका के साथ विशद विवेचन तथा आयुर्वेद शास्त्र के ग्रंथों का भी विश्लेषणात्मक अध्ययन करके उपरोक्त शोध को पूर्ण किया गया है।इस हेतु मनुस्मृति में उपलब्ध आयुर्वेद शास्त्र से संबन्धित तथ्यों का संकलन करके उनमें सामंजस्य स्थापित किया गया तथा आयुर्वेदीय ग्रंथो के समान विषय परन्तु मत भिन्नता वाले विषयों पर विचार-विमर्श कर दोनों मतों की सार्थकता सिद्ध की गयी तथा आयुर्वेद से भिन्न विषय परन्तु चिकित्सकीय दृष्टि से महत्वपूर्ण विषयों का संकलन करके मनुस्मृति के मौलिक अवदान को स्पष्ट करने की कोशिश की गयी है।

विमर्श:-

मनुस्मृति में वर्णित आयुर्वेदिय विषयों का वर्गीकरण- मनुस्मृति में वर्णित आयुर्वेदिय विषयों का वर्गीकरण निम्न प्रकार से कर सकते है।

1. आयुर्वेद संहिताओं के समान विषयों का संकलन ।
2. आयुर्वेदिय विषय परन्तु मत भिन्नता।
3. आयुर्वेद से अतिरिक्त विषय परन्तु चिकित्सकीय दृष्टि से महत्वपूर्ण विषय।

आयुर्वेदिय संहिताओं के समान विषयों का संकलन -

सारणी नं.-1

क्र.सं.	मनुस्मृति में वर्णित विषय एवं संदर्भ	आयुर्वेद में समान विषय एवं संदर्भ
	सृष्टि उत्पत्ति से संबन्धित विषय -	
1.	मनुस्मृति में चतुर्विध भूतग्राम का वर्णन मिलता है। (म.स्मृति 1/6-7)	सुश्रुत संहिता में भी समान विषय का वर्णन मिलता है। (सु.सू.1/22)
2.	परमात्मा को स्वयंभू, अव्यक्त व अचिन्त्य कहा है। (म.स्मृति 1/12)	चरक संहिता में भी आत्मा को अनादि, अव्यक्त व अचिन्त्य कहा है।(च.शा.1/60,3/8)
3.	सभी महाभूतों में पूर्व-पूर्व महाभूतों के गुण अग्रिम महाभूत को प्राप्त होते है। (म.स्मृति 1/20)	चरक संहिता में भी समान विषय का वर्णन मिलता है। (च.शा.1/27-28)
4.	पंचतन्मात्रा से ही सम्पूर्ण सृष्टि की क्रमश: उत्पत्ति मानी है। (म.स्मृति 1/27)	चरक ने भी समान विषय का वर्णन किया है (च.शा.1/66-67)

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5.	मनुस्मृति ने अव्यक्त को संपूर्ण जगत का कारण माना है। (म.स्मृति 1/11)	आयुर्वेद भी अव्यक्त को संपूर्ण जगत का कारण मानता है। (सु.शा.1/3)
6.	मनुस्मृति ने युगानुसार चौथाई आयु हीन होना बताया है। (म.स्मृति 1/83-84)	चरकसंहिता में भी प्रत्येक युग में चौथाई आयु के हीन होने का वर्णन मिलता है। (च.वि.3/25,26)
7.	मनुस्मृति में चतुर्विध स्थावर के वर्णन में सुश्रुत संहिता से सामंजस्य मिलता है (म.स्मृति 1/48)	चतुर्विध स्थावर के वर्णन में सुश्रुत संहिता व मनुस्मृति में समानता मिलती है। (सु.सू. 1/37)
8.	मनुस्मृति ने आकाशादि पंचमहाभूतों की उत्पत्ति तथा उनके गुण क्रमशः शब्द, स्पर्श, रूप, रस, गंध बताये है। (म.स्मृति 1/75-76)	आयुर्वेद संहिताओं में भी समान विषय का वर्णन मिलताहै। (च.शा.1/27)
सदवृत, आचार- रसायन आदि से संबन्धित विषयः-		
1.	प्रातःकाल ब्राह्म मुहूर्त में उठनें का निर्देश है। (म.स्मृति 4/92)	अष्टांग हृदय में भी प्रातःकाल ब्राह्म मुहूर्त में उठनें का निर्देश है। (अ.ह्र.सू. 2/1)
2.	जुआ खेलना, झगड़ा, परनिन्दा, झूठ, स्त्रियों के साथ दिल्लगी तथा दूसरे का उपघात न करें। (म.स्मृति 2/80)	संहिताओं में समान विषय मिलता है। (च.सू.8/18,22,23 , सु.चि.24/101)
3.	शुक्र की रक्षा करने का निर्देश है। (म.स्मृति 2/80)	चरक संहिता में शुक्र को आहार का परम धाम बताकर उसकी रक्षा का निर्देश किया है। (च.नि. 6/9)
4.	माता-पिता और गुरु की सुश्रुषा परम तप कहलाती है। (म.स्मृति 2/229)	चरक संहिता में भी देव, गो, ब्राह्मण, आचार्यों की अर्चना का वर्णन है। (च. सू. 8/18, च.वि.8/14 च.चि.)
5.	संध्या काल में भोजन, शयन , यात्रा न करें। (म.स्मृति 4/55)	संध्या काल में भोजन, शयन, अध्ययन, मैथुन न करें। (च.सू.8/25)
6.	वाणी, बाहू, उदर, इनका संयम करे। (म.स्मृति 4/76)	चरक संहिता में धारणीय वेगों के अन्तर्गत वर्णन किया है। (च.सू.7/26,28,29)
7.	परस्त्रीगमन को पापवत् बताया है। (म.स्मृति 9/41)	चरक व सुश्रुत संहिता दोनों में परस्त्रीगमन का निषेध किया है। (च.सू.8/22,सु.चि. 24/115,116,119)
आध्यात्मिक एवं योग से संबन्धित विषयः-		
1.	यथाशक्ति वेद को जानने वाले निसङ्ग ब्राह्मणों को धन देने वाला परलोक में स्वर्ग को प्राप्त होता है। (म.स्मृति 11/6)	चरक संहिता में भी दान, तप, सत्य, अहिंसा से अभ्युदय (स्वर्ग प्राप्ति) एवं निःश्रेयस (मोक्ष) प्राप्ति का होना बताया है। (च.सू.11/27)
2.	परमात्मा की सूक्ष्मता का ध्यान योग के द्वारा करे। (म.स्मृति 6/6)	चरक संहिता में भी योग को मोक्ष प्राप्ति का उपाय बताया है। (च.शा.1/137) (च.शा.5/12)
3.	इन्द्रिय-निरोध, राग-द्वेष नाश तथा अहिंसा से मोक्ष प्राप्ति का होना बताया है।(म.स्मृति 6/59-60)	चरक संहिता में भी मोक्ष प्राप्ति के साधनों में उल्लेख किया है। (च.सू.11/27), (च.शा.5/12)

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4.	मोक्ष प्राप्ति हेतु वेद वाक्य का जप करना बताया है। (म.स्मृति 6/83-84)	चरक संहिता में भी धर्मशास्त्रों का अनुकरण करना मोक्ष प्राप्ति का साधन बताया है। (च.शा.5/12
विवाह, मैथुन तथा गर्भोत्पत्ति सम्बन्धित विषयः-		
1.	पर्व दिनों में समागम का निषेध है। (म.स्मृति 3/45)	आयुर्वेद में भी वर्णन मिलता है। (सु. चि.24/116)
2.	युग्म दिनों में समागम से पुत्र तथा अयुग्म दिनों में पुत्री की उत्पत्ति मानी है। (म.स्मृति 3/48)	आयुर्वेदानुसार युग्म दिनों में समागम से पुत्र तथा अयुग्म दिनों में पुत्री की उत्पत्ति मानी है। (च.शा.8/5)
3.	मनुस्मृति के अनुसार शुक्र की अधिकता होने पर पुत्र की तथा आर्तव बाहुल्य होने पर पुत्री की उत्पत्ति होती है। (म.स्मृति 3/49)	आयुर्वेद में भी शुक्र की अधिकता होने पर पुत्र की तथा आर्तव बाहुल्य होने पर पुत्री की उत्पत्ति होती है। (च.शा.2/12, अ. ह्र.1/5)
4.	बीज के अनुसार ही संतान उत्पन्न होती है। जैसे- ब्रीही, शालि, मुद्ग, तिल, माष आदि। (म.स्मृति 9/39-40)	चरक संहिता में युक्ति प्रमाण के उदाहरण के रूप में समान विषय का वर्णन मिलता है। (च.सू.11/32)
5.	आयुर्वेद के समान ही ऋतु, क्षेत्र आदि से गर्भ की उत्पत्ति बताई है। (म.स्मृति 9/33-34)	आयुर्वेद में भी ऋतु, क्षेत्र आदि से गर्भ की उत्पत्ति बताई है। (सु. शा.2/35)
अन्य विषय		
1.	सम्पूर्ण कर्म दैव तथा मनुष्य के अधीन है, परन्तु उन दोनों में दैव अचिन्त्य है। (म.स्मृति 7/205)	चरक संहिता में भी दैव एवं पुरुषकार के कारण त्रिविध कर्म तथा त्रिविध आयु होती है। (च.शा.3/30-31)
2.	त्रसरेणु, श्वेत-सर्षप, रत्ती, माष, पल, धरण इत्यादि प्रमाण/मान बताये है। (म.स्मृति 8/33-36)	ये सभी प्रमाण आयुर्वेद संहिताओं में भी मानें है। (च.कल्प12/87-97 एवं चक्रपाणी टीका)
3.	अमावस्या, पूर्णिमा, चतुर्दशी व अष्टमी में अध्ययन का निषेध किया है। (म.स्मृति 4/113-114)	आयुर्वेद संहिताओं में भी इन तिथियों में अध्ययन का निषेध किया है। (सु.सू.2/9)
4.	मनुस्मृति में भी कर्मानुसार फल के मिलने का वर्णन मिलता है। (म.स्मृति 12/3-4)	चरक संहिता में युक्ति प्रमाण के संदर्भ में कर्मानुसार फल का उल्लेख मिलता है। (च.चि.11/32)
5.	रोहित मत्स्य को आयुर्वेद व मनुस्मृति में पथ्य बताया है। (म.स्मृति 5/16)	आयुर्वेद मे भी रोहित मत्स्य को पथ्य बताया है। (च.सू.25/38)
6.	वेदपाठी द्वारा केशनखकर्तन का उल्लेख मिलता है। (म.स्मृति 4/35)	चरक संहिता में सदवृत के अन्तर्गत केशनखकर्तन का उल्लेख मिलता है। (च.सू. 8/18)
7.	अतिभोजन को अनायुष्य तथा अनारोग्य कहा है। (म. स्मृति, 2/57)	चरक संहिता में भी अतिभोजन को त्रिदोषप्रकोप करने वाला तथा रोगोत्पादक बताया है। (च.शा.2/7)
8.	मनुस्मृति में बताये सात्विक, राजसिक, तामसिक प्रकृति के लक्षणों की समानता आयुर्वेद से मिलती है। (म. स्मृति 12/23-50)	चरक तथा सुश्रुत संहिता में वर्णित इन प्रकृतियों के लक्षणों की तुलना मनुस्मृति से मिलती है। (च. शा. 4/ 36-38)

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आयुर्वेदिय विषय परन्तु मत भिन्नता-

1. अप' शब्द से आयुर्वेद ने ' 'जल तत्व का अर्थ ग्रहण किया है,[1] जबकि मनुस्मृति में कुछ टीकाकारों के मतानुसार सभी पंचमहाभूतों (सूक्ष्म भूत) का ग्रहण किया है,[2] जो कि समीचीन जान पडता है, क्योंकि सूक्ष्म भूतों से पंचमहाभूतों की उत्पत्ति होती है तथा सम्पूर्ण सृष्टि पंचमहाभौतिक है।

2. पातञ्जलयोग दर्शन में 5 यम तथा 5 नियमों का उल्लेख मिलता है,[3] जबकि मनुस्मृति में 10 यम व 10 नियम का उल्लेख मिलता है इसके अतिरक्त 5 नियम/ उपव्रत व 5 यम/ उपव्रत भी बताये है। यथा-

आनृशंस्य क्षमा सत्यमहिंसा दममस्पृहा ।
ध्यानं प्रसादो माधुर्यमार्जवं च यमा दश ॥
अहिंसा सत्यवचनं ब्रह्मचर्यमकल्कता।
अस्तेयमिति पंचैते यमाश्चोपव्रतानि च ॥
शौचमिज्या तपोदानं स्वाध्यायोपस्थ निग्रहौ।
व्रतोपवासो मौनं च स्नानं च नियमा दश ॥
अक्रोधो गुरूशुश्रुषा शौचमाहारलाघवम।
अप्रमादश्च नियमाः पञ्चैवोपव्रतानि च॥४

5 यम - सत्य, अहिंसा, अस्तेय, ब्रह्मचर्य, अपरिग्रह।

5 नियम- शौच, संतोष, तप, स्वाध्याय, ईश्वरप्रणिधान।

मनुस्मृति कर्मफल तथा धर्म-अधर्म से संबन्धित शास्त्र है, अतः यहॉ 10 यम व 10 नियम बताये है। जबकि आयुर्वेद चिकित्सा से सम्बन्धित शास्त्र है, अतः यहाँ यमों व नियमों की संख्या की गणना चिकित्सा में उपयोगिता की दृष्टि से की गयी है। यहां इनकी संख्या कम होकर 5-5 ही रह गयी है जो कि समीचीन ही है।

3. सत्व, रज व तम को मन के गुण नही मानकर आत्मा के गुण माने हैं।[5] आयुर्वेद में ये मन के गुण माने हैं।[6] यहाँ यदि आत्मा को मन से युक्त जीवात्मा मानी जाये तो यह मत समीचीन ही है।

4. चरक संहिता में जीवन निर्वाह हेतु 4 प्रकार की वृत्ति का उल्लेख किया है,[7] जबकि मनुस्मृति में 6 प्रकार की वृत्ति का उल्लेख किया है।[8]

सारणी नं.-2

चरक संहिता	मनुस्मृति
1. कृषि	1. उञ्छ व शिल=ऋत् वृत्ति
2. पशुपालन	2. अमृत वृत्ति= न माँगने की वृत्ति
3. वाणिज्य	3. मृत वृत्ति= भिक्षा वृत्ति
4. राजसेवा	4. कृषि= प्रमृत्त वृत्ति
	5. वाणिज्य= सत्यानृत वृत्ति
	6. सेवा= श्ववृत्ति

मनुस्मृति कर्म प्रधान ग्रंथ होने से इसमें वृतियों की संख्या ज्यादा मानी है, इसमें न माँगने की वृत्ति को श्रेष्ठ मानकर इसे अमृत वृत्ति कहा गया है, भिक्षा वृत्ति को मृत वृत्ति कहकर निकृष्ट माना है। कृषि को प्रमृत वृति कहा है, जिसे हम मध्यम वृति मान सकते है। उञ्छ व शिल वृति को इधर-उधर से प्राप्त करने अथवा एकत्रित करने के कारण ऋत् वृत्ति कहा है। वाणिज्य में सत्य व असत्य का सहारा लेना पडता है, अतः इसे सत्यानृत वृति भी कहते है। सेवा वृति को अधम मानकर इसे श्ववृति भी कहा है।

5. अष्टांङ्ग हृदयम् में तीन मल माने है,[9] जबकि मनुस्मृति में 12 मल माने है।[10]

सारणी नं.-3

अष्टांङ्ग हृदयम्	मनुस्मृति
तीन, स्वेद, मूत्र एवं पुरीष	वसा शुक्रमसृऽमज्जा-मूत्रविट्घ्राणकर्णविट्।
	श्लेष्माश्रु दूषिका स्वेदो द्वादशैते नृणां मलाः ॥

मनुस्मृति चिकित्सा संबन्धी शास्त्र नहीं होने से इसमें दोष, धातु, उपधातु तथा मलों का पृथक्करण नही किया है, अतः यहाँ मलों की संख्या 12 उचित ही है।

6. धर्म के 10 लक्षण मानें हैं, जो कि आयुर्वेद संहिताओं मे वर्णित नही हैं ।

धृतिः क्षमादमोऽस्तेयं शौचमिन्द्रिय निग्रहः।
धीर्विद्या सत्यमक्रोधो दशकं धर्म लक्षणम ॥[11]

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आयुर्वेद संहिताओं में धारणीय वेग, सदवृत, आचार रसायन इत्यादि के अन्तर्गत इनका उल्लेख कर दिया गया है, अतः अलग से इनका उल्लेख नही किया है, जो की उचित ही है।

7. विवाह की आयु में मत भिन्नता मिलती है।

सारणी नं.-4

मनुस्मृति में विवाह आयु	आयुर्वेद में विवाह आयु
पुरूष 30 वर्ष, कन्या 12 वर्ष	पुरूष 25 वर्ष, कन्या 12 वर्ष[12]
पुरूष 24 वर्ष, कन्या 8 वर्ष	पुरूष 20 वर्ष, कन्या 16 वर्ष१३

पुरुषों में शुक्रधातु की उपस्थिति वृद्धावस्था तक होती है, जबकि महिलाओ में रजोनिवृति 50-55 तक हो जाती है, यदि वृद्धावस्था 70 वर्ष मानी जाये तो यह अन्तराल 15-20 वर्ष का होता है, मनुस्मृति में भी लगभग इतना ही अन्तराल मिलता है जो कि उचित ही है। मनुस्मृति काफी प्राचीन ग्रंथ है, उस समय काफी कम आयु में ही विवाह कर दिया जाता था, तथा लैंगिक पूर्णता होने पर पुनरागमन संस्कार के पश्चात ही उसका पिता के घर से पति के घर में प्रवेश होता था। अतः यह मत समीचीन ही है।

8. मनुस्मृति में वर्षा ऋतु 4-मास की मानी है[14] जबकि आयुर्वेद में 2 मास मानी है।[15]

आयुर्वेद में अयनानुसार एवं दोष प्रकोपानुसार 2-2 मास की 6 ऋतुऐं मानी है, जबकि मनुस्मृति चिकित्सापरक ग्रंथ नही होने से यहाँ 4-4 मास की तीन ऋतुऐं ही मानी है, जो कि समीचीन ही है।

आयुर्वेद से अतिरिक्त विषय परन्तु चिकित्सकीय दृष्टि से महत्वपूर्ण विषय -

1. जितेन्द्रिय पुरुष के लक्षण बताये है यथा -
श्रुत्वा स्पृष्टवा च दृष्टवा च भुक्तवा घ्रात्वा च यो नरः।
न हृष्यति ग्लायति वा स विज्ञेयो जितेन्द्रियः॥[16]

2. उपाध्याय की परिभाषा बतायी है। यथा- जो वेद के एक देश अथवा वेद के अङ्ग (ज्योतिष, व्याकरणादि) को वृति के लिये पढाये, उसे उपाध्याय कहते है।[17]

3. ब्रह्मचारी के लिये विभिन्न नियम तथा वर्ज्यों का उल्लेख किया है। यथा-

ब्रह्मचारी हेतु नियमः-

1. परस्त्री, जो योनि समबन्ध वाली न हो उसे सुभगे अथवा भगिनी कहे ।

2. माता की भगिनी, मामी, सास और पितृ भगिनी, ये गुरु भार्या के तुल्य है। ज्येष्ठ भ्राता की भार्या को नमस्कार करे, मातृपक्ष की मातुलानी इत्यादि व पितृपक्ष की पितृव्यादिकों की स्त्रियों को परदेश से आने पर नमस्कार करें। पितृभगीनी, मातृभगिनी, और अपनी ज्येष्ठ भगिनी का माता के समान आदर करे परन्तु मत इनसे अधिकतर है।[19]

3. प्राणियों को श्रेय अर्थात कल्याणकारी अर्थ की शिक्षा 'अहिंसा' (दुःख न देकर) ही करे, तथा स्पष्ट व मधुर कहे, धर्म की इच्छा करने वाले क्रूर भाषणादि न करे।

4. दबाव पडने पर भी किसी से मर्मच्छेदन वाली बात न बोले।[20]

5. शरीर मलना, नहलाना, उच्छिष्ठ भोजन करना और पैर धोना, ये गुरू की करे परन्तु गुरूपुत्र की नही।

6. उबटन लगाना, स्नान करना, देह दबाना, फूलों में बाल गूंथना ये गुरू पत्नी की न करें। [21]

7. गुरू के समान आसन व बिछौना न ग्रहण कर नीचा ग्रहण करे। [22]

(ख) ब्रह्मचारी हेतु वर्ज्यः-

1. मधु, मांस, गन्ध, माल्य, अच्छे मधुरादि रस, स्त्री, सिरका इत्यादि सडी वस्तुयें, प्राणी हिंसा, तैलादि का मर्दन, आंखों में अञ्जन, जूता पहनना, छत्र धारण, काम, क्रोध, लोभ, नाचना, गाना, बजाना। [23]

2. विवाह न करनें योग्य दश कुलः
हीनक्रियं निष्पुरूषं निश्छन्दो रोमशार्शसम।
क्षय्यामयाव्यपस्मारिश्वित्रिकुष्ठिकुलानि च॥[24]

3. श्राद्ध सम्बन्धी विधि-विधान का विस्तार से वर्णन किया है यथा-

⊙ पितरों से प्रीति चाहने वाला अन्नादि, दुग्ध, फल और जल से प्रतिदिन श्राद्ध करे।[25]

⊙ ब्राह्मण को भोजन कराने से पूर्व होम कराने तथा होम के पश्चात के बलि का निर्देश किया है। पित्तरों के मासिक श्राद्ध में तीन, देव श्राद्ध में दो अथवा देव व पितृ श्राद्ध

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में एक-एक ब्राह्मण को भोजन कराने का निर्देश है।[26]

⊙ श्राद्ध में निमंत्रित ब्राह्मण व श्राद्ध करने वाला श्राद्ध के दिन नियम वाला हो तथा उस दिन वेदाध्ययन न करें।[27]

⊙ श्राद्ध में प्रारम्भ व अन्तिम दोनों देवतापूर्वक करें।[28]

4. विभिन्न प्रकार के पापो हेतु प्रायश्चितों का वर्णन किया है यथा-

सारणी नं.-6

पाप	प्रायश्चित
ब्रह्महत्या - ब्रह्महत्या के समान पाप:-	
बिना जाने गर्भ को मारना या यज्ञ करते हुये क्षत्रिय वैश्य और गर्भवती स्त्री का वध करना।[36]	-ब्रह्महत्या के प्रायश्चित हेतु वन में कुटी बनाकर 12 वर्ष तक भिक्षा माँगकर खाये। [29] -किसी एक वेद का जप करता हुआ सौ योजन गमन करे, मितभुक व जितेन्द्रिय रहे। -अपना सब कुछ वेद जानने वाले ब्राह्मण को दान कर दे।[30]
सोने की चोरी करना	राजा को चोरी के बारे में बताये तथा राजा उसे मूसल से दण्डित करे। [31]
गुरूभार्या गमन	लोहे की तप्तशिला का आलिंगन कराकर या सुलाकर मृत्युदण्ड दे। [32]
गो हत्या	2 मास तक गोमूत्र से स्नान करता हुआ, लवण वर्जित अन्न का, थोडा भोजन करे तथा गायों के साथ उठना-बैठना, उनकी रक्षा करना आदि कर्म करते हुये तीन महिने में गो हत्या के पाप से मुक्त हो जाता है।[33]
अन्य पापों हेतु प्रायश्चित	सर्प को मारने पर- करछूल का दान सूकर को मारने पर- घी भरे घडे का दान तित्तर को मारने पर - 4 आढक तिल का दान तोते को मारने पर - 2 वर्ष के बछडे का दान क्रौंच पक्षी को मारने पर - 3 वर्ष के बछडे का दान[34]

5. मनुस्मृति में अन्तर्वर्ण विवाह सम्बन्धी सम्पूर्ण अध्याय दिया है तथा दूसरे वर्ण में विवाह से होने वाली विकृतियों का उल्लेख किया है [35]यथा-

सारणी नं.-7

ब्राह्मण से वैश्य कन्या में	अम्बष्ठ
ब्राह्मण से शूद्रा कन्या में	निषाद/पाराशव
क्षत्रिय से शूद्र कन्या में	उग्र
क्षत्रिय से ब्राह्मण कन्या में	सूत
वैश्य से क्षत्रिया कन्या में	मागध
वैश्य से ब्राह्मण कन्या में	वैदेह
शूद्र से वैश्य कन्या में	आयोगव
शूद्र से क्षत्रिय कन्या में	क्षेता
शूद्र से ब्राह्मण कन्या में	चाण्डाल

6. वर्णानुसार(ब्राह्मणादि वर्ण) कर्मों का उल्लेख किया है तथा कर्मानुसार दूसरे वर्ण में परिवर्तन होना भी बताया है, यथा-

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सारणी नं.8

ब्राह्मण	क्षत्रिय	वैश्य
कर्म/धर्म- 6 कर्म- पढना,पढाना, यज्ञ करना, यज्ञ कराना दान देना, दान लेना आजीविका-यज्ञ करना, पढना, शुद्ध द्विजातियों से दान लेना। [36]	कर्म/धर्म- दान करना,यज्ञ करना। आजीविका- अस्त्र-शस्त्र धारण करना।	कर्म/धर्म- दान करना, यज्ञ करना। आजीविका- व्यापार एवं खेती करना। [37]

वर्ण परिवर्तन - यथा-

1. ब्राह्मण मांस, लाख एवं लवण बेचने से पतित हो जाता है एवं दूध बेचने से तीन दिन में शूद्रता को प्राप्त हो जाता है।

2. ब्राह्मण मांसादि के अतिरिक्त पण्यों को इच्छापूर्वक बेचने से 7 दिन में वैश्य हो जाता है। [38]

6. चारों आश्रमों (ब्रह्मचर्य आश्रम, गृहस्थ आश्रम, वानप्रस्थ अश्रम तथा सन्यास आश्रम) संबन्धी नियमों का विस्तार से वर्णन किया है।[39]

7. अष्टांग योग के अंगो का शारीरिक एवं मानसिक शुद्धि में महत्व बताया है[40] यथा -

सारणी नं.-9

प्रायाणाम से	रागादि दोषों का नाश
धारणाओं से	पाप का नाश
प्रत्याहार से	विषय संसर्ग का निरोध
ध्यान से	मोहादि गुणों का नाश

8. सामिष- निरामिष भोजन नामक अध्याय में भोजन विधि एवं वर्ज्यों का उल्लेख किया है यथा-

1. लहसुन, शलजम, कुकुरमुत्ता आदि द्विजातियो हेतु अभक्ष्य है।

2. सद्यः प्रसूता गाय, एक खुर वाले पशु, भेड, ऋतुमती स्त्री, बछडे रहित गाय के दूध का निषेध किया है। भैंस को छोडकर अन्य मृगों का तथा निज स्त्री के दूध का निषेध किया है [41]

3. मांस में विष्किर, जालपाद के मांस, बगुला, बतख का मांस, मछलियों को खाने वाले, सम्पूर्ण मछली तथा विष्टाभक्षी शूकर के मांस का निषेध किया है।यज्ञ के अतिरिक्त मांस भक्षण का निषेध करते हुए इसे राक्षस विधि कहा है। [42]

9. धातुओं के शोधन की विधि, शारीरिक एवं मानसिक शोधन के साथ- साथ अलग- अलग प्रकार के मनुष्यों की शुद्धि का वर्णन किया है,[44] यथा-

सारणी नं.-10

विद्वानों की शुद्धि	क्षमा से
यज्ञादि रहित मनुष्यों की शुद्धि	दान से
उत्तम वेद को जानने वालो की शुद्धि	तप से
मल युक्त अशुद्ध वस्तु की शुद्धि	मृतिका व जल से
नदी की शुद्धि	वेग से
मन से दूषित स्त्री की शुद्धि	रजःस्वला होने पर
ब्राह्मण की शुद्धि	त्याग से

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शरीर की शुद्धि	पानी से
मन की शुद्धि	सत्य बोलने से
सूक्ष्म लिंग शरीर से युक्त जीवात्मा की शुद्धि	विद्या व तप से
बुद्धि की शुद्धि	ज्ञान से
सुवर्ण, हीरा, मणि व संपूर्ण पाषाण की शुद्धि	मिट्टी व जल से
निर्लेप सुवर्णपात्र, शंख, मोती, अश्म, अनुपस्कृत रजत की शुद्धि	केवल जल से
ताम्र, लौह, कांस्य, पीत्तल, लाख, सीसक की शुद्धि	क्षारोदक व केवल जल से

10. द्विजों हेतु धर्म के 10 लक्षण बताकर उनसे मोक्ष की प्राप्ति होना बताया है।

धृतिः क्षमा दमोऽस्तेयं शौचमिन्द्रिय निग्रहः।
धीर्विद्या सत्यमक्रोधो दशकं धर्मलक्षणम् ॥ [45]

11. महापातक व उपपातक दो प्रकार के पाप बताकर उनके लिये क्रमशः अधिक पीडादायक एवं कठिन तथा अपेक्षाकृत कम पीडादायक एवं कठिन प्रायश्चित का उल्लेख किया है

सारणी नं.-11

महापातक	उपपातक
ब्रह्महत्या, मदिरापान, चोरी करना, गुरू पत्नी के साथ व्यभिचार करना इत्यादि।[46]	अग्निहोत्र न करना, ऋण न चुकाना, असत शास्त्रों का पढना, नाचने गाने बजाने का सेवन, धान्य और पशुओं की चोरी, मद्य पीने वाली स्त्री से व्याभिचार, क्षत्रिय का वध एवं नास्तिकता इत्यादि।[47]

12. नाभि के ऊपर की इन्द्रियों को पवित्र तथा नाभि से नीचे की इन्द्रियों को अपवित्र माना है[48]

13. काम से उत्पन्न 10 तथा क्रोध से उत्पन्न 8 व्यसनों का उल्लेख करते हुए उन्हें यत्न से छोडने का निर्देश किया है।[49]

सारणी नं.-12

काम से उत्पन्न व्यसन		क्रोध से उत्पन्न व्यसन	
शिकार करना	मद्यपान	चुगली करना	दूसरे के गुणों में दोष लगाना
जुआ खेलना	नाचना	साहस	द्रव्य हरण
दिन में सोना	गाना	द्रोह	गाली देना
परिवाद करना (दूसरे के दोषों को कहना)	बजाना	ईर्ष्या	कठोरता
स्त्री संभोग	बिना प्रयोजन घूमना		

14. 100 वर्ष तक प्रतिदिन अश्वमेघ यज्ञ करना तथा आजीवन मांस भक्षण नही, दोनों का फल समान बताया है। [50]

उपसंहार -

सृष्टि में वेद ज्ञान की अमूल्य धरोहर है। सम्पूर्ण ज्ञान का आविर्भाव वेदों से ही हुआ है। वेदांगों के माध्यम से इसी ज्ञान को सरल व सुव्यास्थित ढंगसे प्रस्तुत करने का प्रयत्न किया

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है। आयुर्वेद में संग्रहित ज्ञान का स्रोत भी अथर्ववेद या अन्य उपनिषद व स्मृतियाँ रही है।

आयुर्वेदिय वाङ्मय के प्रतिपूरणार्थ जिन विभिन्न दर्शनों, पुराणों व स्मृतियों से विषय को लिया गया है, उनमें से मनुस्मृति भी एक है। आयुर्वेदिय जीवन दर्शन के बहुत से विषयों का उदगम मनुस्मृति से जान पडता है।वहीं कुछ विषय ऐसे भी हैं, जो कि आयुर्वेदिय दृष्टि से महत्वपूर्ण हैं, मगर उन्हें आयुर्वेदिय ग्रंथों में स्थान नहीं मिला है, अतः ऐसे विषयों को मूल स्रोत मनुस्मृति से उदघाटित करके उनका विवेचन करने से आयुर्वेदिय वाङ्मय की दुर्लभ प्रतिपूर्ति हुई है।

संदर्भः-

1. महर्षिपुनर्वसु- आत्रेयोपदिष्टा, तच्छिष्याग्निवेशप्रणीता, चरक-दृढबलप्रतिसंस्कृता, चरक संहिता (2014) श्री चक्रपाणी दत्त विरचित आयुर्वेददीपिकाविभूषिता सम्पादक यादवजीत्रिकमजीआचार्य, चौखम्भा सुरभारती प्रकाशन वाराणसी, (च.शा. 1/27, चक्रपाणी टीका), पृ.सं. 28
2. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 1/8, न्य आचार्य टीका) ,पृ.सं 9
3. महर्षि- पतञ्जलिमुनिप्रणीतं,पातञ्जलयोगदर्शनम् व्यासभाष्य संवलितम् तच्च योगसिद्धि-हिन्दीव्याख्योपेतम,व्याख्याकार डॉ. सुरेशचन्द्र श्रीवास्तव्य शास्त्री, चौखम्भा सुरभारती प्रकाशन, वाराणसी(साधनपाद 30,32) पृ.सं.266,273
4. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 4/204(1-4),पृ.सं.143
5. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 12/24) ,पृ.सं 416
6. महर्षिपुनर्वसु- आत्रेयोपदिष्टा, तच्छिष्याग्निवेशप्रणीता, चरक-दृढबलप्रतिसंस्कृता, चरक संहिता (2014) श्री चक्रपाणी दत्त विरचित आयुर्वेददीपिकाविभूषिता सम्पादक यादवजीत्रिकमजीआचार्य, चौखम्भा सुरभारती प्रकाशन वाराणसी, (च.शा. 4/36), पृ.सं. 32
7. महर्षिपुनर्वसु- आत्रेयोपदिष्टा, तच्छिष्याग्निवेशप्रणीता, चरक-दृढबलप्रतिसंस्कृता, चरक संहिता (2014) श्री चक्रपाणी दत्त विरचित आयुर्वेददीपिकाविभूषिता सम्पादक यादवजीत्रिकमजीआचार्य, चौखम्भा सुरभारती प्रकाशन वाराणसी, (च.सू.11/5), पृ.सं. 68
8. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति4 /5-6) ,पृ.सं 112
9. श्रीमद्वाग्भटविरचितम् अष्टाङ्ग हृदयम् (2007) श्रीमदरुणदत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लासितम् प्रतिसंस्कर्त्तारौ डॉ.अण्णा मौरेश्वर कुण्टे तथा पं.कृष्णशास्त्री नवरे परिष्कर्त्ता पं. हरि सदाशिव शास्त्री पराड्कर भिषगाचार्य, चौखम्भा सुरभारती प्रकाशन, वाराणसी,(अ.हृ.सू.1/13),पृ.सं.10
10. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 5/35) ,पृ.सं 178
11. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 6/92) ,पृ.सं197
12. श्रीमद्वाग्भटविरचितम् अष्टाङ्ग हृदयम(2007) श्रीमदरुणदत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लासितम्प्रतिसंस्कर्त्तारौ डॉ. अण्णा मौरेश्वर कुण्टे तथा पं.कृष्णशास्त्री नवरे परिष्कर्त्ता पं. हरि सदाशिव शास्त्री पराड्कर भिषगाचार्य, चौखम्भा सुरभारती प्रकाशन, वाराणसी,(अ.हृ.शा.1/8),पृ.सं.363
13. महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता श्रीडल्हणाचार्यविरचिता निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकाख्यया च समुल्लसित आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा, चौखम्भा सुरभारती प्रकाशन,वाराणसी, (सु.सू.35/13), पृ.सं.151
14. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 9/304) ,पृ.सं.343
15. महर्षिपुनर्वसु- आत्रेयोपदिष्टा, तच्छिष्याग्निवेशप्रणीता, चरक-दृढबलप्रतिसंस्कृता, चरक संहिता (2014) श्री चक्रपाणी दत्त विरचित आयुर्वेददीपिकाविभूषिता सम्पादक यादवजीत्रिकमजीआचार्य, चौखम्भा सुरभारती प्रकाशन वाराणसी, (च.शा. 1/27), पृ.सं. 289
16. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/98) ,पृ.सं.46
17. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/141) ,पृ.सं.53
18. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/129) ,पृ.सं.51
19. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/131-133) ,पृ.सं.5
20. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/159,161) ,पृ.सं.55,56
21. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/209,211) ,पृ.सं.63
22. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/198) ,पृ.सं.61
23. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2/177-178), पृ.सं.58

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24. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 3/7), पृ.सं.70

25. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 3/81-87), पृ.सं.80,81

26. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 3/125), पृ.सं.91

27. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 3/188),पृ.सं.98

28. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 3/205),पृ.सं.100

29. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 11/87),पृ.सं384

30. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 11/72, 75, 76),पृ.सं.382

31. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 11/99-100),पृ.सं.386

32. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 11/103),पृ.सं.387

33. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 11/109-115),पृ.सं.387-388

34. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 11/133-136),पृ.सं.391

35. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 10/7-12),पृ.सं.350

36. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 10/74-76),पृ.सं.359-360

37. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 10/79),पृ.सं.36

38. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 10/92, 93),पृ.सं.36

39. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 2,4,6)

40. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 6/72),पृ.सं.195

41. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 5/5, 7-8, 9),पृ.सं.154

42. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 5/13-14),पृ.सं.157

43. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 5/131),पृ.सं.160

44. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 5/107-114),पृ.सं.174-175

45. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 6/92),पृ.सं.197

46. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 9/234), पृ.सं.335

47. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 11/65-66), पृ.सं.381

48. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 5/132), पृ.सं.178

49. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 7/47-48), पृ.सं.205

50. मनुस्मृति(2008), भाष्यकार तुलसीराम स्वामी, रंजन पब्लिकेशन्स, दरियागंज, नई दिल्ली, (मनुस्मृति 5/53), पृ.सं.164

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Literary Review

Medical Ethics in Ayurveda- a Review

*Dr. Manorma Singh, **Prof. Sanjeev Sharma

Abstract

Ethics is an important discipline of medical practice. Ethics constitute the application of moral principles, values and standards to the practice of medicine. In the modern times awareness has increased regarding the matters related to human rights and consumer protection. Doctors face medico-legal controversial issues on regular basis. The basic aim behind the knowledge and practice of ethics is to avoid unwanted legal issues and to develop healthy professionalism. The practice of ethics is indispensable and has been given special consideration in the National Health Policy 2015. Centuries back, *Ayurveda* has advocated the practice of ethics in the field of medicine, necessitating the competence of the physician, getting consent, to develop the virtues of integrity, compassion and self effacement, to maintain good relation with co-professionals, to abstain from making false claims, advertisements and malpractices.References are available where matters of confidentiality and privacy of the patient have been given importance. Modern medical ethics has its roots in ayurveda. Ayurvedic code of conduct and ethics should be endorsed with zeal in the present medical practice.

Key words: Ethics, *Ayurveda*, consent, medical practice.

सारांश–

आचार चिकित्सा पद्धति का एक महत्वपूर्ण अनुशासन है। आचार के द्वारा नैतिक सिद्धान्तों, मूल्यों एवं औषधि के अभ्यास के मानकों का गठन होता है। आधुनिक समय में मानव के अधिकारों एवं उपभोक्ता संरक्षण संबंधित विषयों में जागरूकता बढ़ी है। चिकित्सक लगातार मेड़िको लीगल विवादास्पद मुद्दों का सामना कर रहें है। आचार ज्ञान एवं प्रयोग का मूलभूत उद्देश्य अवांछित कानूनी मुद्दों से बचना एवं स्वस्थ व्यावसायिकता को बनायें रखना है। नैतिकता (आचार) का अभ्यास अपरिहार्य है, एवं राष्ट्रीय स्वास्थ्य नीति 2015 में इस पर विशेष: ध्यान दिया गया है। शताब्दी वर्ष पूर्व ही आयुर्वेद में चिकित्सा का क्षेत्र में, चिकित्सक की क्षमता की आवश्यकता, रोगी की सहमति प्राप्त करना, ईमानदारी का गुण विकसित करना, करूणा एवं नि:स्वार्थ भाव बनाये रखना, सह–व्यावसायिकों के साथ अच्छे संबंध बनाये रखने, झूठें दावें, विज्ञापन एवं कदाचार करने से बचने के लिए आचार का वर्णन किया गया है। गोपनीयता संबंधी मामलों एवं रोगी की गोपनीयता की महत्ता के अनेक संदर्भ उपलब्ध है। आधुनिक चिकित्सा के आचार का मूल आयुर्वेद में है। आयुर्वेद सदवृत्त एवं आचार का वर्तमान चिकित्सा ज्ञान में उत्साह के साथ समर्थन किया जाना चाहिए।

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Literary Review

Medical Ethics in Ayurveda- a Review

Dr. Manorma Singh, Prof. Sanjeev Sharma

Introduction

Ethics is an essential supporting discipline, also an integral part of a good medical practice. Ethics simply means the rules or principles which govern right conduct.[1] The application of ethics to the situation specific to medical practice is termed as Medical Ethics. In the current National Health Policy 2015; professionalism, integrity and ethics constitute the key policy principles. In *Ayurveda*, an elaborated description regarding ethics related to medical practice has been given.The documentation of medical ethics is not available at a single place but the references are available scattered at numerous places in the ancient ayurvedic treatises. It is a very vast topic. This is an attempt to review the medical ethics in brief, as mentioned in Ayurvedic classics.

Historical Background and Importance of Medical Ethics

The history of western medical ethics may be traced back to the guidelines on conduct of the physician as stated in the Hippocratic Oath. The first code of medical ethics, 'Formula Comitis Archiatrorum, was published in the fifth century, during the reign of Ostrogothic king Theodoric the Great. In the medieval and early modern period, the credit goes to Ishaqibn Ali al-Ruhawi to write the first book dedicated to medical ethics. By eighteenth and nineteenth centuries, the concept of medical ethics had emerged as a more self conscious discourse. In England, Thomas Percival, a physician and author, crafted the first modern code of medical ethics. In 1803, he coined the terms 'medical ethics' and 'medical jurisprudence'. In 1815, the Apothecaries Act was passed by the parliament of United Kingdom. This was the beginning of regulation of medical profession in U.K.[2]

In the recent times more emphasis has been laid on the ethics in medical science. In fact this is the result of Nazis atrocities in the name of research. The shocking details of the post Second World war (1939-45) trial of German medical practitioners accused of conducting experiments on human participants without their consent and exposing them to grave risk of death or permanent impairment of their faculties raised grave concern about subjecting human subjects to medical research. This resulted into Nuremberg code in 1947.[3]

The application of ethics to the situation specific to medical practice is termed as Medical Ethics. Ancient India's contributions to ethics and surgical training are remarkable and, almost 3000 years later, continue to have great relevance in modern times as well. In this era of enormous technical advances and innovative therapies, the influence and power of crass materialism and rampant commercialization grows ominously. Sadly, the benefits of advanced technology are far from available to all, and the business of health care becomes increasingly venal. Doctors are better informed about their conditions of service and their career opportunities than the rights and welfare of their patients. It is inevitable, under such circumstances, that deviant practices and tendencies will come to taint ethical medical practice and training.[4] In the current National Health Policy 2015; professionalism, integrity and ethics constitute the key policy principles. In *Ayurveda*, an elaborated description regarding ethics related to medical practice has been given.[5]

Medical Ethics

Main principle of medical practice is to provide high quality care to the patient. Medical ethics is a practical tool designed to improve patient care, innovation and research. Description of ethics in *Ayurveda* are summarised as under.

Principle of Professional Competence

First and the foremost requirement in ethical medical practice is the competence of physician *(vaidya/bhishaga)*. The physician who has completed the study of the texts, understood the meaning/interpretation (of the precepts), observed

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the actions (application of therapies and their effects), made fit (through practical training), recapitulating the teachings of the science always; should enter into the profession.[6] The *vaidya* desirous of bringing equilibrium of *Dhatus* should first of all examine himself i.e have introspection that whether will I be able to perform the act (of treating this patient) or not?[7] *Acharya Sushruta* was the first to emphasize upon practical training in experimental and clinical surgery. *Acharya Charaka* has stated that the physician should contantly endeavour to improvise his skills and proficiency.[8]

Qualities of the physician

The physician should have a clear vision in theory *(shrut paryanvadatatva)*, extensive practical experience *(bahu drishta karmata)*, skill *(dakshya)* and purity *(shaucha)*.[9] The qualities of an ideal physician has been described by *Acharya charak* at various places.[10,11,12,13,14]

Principles of Regulation of Medical practice

Before entering the field of medical practice it was mandatory to obtain permission from the king *(Raja-anugya)*.[15] It is suggestive of existence of rules regarding control and regulation of medical practice even during ancient times, similar to the registration of the medical practitioners of present days. He, who is skilled in practice through audacity and acts apart from the dictates of the science, does not get respect from the wise and deserves killing by the king. The *kuvaidhya* (quack physician/surgeon) thrive due to the inefficiency of the king. [16]*Acharya Vriddha Vagbhatta* has quoted that the permission of the teacher *(Guru)* is an essential pre-requisite for a student of Medical Sciences to be designated as Physician *(Bhishaga)*.[17]

Principles of Ideal Treatment

The ideal/correct treatment/therapy is that which while pacifying a disorder does not excite/ produce another one, while that which though pacifies one disorder, yet at the same time gives rise to another one is not correct.[18] This is a very important principle that must be kept in mind while managing the diseases.

Principle of Informed Consent

Surgery is an integral branch of medicine. It is an ancient specialty and technology constituting a direct physical intervention on body tissues.In the context of surgical intervention in renal calculus *(Ashmari Chikitsa Prakarana)* there is the reference of prior consent of the well wishers of the patient.[19] *Acharya Dalhana* has commented that if surgery is done without obtaining consent then surgeon is liable to be punished by death sentence.[20] Now-a-days also, surgeons have a legal as well as moral obligation to obtain consent for the treatment based on appropriate levels of information. Failure to do so could result into civil proceedings against surgeon.[21] It is the choice of the patient to receive or refuse the treatment. In the context of *Moodh-Garbh Chikitsa*, reference of prior consent and permission of the husband /guardian is available.[22] Also Acharya *Vagbhatta* has quoted to seek the permission prior to surgical intervention.[23] The surgeon must respect the autonomy of patient. Informed consent is the central Dogma of medical ethics.

Principle of Responsibility and Execution of full Professional Skill

As described in *Ayurveda*, firstly proper examination of the disease and diseased has been advocated (*Roga-Rogi Pariksha*). The diseases have been broadly classified as curable and incurable based on prognosis.[24,25] The wise physician has to act after careful examination.[26] In case of incurable diseases, surgeon has to clearly prognosticate before starting the treatment. *'Pratyakhyana'* term is used at various places.[27,28,29] Physician after determining curability or incurability of the disease, then proceeding with treatment well in time, after thorough knowledge certainly succeeds. The physician treating incurable diseases suffers from loss of wealth, knowledge/learning, fame and gets censure and unpopularity.[30] It has been quoted that the treatment should be continued till the last breath because sometimes even after appearance of *Arishta Lakshana* (features of bad prognosis/impending death), the patient survives by luck/God?s grace.[31] In the modern medical practice also the physician is not entitled to refuse to treat a patient with incurable diseases like AIDS or HIV positive status. Surgeon making wrong operation on the body of his patient

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either through mistake, or through the want of necessary skill or knowledge or out of greed, fear, nervousness or haste, or in the consequence of being abused, should be condemned as the direct cause of many new and unforeseen maladies.[32] Care should be taken not to leave any room for the occurrence of those evils in connection with a surgical procedure.[33]

Principles of Limitations of the Practice and Referrals

The medical ethics bound the physician to practice his skill within the limits of individual competence, has been well described at various places in *Ayurvedic* literature. One should not enter in the horizon of other specialty and patient should be referred to concerned specialist. *Ayurveda* as whole has eight branches or specializations (*Ashtangayurveda*).[34] (SU. SU.1/6-7) From the thorough study of Ayurvedic literature it can be concluded that the concept of specialization was well developed at that time and there were different expert practitioners of all these specializations. In the context of *Pakva Gulma*, it has clearly been advised to refer the patient to the specialist (surgeon) who is skilled to manage the same.[35,36] Similarly in the case of *Udar-Roga Chikitsa*.[37] Thus, It was a routine practice to refer the patients to the experts of concerned speciality.

Principles of False Claims, Advertisements and Malpractices

The person himself being incompetent but claims to be an expert physician has been condemned.[38] The patients have been advised to refrain from consulting such type of persons and should never rely on them.

Relationship with other co-professionals

The *vaidya* (physician) should not enter into controversy with other vaidyas; should advise treatment with collective opinion.[39] Consultation with group of *vaidyas* (physicians) alleviates all the confusions and doubts.[40]

Professional virtues

Concept of qualities of Physician, attendant, Patient and Medicine has been contributed by Ayurveda for the overall success of medical practice.[41]

Principle of conservativism

Ayurveda embarks to refrain from unwanted surgery and to perform the same only when it is absolutely necessary. In *Ayurveda* surgical intervention has been considered as the last resort when all the conservative measures fail or when the disease is of such type that urgent surgery is required to save the life of the patient.[42,43]

Non malficens

Invasive therapeutic procedures should be adopted after carefully and accurately determining the risk/benefit ratio, has been well described in *Ayurveda*. He who cuts the unripe swelling due to ignorance and he who ignores the ripe one (without cutting) both are to be considered as mean fellows and performers of uncertain action.[44]

To conduct research

Success comes to that physician who practices therapeutic techniques daily.[45] It is duty of Physician to improvise his abilities and competence constantly.[46]

To teach in accordance with standards of intellectual and moral excellence

A number of seminars and symposia *(Sambhasha-Parishad)* have been described mainly in *Charak Samhita* to clarify, interpret and deduce proper inferences. Forty four terms for debate (44 *Vada Marg-pada)* have been described in detail in *Charak Samhita*.[47] Under various pretexts the basic principles of teaching have been described. In *Sushruta Samhita* the description of teaching techniques and methods to study the medical science have been given.[48] Practical training (*Yogya*) to the students of medical sciences to make them competent for the Surgical practice is a great contribution by *Acharya Sushruta*.[49] He is designated as the first medical man who advocated practical study of anatomy by dissection.[50] In *Brihattrayee (Charak Samhita, Sushruta Samhita and Astang Hridya)* an elaborated description of ethics related to conduct of teacher and the student has been given.

The concept of *Tantrayukti* is described for the better and precise knowledge of the texts. A physician who is not conversant with the canons of

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exposition, though he may be a student of many treatises, will fail to grasp the meaning of these treatises, just as aman fails to acquire wealth when fortune has deserted him.[51,52]

Compassion

It simply means alertness or preparedness to respond to pain, anxiety and misery of the patient. "My patient comes first" is the basic medical ethics. "Friendliness with all living beings, showing compassion towards the suffering and wishing the happiness of all" is the philosophy of the medical profession which all physicians should inculcate in their life. [53]Compassion for patients is greatest piety, the *Vaidya* (physician) who observes this excels all others. The patient might suspect his own mother, father, sons or relatives but reposes faith in physician, submits himself to him (the physician) and does not suspect him. Hence the physician should protect the patient like his own son.[54]

Self effacement

The physician should have the qualities like *Sumansa* (maintaining good mind), *Kalyanbhi-vyaharen* (wishing the good of all in word and deed), *Bandhubhuten* (remaining friendly with all living beings) and *Akuhaka* (not behaving like a quack).[55] In *Charak Samhita* four basic qualities of the physician have been described viz. *Maitri* (friendship), *Karuna* (compassion), *Harsh* (cheerfulness), *Upeksha* (indifference and calmness). The physician should be devoted to these virtues.[56] Friendliness and also compassion towards the diseased, deep concern for those likely to be cured, indifference to those advancing towards death; these fourfold disciplines/attitudes of a physician have been described.It is further stated that the surgeon should be in easy reach of all people especially the poor, who may not have the courage to come near him if he is bearing gorgeous and wealthy dress. The physician should be careful always in his conduct and behaviour lest he may lose respect and reputation.[57]

High Ideals of Treatment

Acharya Charak has strongly condemned the physician who indulges in to the medical practice just to make money. He has described the concept of *Naishishthki Chikitsa*. The supreme treatment is that which is devoid of allurement.[58] One should not take cereals, foods, drinks or money from a patient.[59] Those who trade their medical skill for livelihood; leaving heap of gold aside collect a pile of dust.[60]

Professional Gains / Benefits

Acharya Vagbhatta has described *'Addhya'* (rich/resourceful/ affordable) *guna* (quality) of the patient.[61] In the literature related to *Rasa Shastra* '*Dhanwantri Bhag'* and '*Rudra Bhag'* have been described for the physician, thereby fixing the gains from the patient and the persons selling medical goods/drugs. Beyond that fixed limits, nothing should be taken. The evil minded/wicked who does not repay the *vaidya* in return for being treated by him, the fruits of all his virtuous acts go to the *vaidya*.Thus the rights of physician has also been given due consideration while describing the professional ethics.

Moral ethics

The ethical approach of *Ayurveda* deals with up liftment of moral character of the surgeon. He should avoid sitting together with women, residing with them, cutting jokes with them, accepting anything given by them except food.[62]

Confidentiality

It is clearly mentioned in Ayurvedic texts that the physician should not disclose the private matters of the patient to anyone else.[63]

Respect of Autonomy

Ayurvedic ethics bound the surgeon to visit the house of the patient only when asked.[64] Under no circumstances the medical treatment should be given without the will of the patient.

Conclusion

Ethics is an indispensable part of medical science. To inculcate the moral values, continuous practice of medical ethics is imperative. In Ayurveda great emphasis has been given on the practice of ethics to strengthen the bond of therapeutic relationship between the patient and the surgeon.It also improvises the quality of professional life of the surgeon. Moral values of *Ayurveda* are milestones to guide the surgeon of modern times. It is vital to understand the legal and professional importance of

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surgical ethics and to practice the same at all the levels of medical care. This safeguards the interest of patient, surgeon and profession as well. An ethically designed medical practice benefits all.

References

1. Dorland's Illustrated Medical Dictionary, 30th ed. W.B.Saunders Company: An Imprint of Elsevier, Philadelphia, USA:2000; p646
2. https://en.m.wikipedia.org/wiki/Medical_ethics.
3. VasanthaMuthuswamy and Nandini K. Kumar (2008): Ethical Guidelines for Biomedical Research; Indian Council of Medical Research, New Delhi; p2.
4. Singh, B., and Swami Sardananada (2008): Ethics and surgical training in ancient India – a cue for current practice. South African Medical Journal, 98: p218-221
5. AmbikadattaShastri, translator, Ayurvedatatva-sandeepika Hindi commentary on Sushruta Samhita, Sutra Sthana, 10:3-10, Second ed. (reprint) Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p41-45.
6. Ibid SushrutaSamhita, Sutra Sthana, 10:3, p41.
7. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, VimanaSthana, 8: 86, First ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p768.
8. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 1: 134, First ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p49.
9. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 9: 6, First ed. (reprint). ChaukhambhaBharati Academy, Varanasi, 2009; p193.
10. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 1: 124, First ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p48.
11. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 9: 18, First ed. (reprint). ChaukhambhaBharati Academy, Varanasi, 2009; p197.
12. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 9: 19, First ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p197.
13. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 9: 21, First ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p198.
14. KashinathShastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 9: 22, First ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p198.
15. Ibid SushrutaSamhita, Sutra Sthana, Chapter 10, verse 3, p41.
16. Ibid SushrutaSamhita, Sutra Sthana, Chapter 3, verse 49, p19
17. ShailajaSrivastava. Hindi Commentary on AstangaSamgraha, Part I, Sutra Sthana, Chapter 2 verse no. 9, 1st ed. ChaukhambhaOrientalia, Varanasi, 2006; p30.
18. KashinathShastri and GorakhaNathaChaturvedi. Elaborated Vidyotini Hindi Commentary on CharakaSamhita, Part 1, NidanaSthana, Chapter 8 verse no. 23, 1st ed. (reprint). ChaukhambhaBharati Academy, Varanasi, 2009; p667.
19. AmbikadattaShastri, translator, Ayurvedatatvasandeepika Hindi commentary on SushrutaSamhita, ChikitsaSthana, Chapter 7, verse 29, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p54.
20. Ibid SushrutaSamhita, ChikitsaSthana, Chapter 7, verse 29, p54.
21. Norman S, et. al (2008): Bailey & Loves? Short Practice of Surgery Part-1Chapter 9- Surgical Ethics. 25th ed.; International Students Edition, Edward Arnold; p120.
22. KavirajaAtrideva Gupta. Vidyotini Hindi Commentary on AshtangaHridaya, ShariraSthana, Chapter 2, verse no. 26, 1st ed. (reprint), ChaukhambhaPrakashan, Varanasi, 2010; p246
23. AmbikadattaShastri, translator, Ayurveda-tatvasandeepika Hindi commentary on Sushruta Samhita, Sutra Sthana, Chapter 5, verse 10, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p24.
24. ShailajaSrivastava. Hindi Commentary on Astanga Samgraha, Part I, Sutra Sthana, Chapter 2 verse 26,1st ed.ChaukhambhaOrientalia,Varanasi,2006;p34.
25. K. Shastri and G. N. Chaturvedi. Vidyotini Hindi Commentary on CharakSamhita,Part 1, Sutra Sthana, Chapter 10 verse no. 5, 1st ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p201.
26. AmbikadattaShastri, translator, Ayurvedatatva sandeepika Hindi commentary on SushrutaSamhita,

PDF Created with deskPDF PDF Writer - Trial :: http://www.docudesk.com

Chikitsa Sthana, Chapter 8, verse 33, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p60.

27. Ibid: SushrutaSamhita, ChikitsaSthana, Chapter 14, verse 8; p86-87.

28. Ibid: SushrutaSamhita, ChikitsaSthana, Chapter 16, verse 39; p98.

29. K. Shastri and G. N. Chaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, Chapter 10 verse 7,8, 1st ed. Chaukhambha Bharati Academy, Varanasi, 2009; p203.

30. LakshmipatiShastri, Vidyotini Hindi Commentary on YogRatnakara, Chapter 1 Shloka 13, Edited by Braham Shankar Shastri. Ist ed. (reprint), Chaukhambha Prakashan, Varanasi, 2010; p2

31. AmbikadattaShastri, translator, Ayurvedatatva sandeepika Hindi commentary on SushrutaSamhita, Sutra Sthana, Chapter 25, verse 30, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p136.

32. Ibid: SushrutaSamhita, Sutra Sthana, Chapter 25, verse 42; p138.

33. Ibid: SushrutaSamhita, ChikitsaSthana, Chapter 7, verse 29; p54.

34. Ambikadatta Shastri, translator, Ayurvedatatva sandeepika Hindi commentary on SushrutaSamhita, Sutra Sthana, Ch.1,verse 6-7,2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p5.

35. Ibid: CharakSamhita, ChikitsaSthana, Chapter 5 verse 44; p207.

36. Ibid: Charak Samhita, ChikitsaSthana, Chapter 13 verse 184-190; p410-411.

37. Ibid: CharakSamhita, Sutra Sthana, Chapter 11 verse 51, 52; p237-238.

38. Satyapala B.. Hindi Translation on Kashyap Samhita, VimanaSthana, Chapter 1-Shishyop kramniya Adhyaya, verse no. 8, 1st ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2010, p60-61.

39. K. Shastri and G. N. Chaturvedi. Elaborated Vidyotini Hindi Commentary on CharakSamhita, Part I, Sutra Sthana, Chapter 25 verse no. 40, 1st ed. Chaukhambha Bharati Academy, Varanasi, 2009; p469.

40. Ibid: CharakSamhita, Sutra Sthana, Chapter 9 verse 6- 9; p193-195.

41. Ambikadatta Shastri, Ayurvedatatvasandeepika Hindi commentary on SushrutaSamhita, Sutra Sthana, Ch.8, verse no. 20, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p39.

42. Ibid: SushrutaSamhita, ChikitsaSthana, Chapter 15, verse 9; p92.

43. Ibid: SushrutaSamhita, Sutra Sthana, Chapter 24, verse 3; p126.

44. Ibid: SushrutaSamhita, Sutra Sthana, Chapter 5, verse 41; p27.

45. K. Shastri and G. NathaChaturvedi. Elaborated Vidyotini Hindi Commentary on CharakSamhita, Sutra Sthana, Ch.1 verse 134, 1st ed. Chaukhambha Bharati Academy, Varanasi, 2009; p49.

46. Kashinath Shastri and GorakhaNathaChaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part 1, Sutra Sthana, 1: 134, First ed. (reprint). Chaukhambha Bharati Academy, Varanasi, 2009; p49.

47. Ibid: CharakSamhita, VimanaSthana, Chapter 8 verse 27-65; p749-763.

48. Ibid: Sushruta Samhita, Sutra Sthana, Chapter 9, all verse; p40-41.

49. Ibid: SushrutaSamhita, ShariraSthana, Chapter 5, verse 60, 61; p66.

50. Ambikadatta Shastri translator, Ayurvedatatva sandeepika Hindi commentary on SushrutaSamhita, ShariraSthana, 5: 61, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p66.

51. K. Shastri and G. N. Chaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part II, Siddhi Sthana, Ch.12 verse no. 41-48, 1st ed. Chaukhambha Bharati Academy, Varanasi, 2009; p1118.

52. Ibid: Sushruta Samhita, Uttar Tantra, Chapter 65, all verses; p627-640.

53. Premvati Tewari. Medical Ethics in Ayurveda. Ch.4, 1st ed. ChaukhambhaVishvabharati, Varanasi, 2012; p83.

54. AmbikadattaShastri, translator, Ayurvedatatva sandeepika Hindi commentary on SushrutaSamhita, SutraSthana, Ch.25, verse 43-44, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p138.

55. AmbikadattaShastri translator, Ayurvedatatva sandeepika Hindi commentary on SushrutaSamhita, Sutra Sthana, Chapter 10, verse 3, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p41.

56. Ibid: CharakSamhita, Sutra Sthana, Chapter 9 verse 26; p199.

57. Ibid: SushrutaSamhita, Sutra Sthana, Chapter 10, verse 3; p41.

58. Priyavrat Sharma. Editor and Translator of Charak Samhita, Volume I, ShariraSthana, Chapter 1 verse 94, 1st edition (reprint). ChaukhambhaOrientalia, Varanasi, 2011; p405.

59. K. Shastri and G. N. Chaturvedi. Elaborated Vidyotini Hindi Commentary on CharakSamhita,

PDF Created with deskPDF PDF Writer - Trial :: http://www.docudesk.com

Part I, Sutra Sthana, Chapter 1 verse no. 133, 1st ed. ChaukhambhaBharati Academy, Varanasi, 2009; p49.

60. K. Shastri and G. N. Chaturvedi. Vidyotini Hindi Commentary on CharakSamhita, Part II, Chikitsa Sthana, Ch.1(4) verse no. 59, 1st ed. Chaukhambha BharatiAcademy, Varanasi, 2009; p63.

61. ShailajaSrivastava. Hindi Commentary on Astanga Samgraha, Part I, Sutra Sthana, Chapter 2 verse 24, 1st ed. ChaukhambhaOrientalia, Varanasi, 2006; p33

62. AmbikadattaShastri translator, Ayurvedatatva sandeepika Hindi commentary on SushrutaSamhita, Sutra Sthana, Chapter 10, verse 9, 2nd ed. Chaukhambha Sanskrit Sansthana, Varanasi, 2012; p45.

63. Shailaja Srivastava. Hindi Commentary on Astanga Samgraha, Part I, Sutra Sthana, Ch. 2 verse 17, 1st ed. Chaukhambha Orientalia,Varanasi,2006; p32

64. ShailajaSrivastava. Hindi Commentary on Astanga Samgraha, Part I, Sutra Sthana, Ch.2 verse 15, 1st ed. ChaukhambhaOrientalia,Varanasi, 2006; p31

Literary Review

Review of *Manahshila* In Ancient Literatures

*Parween Bano, **Pralay Kumar Sahu, ***Prof. K Shankar Rao

Abstract

Various metals and minerals have been illustrated with their uses in Vedic period but has not mentioned *Manahshila* any of those texts. Although therapeutic use of *Manahshila* has been found from the *Samhita* Period, but there is no pharmaceutical description. Pharmaceutical & therapeutic description of *Manahshila* has been found in the different classical text of *Rasa Shastra*. In this review article we have tried to compile inclusive description of *Manahsila* in *Samhita* as well as literatures of *Rasa Shastra*.

Key words – *Manahshila, Samhita,* therapeutic, Pharmaceutical, *Rasa Shastra.*

सारांश –

वैदिक ग्रन्थों में विभिन्न धातु एवं उपधातुओं का वर्णन है, परन्तु मन:शिला का वर्णन नही मिलता है। यद्यपि संहिताओं में मन:शिला का चिकित्सा में प्रयोग का उल्लेख है, परन्तु इसके भेद, शोधन, मारण, औषध निर्माण आदि का कोई स्पष्ट वर्णन प्राप्त नही होता है। मन:शिला का चिकित्सा में प्रयोग के साथ औषध निर्माण विज्ञान का विस्तृत वर्णन रस शाास्त्र के ग्रन्थों में प्राप्त होता है। प्रस्तुत लेख में संहिताओं तथा रस शास्त्र के ग्रन्थों से मन:शिला का विस्तृत वर्णन का संकलन करने का प्रयत्न किया गया है।

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Literary Review

Review of *Manahshila* In Ancient Literatures

Parween Bano, Pralay Kumar Sahu, Prof. K Shankar Rao

Introduction:

Rasa Shastra is a new development in *Ayurveda*, as it is not mentioned in traditional eight specialties i.e. *Ashtanga Ayurveda*. This branch of *Ayurveda* which deals with the various pharmaceutical processes such as *Shodhana, Marana, Jarana, Murchana, Satwapatana* and description of metals, minerals etc and their therapeutic usage. In *Rasa Shastra Manahshila* has great importance, both in alchemical and therapeutic point of view. *Manahshila* is included in *Uparasa* and *Upadhatu* group by different authors. According to its accessible features, different types of *Manahshila* are also described in different texts.

Manahshila in Ancient Literatures :

During *Samhita* Period :

In the *Samhita* period the Literatures are mainly augmented with the therapeutic importance of *Manahshila*. But there are no description found regarding pharmaceutical processing. Therapeutic indication of *Manahshila* in diseases like *Kustha, Kilasa*[1], *Hikka, Swasa, Kasa,*[2, 3] *Netrar oga, Vishama Jwar*[4], *Kshataj Kasa*[5] in form of *Churna, Lepa, Varti, Anjana and Dhumpana in* different *Samhitas*.

Manahshila in Rasa Literatures :

Manahshila is described in almost all texts of *Rasa Shastra* in details. The Pharmaceutical process including *Shodhana, Marana* and *Satwapatana,* and other alchemical processing of the mineral are developed in Rasa literatures gradualy. *Manahshila* is mentioned in different groups by different *Rasa* texts like *Upa Rasa*[6,7,8] *Upadhatu*[9] and *Paradadi verga*[10].Regarding types of *Manahsila* most of the literature described three types but some experts have the opinion that it may be of two types. Artificial preparation of *Manahshila* also mention in text of *Rasa*[11]. *Manahshila* has some adverse or toxic effects like *Ashmari, Mandagni, Mutrakruchchha, Malbaddha*[12] etc. which accept all most all the texts. Antidotes of adverse effect described in all texts almost same. There are Varity of synonyms described in different literatures; some of these are given below with its possible explanation.

Synonyms-

Manahshila (found in stone form)

Kunti[13,14] (as facial paint in drama)

Nepali (found abundantly in Nepal)

Manohva (pleasant color)

Roga shila[15]

Divya aushadhi, Karanji, Goni[16]

Laxami veerya[17]

Manogupta, , Nagajihvika, Gola, Shila[18]

Table No- 1: Types of *ManahShila* in various classics of *Rasa Shastra*.

Types	Reference (Text)
1. *Shayamangi* 2. *Kanavirka* 3. *Khandakhya*	R. Chu[19], RRS[20]
1. *Shayama* 2. *Rakta* 3. *Khandika*	RPSu[21]
1. *Shayamangi* 2. *Kanavirka* 3. *Dvi Khanda*	R.Cha[22], A.P [23], BRRSu[24], R.S [25]
1. *Shayma* 2. *Kanviraka* 3. *Khandakhya*	RJN[26]
1. *Shayamangi* 2. *Kanaveerika*	R.P[27]

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Table No- 2: Best Varities of *Manahshila* according to *Rasa Accharyas*.

Sr.No.	Best varity	Refernce
1	*Khandakhya*	*R. Chu*[28], *RRS*[29], *RJN*[30]
2	*Kanavirka*	*R. Cha*[31] *BRRSu*[32] *A.P*[33] *R. S*[34]
3	*Shyama*	*RPSu*[35]

Table No-3: Methods of *Shodhana of Manahshila*.

Sr No	Process Adopted	Drugs Required	References
1.	*Mardana*	*Godugdha takra or* beejapura rasa+ Jaya neera	Y.T[36] ,R.S[37]
2.	*Bhavana*	*Agastya Patra, Adraka, Bijora, Bhringraj, Lime water, Ajapitta,*	*R.Chan* [38], R. Chu[39], RPSu[40], RRS[41], A.P [42], B R R Su [43], RJN[44], Rm[45], R. S[46], R.Mi [47], R.T[48]
3.	*Nipatita*	*Churna odaka*	*R.T*[49]
4.	*Pachana*	*Ajamutra*	*A.P*[50]
5.	*Pachana → Bhavana*	*Ajamutra → Ajapitta*	*Sh.Sa* [51]
6.	*Pachana → Bhavana*	*Gomansa+ Lunga amla → Tripushpa → Shila tala vat draveta → Rakta, pita, pushpa Rasa+ Pitta*	*Rasarnava*[52]
7.	*Pachana & bhavana*	*Ajamutra & Ajapitta*	*BRRSu*[53]
8.	*Swedana*	*Jayantica drava or Ajmutra or Bhringraja Swarasa, Agastya or Adraka rasa, goats urine,*	*R.Cha*[54], *R. chu*[55], *R.P* [56], *BRRSu*[57], *RJNi*[58]

Table No-4: *Marana of Manahshila* in different texts of *Rasashastra*.

Sr. No	Dravya required	Process	Priciple	Type of Agni	No of Puta	References
1.	*Hartala like*		-	-	-	*Rasayana sara*[59]
2.	*Hanspadi+Bandal+ Vata+ ark+Snuhi dugdha*	*Mardana*	-	-	*7*	*BRRSu*[60], *R.S*[61]
3.	• *Sudha churna+ water* • *Manhshila+ Swarjika* *kshar®Keep in Sudha churna*	*Bhavana* -	- -	1 kudava Gorvar agni 5 prastha kando ki agni	- -	- SiBMM[62]

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Table No-5: *Manahshila Sattavapatana* mention in *Rasa Classics*.

Sr No	Dravya used	Ratio	Yantra Used	Time of Agni	References
1.	*Gugglu+ Lohakitta+ Sarpi*	*1/8 : 1: 1*	*Andhamusha*	-	*BRRSu*[63], *R. S*[64]
2.	• *Kschar+Amla* • *Talvata*	*1:1*	-	-	*R.Cha*[65]

***Guna Karma* of *Manahshila*:**

Guna- Guru, Snigdha[66]

Rasa- katu, tikta[67]

Veerya- Ushna[68]

***Karma* -** Destroyer of V-K, Poison, *Kandu, Kshaya, Agnimandya*[69], *Jwar*[70], blood disorder[71] and Excellent Rasayana, has an Ample of essence[72].

Use of *Manahshila* as Alchemi:

- In *Lauha Dravana* as *Kalka* for *Lepa*[73]
- In *Hema Bija* Praparation[74]
- In *Kanchani Kkarana* of Copper[75]
- In Preparation of Gold from Silver[76]
- In *Kramana Samsakar* of *Parada*[77]
- In preparation of gold from copper[78]
- In *Hema karana* of copper, silver & Lead[79]

Discussion:

Manahshila has a wide range of therapeutic application and has been used since *Samhita* period to modern age of *Rasashastra*. Since from medieval period till the modern era literatures are enriched with the pharmaceutic and therapeutic description of it. With time and according to need of the society its alchemical uses are gradually decreases and therapeutic use became prominent. In modern era mostly it is used for medicinal purposes. There had not mention of any classification and types in *Samhitas* and *Rasarnava* regarding it. But further literatures of modern era mostly describe it under the *Uparasa* and *Upadhatu* group and divided it into three or two types (Table No-1). In *SiBMM* it is mentioned in *Paradaadi verga*. There are little controversy regarding the best varities of it (Table No-2). So many synonyms and features of its acceptable varities are mentioned clearly in different texts. Artificial *Manahshila* preparation is also described in only one literature of *Rasa Shastra*. Regarding *Shodhana* few of classics have been described only one procedura like *Bhavana, Mardana, Swedana* etc. and some others classics described in in two different process like *Pachana & Bhavana* both (Table No-3). All texts are described same adverse effects and Antidote of its are same in all texts, except *Rasayana Sara* has little different opinion that *Shadaguna Gandhakajarita Parada & Madhu* for 7 day instead of *Godugdha and Sarpi* for 3 days. *Marana* of *Manahshila* did not mentioned in most of classics, only few texts described it, but they are also could not clearly stated about types of *Putas* and measurement of temperature etc. Appearently old classics are described *Sattvapatana,* but newer texts are not described about it.

Conclusion:

Manahshila is a very important mineral having therapeutic as well as alchemical superiority described in all most all literatures of *Rasa Shastra*. Although Its alchemical uses are described in different literatures vividly but now a days use of its not popular. Now the therapeutic use of it in different field of treatment like *Jwar, Kustha, Kasa, Swasa, Netra Roga* etc in form of *Churna, Varti, Lepa, Anjana, Dhumapana* etc. There are so many scopes for research in field of toxicity, clinical study etc.

References:

1. Charaka, Charaka Samhita (Purvardha) Elaborated Hindi Commentry by Pt. Kashinatha Shastri & Dr. Gorakha Nath Chaturvedi, chp 3/11-12, Chaukhamba Bharati Academy, Varansi, reprint 2008, pg 59.
2. Charaka, Charaka Samhita (Uttarardha) Elaborated Hindi Commentry by Pt. Kashinatha Shastri & Dr. Gorakha Nath Chaturvedi, chp 17/77, 145 & 18/69-

PDF Created with deskPDF PDF Writer - Trial :: http://www.docudesk.com

70, 18/71-72, 73-75, 1146-147,, Chaukhamba Bharati Academy, Varansi, reprint 2009.

3. Sushruta, Sushruta Samhita, Uttartantra, Edited with Ayurveda Tattva Sandipika, Hindy commentary by Kaviraj Ambikadutta Shastri, chp 50/19, 51/50, 52/23, Chaukhamba, Sanskrit Sansthan, varansi, reprint 2011.

4. Sushruta, Sushruta Samhita, Uttartantra, Edited with Ayurveda Tattva Sandipika, Hindy commentary by Kaviraj Ambikadutta Shastri, chp 39/263, Chaukhamba, Sanskrit Sansthan, varansi, reprint 2011, pg 261.

5. Vagbhatta, Astanga Hridayam, chikitsa 3/149-150, Nirmala hindy commentary by Dr.Brahmanand Tripathi, Chaukhamba, Sanskrit Pratishthan, Delhi, reprint 2014, pg 604.

6. Rasarnavam, Edited with Rasachandrika, Hindy Commentry by Dr. Indradeo Tripathi, patal 7, sloka 56, Chaukhamba, Sanskrit Series Office, Varansi, pg 95.

7. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 2, sloka 1, Chaukhamba, Bharati, Academy, Varanasi, reprint 2014, pg 252.

8. Bhudeb Mookerjee, Rasa Jala Nidhi, Sanskrit text with English translation, Chapter 1, vol 2, Chaukhamba Publishers, Varansi, edition 3rd, pg 2.

9. Sharangadhara, Sharangadhara Samhita, Maddhayama Khanda, Dipika & Gudharta Dipika, Sanskrita Commentries by Adhamala & Kashirama, Addhaya 11, sloka 53, Chaukhamba Surbharti Prakashana, Varanasi, edition 2006, pg 249.

10. Krishnaram Bhatta, Guccha 2, Siddha Bhesaja Mani Mala, 'Vaishwanara' Hindi commentary by Sri R.Kaladhara Bhatta, Chaukhamba Krishnadas Academy, Varanasi.

11. Sadanand Sharma, Rasa Tarangini, Prasadni Hindi Commentry by Sri Haridatta Shastri, tranga 11, sloka 126, Motilal Banarsi Dasa, Varansi, edition 11th, pg 263.

12. Rasa Vaga Bhatta, Rasa Ratna Samuccaya, Vol-1, Vijanabodhini, Hindi Commentr by Prof. Dattatrey Anant Kulkarni, Adhhaya 3, sloka 92, Meharchand Lachhmandas Publications, New Delhi, reprint 2010, pg 57.

13. Rasarnavam, Edited with Rasachandrika, Hindy Commentry by Dr. Indradeo Tripathi, patal 15, sloka 60, Chaukhamba, Sanskrit Series Office, Varansi, pg261.

14. Accharya Yashodhar, Rasa Prakasha Sudhakar, Siddhiprada, Hindi Commentry by Dr. Siddhinandan Mishra, Addhaya 6, sloka 1, Chaukhambha, Orientalia, Varanasi, reprint 2009, pg 114.

15. Sadanand Sharma, Rasa Tarangini, Prasadni Hindi Commentry by Sri Haridatta Shastri, tranga 11, sloka 104, Motilal Banarsi Dasa, Varansi, edition 11th, pg 260.

16. Bhudeb Mookerjee, Rasa Jala Nidhi, vol 2, Sanskrit Text With English Translation, Chapter 2, Chaukhamba Publishers, Varansi, edition 3rd, pg 196.

17. Krishnaram Bhatta, Siddha Bhesaja Mani Mala, 'Vaishwanara' Hindi commentary by Sri R.Kaladhara Bhatta, guccha 2, Chaukhamba Krishnadas Academy, Varanasi.

18. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 2, sloka 213, Chaukhamba Bharati Academy, Varanasi, reprint 2014, pg 312.

19. Accharya Somdeva, Rasendra chudamani, Translated by Dr. Siddhinandan Mishra, Addhaya 11, sloka 54, Chaukhamba Orientalia, Varansi, reprint edition 2013, pg 181.

20. Rasa Vag Bhatta, Rasa Ratna Samuccaya, Vol-1, Vijanabodhini, Hindi Commentry by Prof. Dattatrey Anant Kulkarni, Adhhaya 3, sloka 89, Meharchand Lachhmandas Publications, New Delhi, reprint 2010, pg 57.

21. Accharya Yashodhar, Rasa Prakasha Sudhakar, Siddhiprada, Hindi Commentry by Dr. Siddhinandan Mishra, Addhaya 6, sloka 17, Chaukhambha, Orientalia, Varanasi, reprint 2009, pg 116.

22. Rasa chandanshu, Rasa Ratna Sangraha by Pro. Jyanedra Pande, sloka254, Chaukhamba Krishnadas Academy, Varansi, edition 1st.

23. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 2, sloka 215, Chaukhamba Bharati Academy, Varanasi, reprint 2014, pg 215.

24. Brihad Rasa Raja Sunder, (Incomplete Rasa Grantha), Hindy Commentry by Pt. Dattaram Chaube, chaukhamba Orientelia, Varansi, edition 3rd, 2000, pg 170.

25. Rasendra Sambhava by Pt. Vishwanath Dwivedi 'Vaidya' sloka123, Krishnadas Academy, Varansi, reprint 1997, pg111.

26. Bhudeb Mookerjee, Rasa Jala Nidhi, vol 2, Sanskrit text with English translation,Chapter 2, Chaukhamba Publishers, Varansi, edition 3rd, pg 196.

27. Accharya Bindu, Rasa Paddhati, Siddhiprada, Hindy Commentry by Dr.Siddhinandan Mishra, sloka 87,

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Chaukhamba Orientalia, Varansi, reprint edition 2013, pg115.

28. Accharya Somdeva, Rasendra chudamani, Translated by Dr. Siddhinandan Mishra, Addhaya 11, sloka 56, Chaukhamba Orientalia, Varansi, reprint edition 2013, pg 181.

29. Rasa Vag Bhatta, Rasa Ratna Samuccaya, Vol-1, Vijanabodhini Hindi Commentry by Prof. Dattatrey Anant Kulkarni, Adhhaya 3, sloka 90, Meharchand Lachhmandas Publications, New Delhi, reprint 2010, pg 57.

30. Bhudeb Mookerjee, Rasa Jala Nidhi, vol 2, Chapter 2, Sanskrit text with English Translation Chaukhamba Publishers, Varansi, edition 3rd, pg196.

31. Rasa chandanshu, Rasa Ratna Sangraha by Pro. Jyanedra Pande, sloka254, Chaukhamba Krishnadas Academy, Varansi, edition 1st.

32. Brihad Rasa Raja Sunder (Incomplete Rasa Grantha), Hindy Commentry by Pt. Dattaram Chaube, chaukhamba Orientelia, Varansi, edition 3rd, 2000, pg 170.

33. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 2, sloka 217, Chaukhamba, Bharati, Academy, Varanasi, reprint 2014, pg 312.

34. Rasendra Sambhava, Pt. Vishwanath Dwivedi 'Vaidya' sloka123, Krishnadas Academy, Varansi, reprint 1997, pg111.

35. Accharya Yashodhara, Rasa Prakasha Sudhakar, Siddhiprada, Hindi Commentry by Dr. Siddhinandan Mishra, Addhaya 6, sloka 18, Chaukhambha Orientalia, Varanasi, edition: reprint 2009, pg 116.

36. Trimall Bhatta, Yoga Tarangini, Bhashatika by Dattaram Mathur, sloka 86, Chaukhamba Viddya Bhavana, Varansi, Reprint 2003, pg 68.

37. Rasendra Sambhava, Pt. Vishwanath Dwivedi 'Vaidya' sloka127, Krishnadas Academy, Varansi, rprint 1997, pg111.

38. Rasa chandanshu, Rasa Ratna Sangraha by Pro. Jyanedra Pande, sloka256, Chaukhamba Krishnadas Academy, Varansi, edition 1st.

39. Accharya Somdeva, Rasendra chudamani, translated by Dr. Siddhinandan Mishra, Addhaya 11, sloka 58, Chaukhamba Orientalia, Varansi, reprint edition 2013, pg 182.

40. Accharya Yashodhar, Rasa Prakasha Sudhakar, Siddhiprada, Hindi Commentry by Dr. Siddhinandan Mishra, Addhaya 6, sloka 19, Chaukhambha, Orientalia, Varanasi, edition: reprint 2009, pg 117.

41. Rasa Vag Bhatta, Rasa Ratna Samuccaya, Vol-1, Vijanabodhini, Hindi Commentry by Prof. Dattatrey Anant Kulkarni, Adhhaya 3, sloka 93, Meharchand Lachhmandas Publications, New Delhi, reprint 2010, pg 57.

42. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 2, sloka 220, Chaukhamba, Bharati, Academy, Varanasi, reprint 2014, pg 313.

43. Brihad Rasa Raja Sunder (Incomplete Rasa Grantha), Hindy Commentry by Pt. Dattaram Chaube, chaukhamba Orientelia, Varansi, edition 3rd, 2000, pg 171.

44. Bhudeb Mookerjee, Rasa Jala Nidhi, vol 2, Sanskrit text with English translation,Chapter 2, Chaukhamba Publishers, Varansi, edition 3rd, pg 198.

45. Rasa Amritam, Hindy Commentry by Dr. Devanatha Singh Gautam, Addhaya 4, sloka 12, Chaukhamba Surbharti Prakashana, Varanasi, Edition 2014.

46. Rasendra sambhava, Pt. Vishwanath Dwivedi 'Vaidya' sloka126, Krishnadas Academy, Varansi, reprint 1997, pg111.

47. Tryambak Nath Sharma, Rasa Mitra, Chaukhamba, Sanskrit Series Office, Varansi, reprint 2001,pg92.

48. Sadanand Sharma, Rasa Tarangini, Prasadni Hindi Commentry by Sri Haridatta Shastri, tranga 11, sloka 111, Motilal Banarsi Dasa, Varansi, edition 11th, pg 262.

49. Sadanand Sharma, Rasa Tarangini, Prasadni Hindi Commentry by Sri Haridatta Shastri, tranga 11, sloka 109, Motilal Banarsi Dasa, Varansi, edition 11th, pg 261.

50. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 2, sloka 221, Chaukhamba, Bharati, Academy, Varanasi, reprint 201, pg 313.

51. Sharangadhara, Sharangadhara Samhita, Maddhayama Khanda, Sanskrita Commentries, Dipika & Gudharta Dipika by Adhamala & Kashirama, Addhaya 11, sloka 72, Chaukhamba Surbharti Prakashana, Varanasi, edition 2006, pg 251.

52. Rasarnavam, edited with Rasachandrika, Hindy Commentry by Dr. Indradeo Tripathi, patal 7, sloka 78, Chaukhamba, Sanskrit Series Office, Varansi, Edition 5, pg 98.

53. Brihad Rasa Raja Sunder (Incomplete Rasa Grantha), Hindy Commentry by Pt. Dattaram Chaube, chaukhamba Orientelia, Varansi, edition 3rd, 2000, pg 171.

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54. Rasa chandanshu, Rasa Ratna Sangraha by Pro. Jyanedra Pande, sloka 257, Chaukhamba Krishnadas Academy, Varansi, edition 1st.

55. Accharya Somdeva, Rasendra chudamani, Translated by Dr. Siddhinandan Mishra, Addhaya 11, sloka 54, Chaukhamba Orientalia, Varansi, reprint edition 2013, pg 181.

56. Accharya Bindu, Rasa Paddhati, Siddhiprada, Hindy Commentry by Dr.Siddhinandan Mishra, sloka 87, Chaukhamba Orientalia, Varansi, reprint edition 2013, pg115.

57. Brihad Rasa Raja Sunder (Incomplete Rasa Grantha), Hindy Commentry by Pt. Dattaram Chaube, Chaukhamba Orientelia, Varansi, edition 3rd, 2000, pg 171.

58. Bhudeb Mookerjee, Rasa Jala Nidhi, vol 2, Sanskrit Text With English Translation, Chapter 2, Chaukhamba Publishers, Varansi, edition 3rd , pg 199.

59. Pt. Shayamsundaracharya Vaishya, Rasayan Sara, vol 1st, sloka 387, Krishnadas Akademy, Varansi, edition 6th ,pg 319.

60. Brihad Rasa Raja Sunder (Incomplete Rasa Grantha), Hindy Commentry by Pt. Dattaram Chaube, Chaukhamba Orientelia, Varansi,edition 3rd, 2000, pg 171.

61. Pt. Vishwanath Dwivedi 'Vaidya' Rasendra sambhava, sloka 128, Krishnadas Academy, Varansi, reprint 1997, pg111.

62. Krishnaram Bhatta, Siddha Bhesaja Mani Mala, 'Vaishwanara' Hindi commentary by Sri R.Kaladhara Bhatta, guccha 2, sloka 72, Chaukhamba Krishnadas Academy, Varanasi.

63. Brihad Rasa Raja Sunder (Incomplete Rasa Grantha), Hindy Commentry by Pt. Dattaram Chaube, chaukhamba Orientelia, Varansi, edition 3rd, 2000, pg 171.

64. Pt. Vishwanath Dwivedi 'Vaidya' Rasendra sambhava, sloka129, Krishnadas Academy, Varansi, reprint 1997, pg112.

65. Rasa chandanshu, Rasa Ratna Sangraha by Pro. Jyanedra Pande, sloka260, Chaukhamba Krishnadas Academy, Varansi, edition 1st.

66. Accharya Yashodhar, Rasa Prakasha Sudhakar, Siddhiprada, Hindi Commentry by Dr. Siddhinandan Mishra, Addhaya 6, sloka 18, Chaukhambha, Orientalia, Varanasi, edition: reprint 2009, pg 116.

67. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 2, sloka 218, Chaukhamba, Bharati, Academy, Varanasi, reprint 2014, pg 313.

68. Rasa chandanshu, Rasa Ratna Sangraha by Pro. Jyanedra Pande, sloka 259, Chaukhamba Krishnadas Academy, Varansi, edition 1st.

69. Rasa Vag Bhatta, Rasa Ratna Samuccaya, Vijanabodhini, Vol-1, Hindi Commentry by Prof. Dattatrey Anant Kulkarni, Adhhaya 3, sloka 91, Meharchand Lachhmandas Publications, New Delhi, reprint 2010, pg57.

70. Yadav Ji Tikram Ji Accharya, Rasa Amritam, Hindy Commentry by Dr. Devanatha Singh Gautam, Addhaya 4, sloka 13, Chaukhamba Surbharti Prakashana, Varanasi, Edition 2014, pg75.

71. Krishnaram Bhatta, Siddha Bhesaja Mani Mala, 'Vaishwanara' Hindi commentary by Sri R.Kaladhara Bhatta, guccha 2, sloka 296, Chaukhamba Krishnadas Academy, Varanasi.

72. Bhudeb Mookerjee, Rasa Jala Nidhi, vol 2, Sanskrit Text With English Translation, Chapter 2, Chaukhamba Publishers, Varansi, pg 197, edition 3rd, pg

73. Rasarnavam, Edited with Rasachandrika, Hindy Commentry by Dr. Indradeo Tripathi, patal 7, sloka 126-128, Chaukhamba Sanskrit Series Office, Varansi, pg 106.

74. Rasarnavam, Edited with Rasachandrika, Hindy Commentry by Dr. Indradeo Tripathi, patal 8, sloka 58, Chaukhamba, Sanskrit Series Office, Varansi, pg 120.

75. Rasarnavam, Edited with Rasachandrika, Hindy Commentry by Dr. Indradeo Tripathi, patal 16, sloka 64-66, Chaukhamba, Sanskrit Series Office, Varansi, pg 291.

76. Rasarnavam, Edited with Rasachandrika, Hindy Commentry by Dr. Indradeo Tripathi, patal 16, sloka 69-73, Chaukhamba, Sanskrit Series Office, Varansi, pg 291-292.

77. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 1, sloka 312, Chaukhamba, Bharati, Academy, Varanasi, reprint 2014, pg 160.

78. Upaddhayamadhava, Ayurveda Prakasha, Arthavidyotini & Arthaprakashini Sanskrit & Hindi Commentary by Vaidya Gulrajasharma Mishra, Addhya 1, sloka 320, Chaukhamba, Bharati, Academy, Varanasi, reprint 2014, pg 162.

79. Accharya Yashodhar, Rasa Prakasha Sudhakar, Siddhiprada, Hindi Commentry by Dr. Siddhinandan Mishra, Addhaya 11, sloka 2-4, Chaukhambha, Orientalia, Varanasi, edition: reprint 2009, pg 247.

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Literary Review

Critical Analysis of *Vyadhi Vargikaran* of *Caraka, Sushruta* And *Vagbhatta* (literary research)

*Dr. Jeuti Rani Das, **Dr. Sisir Kumar Mandal, ***Dr. Surendra Kumar Sharma

Abstract:

Vyadhi vargikaran is not an easy task. Though there are no specific chapter has been mentioned for classification of the disease in the text, more over it is mentioned as scattered manner to maintain the proper logic thorough out the texts. Acharya caraka, sushruta and vagbhatta has given different classification according to their need. So analysis of their classification gives their proper reason. They classified the disease according to their time period. Addition of new diseases due to time course create new classification. But their aim of classification was same, means for proper diagnosis and treatment.

Key words: *vyadhi vargikaran*

सारांश–

व्याधि वर्गीकरण एक आसान कार्य नहीं है। और इसके कोई विशेष लक्षण व्याधि के रूप में किसी अध्याय में नहीं दिये गए है। और यह यदा कदा कहीं युक्ति संग्रह के रूप में मिलते हैं। आचार्य चरक सुश्रुत और वाग्भट्ट ने विभिन्न प्रकार के वर्गीकरण में इसका उपयोग किया है। इसलिए इसके विश्लेषण वर्गीकरण सम्यक् रूप से दिया गया है। और आचार्य लोगों ने इसका वर्गीकरण अपने समय अनुरूप इसका वर्गीकरण किया है। इसलिए समयानुसार एक वर्गीकरण की आवश्यकता हो सकती है। लेकिन उनका मुख्य उद्देश्य वर्गीकरण के लिए समान रूप से व्याधि के लक्षण और चिकित्सा में उपयोग के लिए प्रस्तुत करना चाहिए।

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Dr. Jeuti Rani Das, Dr. Sisir Kumar Mandal, Dr. Surendra Kumar Sharma

Introduction:

For a systematic approach for diagnosis and treatment it is very important to analyze the *vyadhi vargikaran* given by different *acharya*s. Though it is not simple but the classical *ayurvedic* texts feel its need. Mainly classification of disease fully based on for the purpose of its diagnosis as well as treatment. The treaties make different classification in different angle which ultimately make the treatment procedure more specific and simple. *Vyadhi vargikaran* is important because it provides a common language for monitoring diseases. This allows the school of *ayurveda* to diagnosis and treat in a consistent and standard way. It defines the diseases, disorders, injuries and other related health conditions. These entities are listed in a comprehensive way so that almost everything is covered. It organizes information into standard groupings of diseases.

It can be the classification standard for all clinical and research purposes. These include monitoring of the incidence and prevalence of diseases.

The ultimate goal of the classification is treatment so they have mentioned that the treatment of those *vyadhi* which cannot be named, as per *dosa*, *dushya* and *nidan*. The sages classify the disease to some extent as far as possible. They classify the disease on the basis of *nidan*(~ cause) which may be internal (*dosa*) or external (*agantuja*), involving of *dushya*, different stages of *roga*, *ashay*, *marg*, its *prabhav* etc. After reviewing the order of classification by great trios it seems that in due course some new classification has been added with the older, perhaps it may be due to better understanding as well as some variation of the disease. The three *acharya*s has given different classification according to their principle of treatment and course of time. At first *caraka* gives classification, where *sushruta* adds some another classification, e.g. as he gives priority to *shalyatantra* so he classify the disease according to *shastra sadhya* and *snehadikarmasadhya*. *Sushruta* has also mentioned *swabhavik vyadhi* in addition to the *nija*, *agantuja* and *manasika vyadhi*. Again *vagbhatta has* added *karmaja vyadhi*, where the cause of disease is not pratyaksha, and some past sinful deed of the victim is responsible. Again *sushruta* and *vagbhatta has* mentioned about *kshudra roga*, which cannot be categorized under any heading of classification due to samanya *hetu* and treatment. *Caraka* and *sushruta* mentioned *manashik vyadhi*. Where the disease classification is based on *hetu ashaya adhisthan* and *bhautik lakshan*a, there diagnosis of disease become easy and where disease classification based on *prabhav*a *bala anubandha, ama* etc. seems its direction to the mode of management. They not only classify the disease, but also clarify reason behind it.

Aims and Objectives:-

To analyze the *vyadhivargikaran* of *caraka*, *sushruta* and *vagbhatta*

Materials and Methods

This article is based on a review of *ayurvedic* texts. Materials related to *vyadhi vargikaran*, has been collected. The main *ayurvedic* texts used in this study are *Caraka Samhita, Sushruta Samhita, Ashtanga Samgraha, Ashtanga Hridaya* and available commentaries on these.

Conceptual study:

Acharya caraka has mentioned in *maharogaadhyaya* that *vyadhi* is only one type "*rogattamekavidham bhavati ruksamanyat*"[1], again he has mentioned in *trisothiya* chapter that *vyadhi* is innumerable according to its types of pain, colour, site of origin & involvement and character,[2] so the first logic was metaphorical meaning of disease but the second one based on etiopathological concern of the disease.

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According to *caraka*

Classification of disese	**Name of *adhyaya***
1. Nija 2. Agantuja	*Maharogaadhyaya* of *caraka sutrasthan*
1. Samanyaja 2. Nanatmaja	*Maharogaadhyaya* of *caraka sutrasthan*
1. Vataja 2. Pittaja 3. Kaphaja 4. Agantuja	*Maharogaadhyaya* of *caraka sutrasthan*
1. Santarpanotha 2. Apatarpanotha	*Santarpaniyaadhyaya* of *caraka sutrasthan*
1. Rasapradosaja 2. Raktapradosaja 3. Mamsapradosaja 4. Medojapradosaja 5. asthipradosaja 6. Majjapradosaja 7. sukrapradosaja 8. Indriyapradosaja *9. snayusirapradosaja 10. Malapradosaja*	*vividhasitpita adhyaya* of *caraka sutrasthan*
1. Sakhasrita 2.marmasthisandhiasrita *3. kosthasrita*	*Trisreishaniyaadhyaya* of *caraka sutrasthan*
1. Agneya 2.saumya 3.vayavya	*Jwarnidan adhyaya* of *caraka nidansthan*
Roga of 1. Udakvahasrota 2. Annavahasrota 3.pranvahasrota 4. Rasavahasrota 5. Raktavaha 6. Mamsavahasrota 7. Medovahasrota 8. Asthivahasrota 9. Majjavahasrota 10. Sukravahasrota 11. Mutravahasrota 12. Purishvahasrota *13. Swedavahasrota*	*srotasam viman adhyaya* of *caraka vimansthan*
1. Anubandhaya 2. Anubandha	*Roganikvimanadhyaya* of *caraka vimansthan*
1. Sadhya, 2. Asadhya	*Roganikvimanadhyaya* of *caraka vimansthan*
1. Mridu, 2. Darun	*Roganikvimanadhyaya* of *caraka vimansthan*
1. Manasik, 2. Sharirik	*Roganikvimanadhyaya* of *caraka vimansthan*
1. Amasay, 2. Pakwasaya	*Roganikvimanadhyaya* of *caraka vimansthan*
1. Sukhasadhya 2. Kricchasadhya *3.Yapya, 4. pratyakheya*	*Mahachatuspadadhyaya* of *caraka sutrasthan*

According to *sushruta*:

Classification of disease	**Name of adhyaya**
1. Agantuja 2. Sharirik 3. Manasik 4.swabhavik	*Vedopattiadhyaya* of *sushruta sutrasthan*
1.adhyatmik 2.adhibhautic *3. adhidaivik*	*Vyadhisamuddesiya adhyaya* of *sushruta sutrasthan*
1.adibala 2.janmabala 3.doshabala 4.kalabala 5. sanghatbala 6.daivabala *7.swabhavbala*	*Vyadhisamuddesiya adhyaya* of *sushruta sutrasthan*
1. Shastrasadhya *2. snehadikriyasadhyaya*	*Vyadhisamuddesiya adhyaya* of *sushruta sutrasthan*
1. Aupasargik 2. Prakebala *3. Anyalakshana*	*aturupakramaniya adhyaya* of *sushruta sutrasthan*

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Acharya sushruta has given different classification under different branches of *ayurveda*. Though *acharya sushruta* was a *shalya chikitsak* but *acharya* has given different classification of other branches.

In *shalya chikitsa* some examples are given below

Classification of disease	**Name of *adhyaya***
ksharadagdha-a. hinadagdha b.atidagdha	*Ksharpakvidhya adyaya* of *sushruta sutrasthan*
agnidagdha- a.plusta b.durdagdha c.atidagdha	*Agnikarmavidhya adhyaya* of *sushruta sutrasthan*
6 types of sopha roga	*Amapakwaesaniya adhyaya* of *sushruta*
	sutrasthan
6 types of bran	
Arsha	*Arshanidan adhyaya* of *sushruta nidansthan*
Bhagandar	*Bhagandar adhyaya* of *sushruta nidansthan*
Ashmari	*Ashmari adhyaya* of *sushruta nidansthan*
Bhagna	*Bhagnanidan adhyaya* of *sushruta nidansthan*
Mudhagarbha	*mudhagarbhanidan adhyaya* of *sushruta nidansthan*
Vidradhi	*vidradhinidan adhyaya* of *sushruta nidansthan*

In *shalakya chikitsa* some examples are given below

Classification of disease	**Name of adhyaya**
Mukhagata roga	*Mukharoganamnidan adhyaya* of *sushruta nidansthan*
netragataroga	*aupadravik adhyaya* of *sushruta uttarsthan*
Sirogataroga	*Sirorogavigyanadhyaya* of *sushruta uttarsthan*
Nasagataroga	*Nasagatarogavigyanioupakram* of *sushruta uttarsthan*
Karnagata	*karnagatarogavigyaniam* of *sushruta uttarsthan*

In *kaumarbhritya* some examples are given below

Classification of disease	**Name of adhyaya**
Graha roga	*Navagrahakritivigyanbarnan adhyaya* of *sushruta uttarsthan*
Yonivyapad	*Yonivyapat pratisedh upakram* of *sushruta uttarsthan*

In *agadatantra* : *acharya* keep the disease which occur by poison

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In *kayachikitsa* some examples are given below

Classification of disease	**Name of *adhyaya***
Jwar	*Jwarpratisedhupakramvarnan* of *sushruta uttarsthan*
Atisar	*Atisarpratisedhvarnam* of *sushruta uttarsthan*
Sosh	*Soshpratisedhupakram* of *sushruta uttarsthan*
Gulma Shool	*Gulmapratisedhupakram* of *sushruta uttarsthan*
Hridroga	*Hridrogapratisedhupakram* of *sushruta uttarsthan*
Pandu	*Pandurogapratisedhupakram* of *sushruta uttarsthan*
Raktapitta	*Raktapittapratisedhbarnan* of *sushruta uttarsthan*
Murcha	*Murchapratisedhbarnan* of *sushruta uttarsthan*
Madatyaya	*Panatyayapratisedhbarnan* of *sushruta uttarsthan*
Trishna	*Trishnapratisedha adhyaya* of *sushruta uttarsthan*
Chardi	*Chardiapratisedha adhyaya* of *sushruta uttarsthan*
Hikka	*Hikkapratisedhabarnam adhyaya* of *sushruta uttarsthan*
Swas	*Swaspratisedhabarnam adhyaya* of *sushruta uttarsthan*
Kash	*Kashpratisedha adhyaya* of *sushruta uttarsthan*
Swarbheda	*Swarpratisedhabarnam adhyaya* of *sushruta uttarsthan*
Krimiroga	*Krimirogapratisedhabarnam adhyaya* of *sushruta uttarsthan*
Udavarta	*Udavartapratisedhabarnam adhyaya* of *sushruta uttarsthan*
Amadoshajanita vikar	*Vichusikapratisedhabarnam adhyaya* of *sushruta uttarsthan*
Arochak	*Arochakpratisedhabarnam adhyaya* of *sushruta uttarsthan*
Mutraghat	*Mutraghatpratisedhabarnam adhyaya* of *sushruta uttarsthan*
Mutrakriccha	*Mutrakicchapratisedhabarnam adhyaya* of *sushruta uttarsthan*

Other classification some examples are given below

Classification of disease	**Name of *adhyaya***
Ksudra roga -44 types	*swabhavikroganidan adhyaya* of *sushruta uttarsthan*

Under *bhutavidya* some ex]amples are given below

Classification of disease	**Name of *adhyaya***
Unmad	*Unmadpratisedhbarnanadhyaya* of *sushruta uttarsthan*
Apasmar	*Apasmarpratisedhbarnanadhyaya* of *sushruta uttarsthan*
According to *name* of *pichas*	*amanushupasargapratisedhbarnanadhyaya* of *sushruta uttarsthan*

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According to *Vagbhatta*

Classification of disease	Name of *adhyaya*
1. Swatantra 2. Paratantra	*Doshbhediya adhyaya* of *astanga hridaya sutrasthan*
1. Purvaja 2. Pachaja	*Doshbhediya adhyaya* of *astanga hridaya sutrasthan*
1. Dosaja 2. Karmaja 3. Dosakarmaja	*Doshbhediya adhyaya* of *astanga hridaya sutrasthan*
1. Sama 2. Niram	*Doshbhupakramaniya adhyaya* of *astanga hridaya sutrasthan*
1.Pratyutparnakarmaja 2.Purvakarmajjasha	*Rogbhediyam adhyaya* of *astanga sangraha sutrasthan*
1. Pratyutparnakarmaja 2. Daivakarmaja 3. Parakritakarmaja	*Rogbhediyam adhyaya* of *astanga sangraha sutrasthan*
1.vataja 2.pittaja 3.kaphaja 4.vatajpittaja 5.vatajakaphaja 6.pittajakaphaja 7.sannipataja	*Rogbhediyam adhyaya* of *astanga sangraha sutrasthan*
1.Garbhaja 2. Jataja 3. Pidaja 4.kalaja 5 .sahaja 6.prabhabaja 7.swabhabaja	*Rogbhediyam adhyaya* of *astanga sangraha sutrasthan*

The diseases described by *vagbhatta* covered by above mention classification.

Discussion :

It is mention in introduction that how much important is the classification of disease for a systematic approach for giving treatment. Its necessity is feel by our *acharya* thousands of years back. Their classification was so scientific that there is no question to revised it. In every classification of disease they have given proper logic. There is difference between the classification of *caraka*, *sushruta* and *vagbhatta*. *Caraka* classify the disease according to *kayachikitsa*, *sushruta* as a *shalya chikitsak*, classify the disease according to *shalya chikitsa*. *Vagbhatta* also classify the disease according to *kayachikitsa* and *shalya chikitsa* but there is some difference between *caraka*, *sushruta* and *vagbhatta*. *Caraka* classify the disease *nija* and *agantuja* in 19th chapter which is again classified under *nimittaja roga* in *roganikvimanadhyaya*,[3] where *nija roga* are those which occur due to *dhatu vaisamya* at first and in *agantuja*, *roga* occurs at first[4], these *nija roga* are again classified as *samanyaja* and *nanatmaja vyadhi*, these *samanyaja roga* occur due to any one of the *dosha* , and *nanatmaja roga* occur due to specific *dosha*.[5] In *maharogaadhyaya* it is said that disease is of 4 types which nature is under the heading *nija* and *agantuja*.[6] All the disease is come under the heading *manashik* and *sharirik* as per the location of the disease which is mentioned in *roganik vimanadhyaya*.[7] *Acharya* not mention the chapter of *manasik vyadhi* separately, but the cause of *manasik vyadhi* mention scattered manner. The *vyadhi* under *manasik vyadhi* also not mention in one chapter only e.g. *unmad*, *apasmar* etc. Again these *roga* are classified under the heading *santarpanotha apatarpanotha* which occur after the affect of sadupakrama(~6 types of therpy), where some treatment are given which may be due to more santarpan and more apatarpan.[8] *Acharya* classified the disease according to involvement of *dhatu*, by different vitiated *dosha*[9] because without involvement of *dhatu* there is no disease, again classified the disease according to the involvement *srota*.[10] For treatment and to know the *sadhyta* and *asadhyata* there should be the knowledge of *marga*, i.e. the *acharya* classify the disease according to involvement of *marga*.[11] To diagnose that which *dosha* is involved, classify the disease according to *ashaya* because in *amasayasamutha vyadhi* there is involvement of *pitta* and *kapha* and in *pakwasaya samutha vyadhi* there is involvement of *vata*.[12] Again all the disease

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is classified according to curability, which is under the heading *prabhav*a as *sadhya* and *asadhya* ,[13] again both the types as *mridu* and *darun* as per *bala* of the disease.[14]

Acharya sushruta has described broadly that disease is of 4 types in *vedoutpatti adhyaya.*[15] Though *caraka* also mention the disease *agantuja*, *sharirik*, *sushruta* add the 4th one *swabhavika*. *Swabhavika* are those which occur in every person, like hunger, thirst, sleep, and old age .[16] Because these fulfill the definition of *vyadhi*. During the period of *acharya sushruta* the surgery part of treatment developed so, *acharya* classify the disease according to *shastra sadhya* and *snehadikriya sadhya*.[17] Though it is *shalaytantra* pradhan , in *sutrasthan* 24th chapter *acharya* described the classification of disease so scientifically that all disease of the world come under these heading " *atra sarva vyadhyavarodh*."[18] These at first come under 3 division,[19] again these 3 divison is under 7 subheading.[20] To avoid confusion during the treatment, and to select the actual disease *acharya* classify the 3 types of disease- *aupasargik, prakevala, anyalakshana*.[21] Besides mentioning the disease under the above mention heading he further classify the disease , these are mentioned in *sutrasthan*, *nidansthan*, *sharirsthan*, *kalpasthan* and in uttara*sthan* in different context. The disease under *shalakya* he has given different classification, about *mukharoga* he mentioned in *nidansthan* 16th chapter, and about *netraroga*, *karnaroga*, *nasaroga*, *siroroga* in uttaratantra he has given a beautiful classification through which one physician can diagnose a disease very easily and can give proper treatment, can avoid it if it is *asadhya* and can save his fame. The disease under *shalya* also described in different *sthan* , he classify also the disease which occur as a complication of *kshara karma, agnikarma* etc. the disease which are under the classification of *shalyatantra* are almost *agantuja*. Under *kaumarbhritya* he cover the classification of disease of children and gynaecological problem.[22] *Mudhagarbha* also a gynaecological problem but its *chikitsa* is under surgery so it is under the classification of *shalya*. In *kaumarbhritya* acharya has included the *graharoga* which is 9 types.[23] It is classified separately because its treatment and cause is different from adult disease. The disease under toxicology is classified in *kalpasthan* which is ultimately comes under *agantuja roga*. Acharya has classified the disease of *kayachikitsa* in *uttaratantra*, the disease of which come under *sharirika*, *agantuja* and *swabhavika*. In *bhutavidya* the disease *unmad*, *apasmar* etc. come which classification is very important according to the treatment. Acharya classify the disease *ksudra roga* which cover the disease under the following points- 1. which are small disease included under *kshudra roga*, 2. Which cannot be included in any classification, 3. Which are not described according to *dosha* and *dushya*. 4. Which *hetu*, *laksha*na and *chikitsa* is very simple.[24]

Acharya vagbhatta has classifed the disease in above mention heading. His classification is somewhat different from the classification of *acharya caraka* and *sushruta*. Acarya *vagbhatta* mention at first the *swatantra vyadhi* which occur due to its own causative factor and *paratantra* are those which just opposite to *swatantra*. *Paratantra* are of 2 types *purvaja*(~prodormal sign) and *pachaja* (~complication). *Vagbhatta has* added some classification e.g. the disease which cannot be diagnosed, means which *hetu* is unknown that are grouped separately, the cause of those disease are deed of previous birth. The disease under *dosaja* include the disease which occur due to *dosha*, and the disease under *karmaja* cover those disease which are due to karma of previous birth.[25] And *doshakarmaja* include those which are due to both *dosha* and karma.[26] Again *acharya* has classifed the disease according to the stage of the disease, he has very minutely observed the *sama* and *nirama avastha*,[27] and classify the disease according to these. The disease which are under the classification *vata*, *pitta*, *kapha*, *vatapitta*, *pittakapha*, *kaphavata* and *sannipataja*,[28] all these can be included in *dosaja vyadhi*. The disease which are under heading 1 *.sahaja 2.Garbhaja 3. Jataja 4. Pidaja 5.kalaja 6.prabhabaja 7.swabhabaja* also cover all the disease,[29] which is helpful because of line of treatment, its *sadhyata* and *asadhyata*. The7 types of classification can be correlated with the 7 types of classification of *sushruta* like *sahaja~ adibalapravritta, garbhaja~janmabalapravritta, jataja~doshabalapravritti, pidaja~ samghatbala-pravritti, kalaja~kalabalapravritti, prabhabaja~ daivabalapravritti, swabhabaja~swabhavbala-pravritti*. *Acharya vagbhatta* also mention the *swabhavik roga*. *Acharya* keep those disease which

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are *swalpa(*~means simple, not harmful), occur in lower part of body, *krura* means which are *ksudra*(~ easy to cure).[30]

Conclusion :

From the analysis it is seen that the classification of disease though not same by the *acharya* but all of them have scientific approach. It is seen that aim of classification of disease of all *acharya* was same, means, for proper treatment. All of them classify the disease according to their need. The *vyadhi* described by them were included in their classification. Because they classify the disease in such a way that it help to treat the disease, to diagnose the disease, to differentiate disease that it is curable or not. They include a single disease in different classification which is very unique, means according to *dosha*, *dhatu*, *srota*, *ashaya*, *bala* of disease, its *sadhyata* etc. these help a physician to go systematically to approach a disease. e.g. according to *caraka udar roga* is *nija roga*, *samanyaja roga*, *sharirik roga*, *annavahasrota roga, kricchasadhya roga* etc.

References:

1. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan : Maharoga adhyaya : Chapter 20, Verse 3. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 112

2. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan : Trisothiya adhyaya : Chapter 18, Verse 42. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 108

3. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, VimanSthan : Rogavimanik adhyaya: Chapter 6, Verse 3. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 252

4. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan : Maharoga adhyaya : Chapter 20, Verse 7. Varanasi:Chowkhambha Surbharati Prakashan, 2013 p 113

5. Dwivedi Lakshmidhar, editor, (1st ed.). Commentary Ayurveddipika of Chakrapani on Carak Samhita of Agnivesh, Sutrasthan; Maharogadhyaya: Chapter 20, Verse 10. Varanasi: Krishnadas Ayurveda series 117, 2013, P 393

6. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan : Maharoga adhyaya : Chapter 20, Verse 3. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 112

7. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, VimanSthan : Rogavimanik adhyaya: Chapter 6, Verse 3. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p252

8. i)Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan:Santarpaniyam adhyaya : Chapter 23, Verse 6-7. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 122

   ii) Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan : Santarpaniyam adhyaya : Chapter 23, Verse 27-29. Varanasi: Chowkhambha Surbharati Prakashan, 2013, p 123

9. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan : Vividhasitapita adhyaya: Chapter 28, Verse 8. Varanasi:Chowkhambha Surbharati Prakashan, 2013 p 179

10. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, VimanSthan : Srotoviman adhyaya : Chapter 5, Verse 6. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 250

11. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, Sutra Sthan : Trisreishaniyaadhyaya: Chapter 11, Verse 48. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 79

12. Dwivedi Lakshmidhar, editor, (1st ed.). Commentary Ayurveddipika of Chakrapani on Carak Samhita of Agnivesh, Sutrasthan; Roganikviman adhyaya: Chapter 6, Verse 3. Varanasi: Krishnadas Ayurved series 117, 2013, p 834

13. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, VimanSthan : Rogavimanik adhyaya: Chapter 6, Verse 3. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 252

14. Acharyaa Yadavji Trikamji, editor. Carak Samhita of Agnivesh, VimanSthan : Rogavimanik adhyaya: Chapter 6, Verse 3. Varanasi:Chowkhambha Surbharati Prakashan, 2013, p 252

15. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Sutrasthan: vedoupatti adhyaya : Chapter 1, Verse32. Varanasi: Chowkhambha Sanskrita Samsthan, 2001, p 6

16. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Sutrasthan: vedoupatti adhyaya : Chapter 1, Verse33. Varanasi: Chowkhambha Sanskrita Samsthan, 2001 p 6

17. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Sutrasthan: Vydhisamuddesiya adhyaya : Chapter 24, Verse3. Varanasi: Chowkhambha Sanskrita Samsthan, 2001 p 100

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18. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Sutrasthan: Vydhisamuddesiya adhyaya : Chapter 24, Verse8. Varanasi: Chowkhambha Sanskrita Samsthan ,2001, p 101

19. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Sutrasthan: Vydhisamuddesiya adhyaya : Chapter 24, Verse8. Varanasi: Chowkhambha Sanskrita Samsthan ,2001, p 101

20. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Sutrasthan: Vydhisamuddesiya adhyaya : Chapter 24, Verse8. Varanasi: Chowkhambha Sanskrita Samsthan ,2002 p 101

21. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Sutrasthan: aturupakramaniya adhyaya : Chapter 24, Verse8. Varanasi: Chowkhambha Sanskrita Samsthan ,2001 p 101

22. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Uttartantra: Doshabhedvikalpiya adhyaya : Chapter 66, Verse8. Varanasi: Chowkhambha Sanskrita Samsthan, 2012, p 520

23. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Uttartantra: Graharoga adhyaya : Chapter 27, Verse5. Varanasi: Chowkhambha Sanskrita Samsthan ,2012, p 142

24. Kaviraj Ambikaduttashastri, editor. Susruta Samhita of Susruta, Uttartantra: Doshabhedvikalpiya adhyaya : Chapter 66, Verse8. Varanasi: Chowkhambha Sanskrita Samsthan ,2012, p 513

25. Vaidya Sri Lalchandra, editor, (4th ed.). Ashtanga Hridaya of Vagbhata, Sutra Sthana; Doshadivijnaniya adhyaya: Chapter 12, Verse 59. Delhi: Motilal Banarasidas Publisher Private Ltd, 1999, p 105

26. Vaidya Sri Lalchandra, editor, (4th ed.). Ashtanga Hridaya of Vagbhata, Sutra Sthana; Doshadivijnaniya adhyaya: Chapter 12, Verse 59. Delhi: Motilal Banarasidas Publisher Private Ltd, 1999, p 105

27. Vaidya Sri Lalchandra, editor, (4th ed.). Ashtanga Hridaya of Vagbhata, Sutra Sthana; Doshaupakramaniyaadhyaya adhyaya: Chapter 13, Verse 24. Delhi: Motilal Banarasidas Publisher Private Ltd, 1999, p 111

28. Dr.(Smt) Sailaja Srivastav, editor, (1st ed.). Ashtanga Samgraha of Vagbhata, Sutra Sthana; Rogabhediya nam adhyaya: Chapter 22, Verse. Varanasi: Chowkhambha Sanskrit Series, 2006, p 369

29. Dr.(Smt) Sailaja Srivastav, editor, (2nd ed.). Ashtanga Samgraha of Vagbhata, Sutra Sthana; Rogabhediya nam adhyaya: Chapter 22, Verse 10-16. Varanasi: Chowkhambha Sanskrit Series, 2006, p 367

30. Acharyaa Jyotirmitra, editor, (2nd ed.). Ashtanga Samgraha of Vagbhata, Uttartantra; Swabhavik-rogavigyaniaym adhyaya: Chapter 36, Verse 1. Varanasi: Chowkhambha Sanskrit Series, 2008 p813.

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Literary Review

A comprehensive review on *Shalmali* (*Bombax ceiba* Linn.)

*Sankar Jyoti Das, **Sumit Nathani, ***Richa Khandelwal

Abstract :

Ayurveda is the science of life. It is the most ancient documented medical system of the world. *Ayurveda* describes four basic factors, which are most essential for advocating the proper treatment, which is the main source of therapeutics. Among these, *Ausadha* (*Bhaishajya*) is graded at second rank. *Acharya Charak* has asserted that each substance on this earth is useful in combating illness when applied with planning and for a specific purpose.

Plant, animal, mineral are the basic source of medicine in *Ayurveda*, out of which plant has the commanding role in field of therapeutics. The word 'Drug' is rightly chosen for this; as it is derived from the French word '*Drouge*' meaning of which is dry herb.

Shalmali is a very important medicinal plant mentioned and used in almost all the Ayurvedic classics in different clinical conditions. Each and every part of this tree has its own medicinal value. Present paper aims to review the herb in comprehensive manner and bring forth its concealed qualities.

Key words : *Shalmali*, *Bombax ceiba* Linn.

सारांश–

आयुर्वेद एक संपूर्ण विज्ञान है। अत्यन्त प्राचीन काल से प्रचलित एंव प्रसारित इस विज्ञान को आज संपूर्ण संसार में मान्यता प्राप्त है। आयुर्वेदीय संहिताओं में चिकित्सा के मुख्य ध्येय को प्राप्त करने के लिए चिकित्सा के चतुष्पादों की गणना की गई है। इनमें भेषज को द्वितीय क्रम में रखा गया है। आयुर्वेद में संसार के सभी द्रव्यों को चिकित्सा में प्रयोग करने का विधान है। मुख्य रूप से चिकित्सार्थ वानस्पतिक, जान्त्व एवं कौमिक द्रव्यों का प्रयोग बहुतायत में मिलने वाला आयुर्वेदीय पादप है। इसका वर्णन सभी चिकित्सा ग्रंन्थों एवं निघण्टुओं में उपलब्ध है। इस बहुउपयोगी वनस्पति का विस्तार से अध्ययन कर संकलन प्रस्तुत है।

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Literary Review

A comprehensive review on *Shalmali* (*Bombax ceiba* Linn.)

Sankar Jyoti Das, Sumit Nathani, Richa Khandelwal

Introduction

Ayurveda is a comprehensive treatise on the science of life. It is the first and foremost system of medicine in the world. *Ayurveda* describes four basic factors, which are most essential for advocating the proper treatment, which is the main source of therapeutics. Among these, *Ausadha* (*Bhaishajya*) is graded at second rank. *Acharya Charak* has asserted that each substance on this earth is useful in combating illness when applied with planning and for a specific purpose.

Plant, animal, mineral are the basic source of medicine in *Ayurveda*, out of which plant has the commanding role in field of therapeutics. The word 'Drug' is rightly chosen for this; as it is derived from the French word '*Drouge*' meaning of which is dry herb.

Shalmali is a very important medicinal plant mentioned and used in almost all the Ayurvedic classics in different clinical conditions.

Here an attempt has been made to compile and put forward the complete knowledge on *shalmali* that is scattered in ancient ayurvedic texts.

Historical Background

Vedic Kala

Shalmali was known from the Vedic period. In *Rigveda*, *Shalmali* was described as one of the *Shaktis* of Vishnu. *Shalmali* is one of the seven dvipas or great divisions of the known continent. *Shalmali* tree is said to grow there. It is surrounded by the ghee or clarified water. It is also mentioned in the *Rigveda* that *Shalmali* is used to prepare a chariot during marriage rituals. Its fruit is considered as poisonous but the tree is described as best among the tree.

Samhita Kala

Charak Samhita:

Shalmali is described in *Charak Samhita* and widely used in various therapeutic purposes.

Shalmali is included in *Pureesh virajaneeya Mahakashaya* (Correctives of fecal pigment) in *Charak Samhita*.

Flowers of *Shalmali* is mentioned in *Annapan Vidhi Adhyaya* under the heading of *Saka varga*and said to be beneficial in *Raktapitta*. In addition to that it used as stool binder.

The gummy extraction of *Shalmali*, popularly known as *Mochrasa* posses' has multi – dimensional therapeutic value. Various references are found in this regard in the *Brihatraye Granthas*. For example, *Mochrasa* is included in *Sandhaniya Mahakashaya* (Union promoters). *Kashaya guna* present in it is responsible for unification of separate *dhatwavava* due to its contractibility.

Mochrasa is again included in *Purish Sangrahaneeya Mahakashaya* (Intestinal astringent), *Shonitasthapana Mahakashaya* (Haemostatics) and also in *Vedanasthapana Mahakashaya* (Anodynes). Apart from this *Shalmali* is included in *Kashayaskandha* in *Charak Samhita*.

Some important yog (composition) of Shalmali along with specific indications mentioned in the Charak Samhita are as follows :

Sl. No.	Parts used	Name of the formulation	Indication	Reference
1.	Both the *Mocharas* and bark of *Shalmali*	*Chandanadi taila*	*Dah* and *Jwar*	*Ch. Ci.* 3/258
2.	Flower of *Smhalali*	*Changeri Ghrita*	*Arsha, Atisara, Tridosha Raktasrava, Pravahika, Gudabhrangsa*	*Ch.Ci.* 14/236

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3.	*Mocharas* (Milk as anupan)	*Neelotpaladi Yog*	*Raktatisar*	*Ch.Ci.* 19/77
4.	*Mocharas*	*Urustambha nasak Yog*	*Urusthambha*	*Ch. Ci.* 27/29
5.	Bark of *Shalmali*	*Udumbaradi Taila*	*Yonivyapada Chikitsa*	*Ch.Ci.* 30/73-75
6..	*Mocharas*	*Pushyanug Churna*	*Yonidosha* and *Rajadosha Chikitsa*	*Ch. Ci.* 30/91

Apart from these *Shalmali* has got commendable result in the following diseases:

Juice prepared from *Shalmali* and other *Raktapitta nashak* leafy vegetables which has been mentioned in *Shakavarga* in the *Sutrasthan* 27th chapter of *Charak Samhita* is useful in *Raktapitta.*

Powder *Shalmali* flower along with *Khair, Priyunga* and *Kovidar* is indicated for *Raktapitta* and *Madhu* is used as *anupan* here.

If juice of *Shalmali* bark and *Gajar* (Carrot) is mixed with *Dahimalai* in proper way and used for the patient suffering from bleeding piles (*Raktarsha*) gives better result.

Flower of *Shalmali* and *Mochrasa* along with other ingredients are used in *Picchabasti*, which has the indication in *Pravahika*, *Gudabhransha*, *Raktatisara* and *Jwar*. *Mocharasa* is used in five different type of *Grahani nashak Yavagu* along with *Chavya*, *Dalchini* etc., which is used for the treatment of *Atisara, Grahani, Gulma, Arsha* and also in *Pleehavriddhi.*

Kalka made by the bark of *Shalmali* with equal quantity of *Balamool* and *Vatapatra* if used in *Vrana avapeedan*, it produces excellent result.

Shalmali churna is used in *Kritavedhan vidhi* (Indicated in *Kustha roga, Pandu roga, Pleehavriddhi, Shotharoga* and *Gulma roga*).

***Sushruta Samhita*:**

Shalmali is mentioned in the 46th chapter (*Annapanvidhiradhyaya*) under the heading of *Shakavarga* (group of vegetables). According to *Sushruta*, it is astringent, sweet and bitter in taste. It is useful in *Raktapitta*, pacify *Kapha*, increases *Vata* and are checking (*Grahi*) and light.

Shalmali is also included in the *Puspashakani* sub-group (Flowery Vegetables of the same chapter), where flower of *Shalmali* is said to be sweet(*Madhur*) in taste and *Vipak* is also *Madhur* and are useful in instrinsic haemorrhage.

Mocharasa is mentioned in *Sushruta Samhita* under the 38th chapter (*Dravyasangrahaniya Adhyaya*).

Shalmali (Flower and fruit) is included in *Mahasugandhinamak Agad* along with other dravya in *Kalpasthan* chapter 6th which has got beautiful fragrance.

Some prominent *yog* (composition) along with its indication as mentioned in *Sushruta Samhita* is as follows:

Sl. No.	**Parts used**	**Name of the *Yog***	**Indication**	**Reference**
1.	Tender leaf of *Shalmali* along with *Madhu* and *Mulethi*	*Seeta Kashay*	*Atisara*	*Su.U.* 40/98
2.	*Shalmali*	*Atisar Kapitthadi Yog*	*Atisara*	*Su.U.* 40/113
3.	Bark of *Shalmali*	*Priyadi Ksheer*	*Raktatisara*	*Su.U.* 40/119
4.	Flower of *Shalmali*	*Gayatradiyavaleha*	*Raktapitta*	*Su.U.* 45/34

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Apart from these *Shalmali* has tremendous therapeutic value in some specific diseases as mentioned in *Sushruta Samhita* as mentioned below:

Flower of *Shalmali* along with other *dravya* is indicated in treatment of wound.

In *Prameha chikitsa* specific *Arista*, *Ayaskritis*, *Lehas* and *Asavas* are prepared where *Shalmali* is one of the ingredient along with other *dravya*.

For manual expulsion of death foetus, special lubricant is used in which *Shalmali* is one of the main ingredients.

Shalmali, tender leaves of *Badari*, *Nagbala*, *Shlesmantak* and *Dhanvan* are boiled in milk and there after honey and blood is added. The prepared admix er is used as enema which is known as *Picchila vasti*.

Mocharasa is used in *Stambhak Yog* as mentioned for the treatment of *Atisara*. *Shalmali* is used in *Picchavasti* with careful precaution for the treatment of *Pravahika*.

***Astanga Hridaya*:**

Therapeutic uses of *Shalmali* is mentioned in *Astanga Hridaya* in Various pathological condition.

Uses of *Shalmali* in Obstetric medicine is found in *Astanga Hridaya* are mentioned below.

In the condition of *Mritagarbha* (foetal death), it is necessary to make genital tract slimy. It is advised to wash the genital tract with lukewarm water and then vagina should be filled with the paste prepared from Jeggery (molasses), fermented Yeast, Salt, Ghee and slimy material of *Shalmali* fruit and *Atasi*. Which is followed by the recitation of sacred hymns (mantra) for the expulsion of *Mritagarbha*.

If the impacted fetus does not come out in the above mentioned method, then dead fetus should be pulled out manually after taking permission from patient/guardian provided the fetus is suitable to be pulled out. In such condition paste of slimy material of Shalmali fruit is used as lubricating agent in this operation.

Two special food recipe is mentioned in *Astanga Hridaya* for the treatment of *Raktarsha* (Bleeding piles) as follows:

- **Powder of** *Lodhra*, *Tila, Mochras, Samanga, Candana* and *Utpal* is mixed with Goat's milk, then boiled it along with rice is taken orally.
- Powder of *Lodhra, Katvanga, Kutaja, Samanga, bark of Shalmali, Kesar, Yastyahva* and *Sevya* can be consumed along with rice water. It is specially mentioned that *Piccha Vasti* (Slimmy enama) prepared by *Shalmali* flower along with other ingredient like root of *Kusa, Kasa* and tender sprouts of *Nyagrodha*, *Udumbara* etc. which can cure dysentery, prolapse of rectum, heamorrhage (per rectum due to any cause) and fever.

Yavagu, prepared with tender leaves of *Kapitha, Phangi, Yuthika, Seluja, Dadima, Sana, Karpasi, Shalmali* cure *Pakvatisara* .

For the treatment of diarrhoea of *paittik* origin, cold infusion *Shalmali vrinta* mixed with honey is indicated.

Indication of *Piccha vasti* by *Shalmali* is also available in case of diarrhoea treatment.

Masura macerated with milk, mixed with *ghee* and honey or *Masura* fried de-husked and macerated with milk, or sharp thorn of *Shalmali* added with *Gur* or *Kolamajja* and all these made into paste with rabbit blood and mixed with honey ; *Kustha* kept inside the fruit of *Matulunga* for seven days added it with honey, *Muslijata* (root of *Shalmali*) macerated with goat's milk and mixed with honey, bones(ash of) of cow together with the root of *Musli* or with ghee or honey- paste of above mentioned *dravyas* cure *Lanchana* and *Nilika*.

Shalmali is one of the important ingredients in *Pushyanug Churna*, which is beneficial in various vaginal diseases as well as in menstrual disorders.

***Harita Samhita* :**

After *Brihatrayee, Shalmali* is mentioned in *Harita Samhita*. It is mentioned in the *Harita Samhita* that for the treatment of *Shukrakshaya* (Oligospermia), *Shalmali* along with *Vidarikanda* and *Madhu* is prescribed. Powder young root of *Shalmali*, which is popularly known as *Muslimool* is

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mentioned as one of the best aphrodisiac medicine.

***NIGHANTU* PERIOD**:

That was the platinum period for the development of the *dravya gu?a*. The era of Nigha?tu has provided the evidence of systematic & scientific understanding of the drug. In this period the dravya were explained with their synonyms, Rasa panchaka and their utility in different disease.

Dhanvantari Nighantu(11th Century AD)

Shalmali is included in *Amradi Varga* in *Dhanvanatari Nighantu*. Author gives some important synonyms of *Shalmali* on the basis of its morphological character as:

शाल्मकी रक्तपुष्पा तु कुक्कुटी चिरजीविका।
पिच्छिला चूलिनी मोचा कण्टकाढ्या सुपूरणा।।
(Dhan. Nig. Amradi varg 116)

As per *Dhanvantari Nighantu* due to *Sheet Virya* and *Guru* and *Snigdha* properties *Shalmali* increases *Shukra* and *Kapha*. Indication of root of young tree (*Shemal musli*) is mentioned for the treatment of *Shukra Daurbalya* (Oligospermia).

Sodhal Nighantu (12th Century AD)

Acharya Sodhal has mentioned the synonyms and *Guna-Karma* of *Shalmali*. *Sodhal Nighantu* also included *Shalmali* under the *Amradi Varga* and mentioned some new synonyms like *Tulini, Dhirghapadap* etc. as follows:-

शाल्मल्यां रक्तपुष्पा तु स्थिरजीकि।
पिच्छला तूलिनी मोचा सुपूरिणी।
बहुवींया तूलफला निःसारा दीर्घपादपा,
(Sodhal Nig. Amradi verga 612)

Shalmali is described as *Grahi, Snigdha, Sheeta* and *Vrishya*. It is used in *Atisara*. *Mochras* (Gummy Exudation) cures *Raktapitta* and *Kantak* (Thorns) promotes *Mukhakanti* (Face complexion).

Madanpal Nighantu (14th Century)

Shalmali is mentioned under *Vatadi Varga* in *Madanpal Nighantu*. For the first time two variety of *Shalmali* is mentioned depending upon the colour of flower as *Rakta Puspa* and *Sweta puspa*, which is also known as *Kut Shalmali*. In addition to that, description of Guna and *Karma* of *Kut Shalmali* is specially mentioned in this *Nighantu*. Due to its *Katu* and *Tikta* ras as well as *Vat- Kaph samak guna*, *Kut shalmali* is indicated in *Shukrameha* (Spermaturia), *Shukrakshyaya* (Oligospermia).

Kaideva Nighantu (15th Century)

Shalmali is mentioned under *Aushadhi Varga* in *Kaideva Nighantu*. It is described as Aphrodisiac as well as rejuvenator in *Kaidev Nighantu*.

शाल्मकीः शीतला स्वाद्वी रसे पाके रसायनी।
श्लेष्मला बृहणी वृष्या स्निग्धा पित्तास्त्रनाशनी
(Kaidev Nig. Aosdha varg 911)

Apart from this *Mocharasa* is also described as *Shukrabardhak* along with other prominent indication like in *Atisara*, *Pravahika* etc.

Bhavaprakash Nighantu (16th Century)

Shalmali is included under *Vatadi Varga* in *Bhavaprakash Nighantu*. It is mentioned as one of the most beautiful tree because of its well-arranged colorful flowers and so named *Shalmali*.

मेचास्त्रावो हिमो ग्राही स्निग्धो वृष्यः कषायकः।
प्रवाहिकाऽतिसारामकफपित्तास्त्रदाहनुत्।।
(Bha. Nig. Vatadi Varg 57)

As per this *Samhita*, *Mocharasa* is of *Kashaya rasayukta*, *Snigdha* and *Grahi*, so it acts as *Vrishya* as well as effective against *Pravahika*, *Atisara* and cures *Rakta-vikar*.

Description of *Kuta-Shalmali* is also found in *Bhavaprakash Nighantu*.

Raj Nighantu(17th Century)

Considering the importance of *Shalmali*, it is included as the prime drug (*Pramukh dravya*) under the *Shalmalyadi Varga* in this *nighantu*.

शाल्मली पिच्छलो वृष्यो बल्यो मधुरशीतलः।
कषायश्च लघुः स्निग्धः शुक्रश्लेष्मविबद्धनः।।
(Raj Nig. Salmalyadi varg)

Shalmali is described as rejuvenator as well as aphrodisiac in *Raj Nighantu*.

Shaligram Nighantu (20th Century)

In *Shaligram Nighantu*, *Shalmali* is

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described under *Phalavarga*.

शाल्मलीमधुरावृष्याबल्याचतुवरामता ।
शीतलापिच्छिलालध्वीस्निज्धास्वाद्वीरसाया।।
शक्र लाश्लेष्मलाचैवधातुवृद्धिकरीमता,
(Shaligram Nig. Phal verg)

Quoting the reference from *Nighantu Ratnakar*, *Shaligram Nighantu* mentioned *Shalmali* as *Shukral*, *Shlesmal* and it promotes all the *Dhatus* because of its described properties.

Nighantu Adarsh

Shalmali is mentioned in *Adarsh Nighantu* under the *Shalmalyadi Varga*. *Bapalalji* compiled all the therapeutic index of *Shalmali* as mentioned in Various *Samhitas* and earlier *Nighantus*. Almost all the synonyms along with its meaning is elaborately mentioned in this *Nighantu*.

Priya Nighantu

Shalmali is mentioned in *Priya Nighantu* under *Haritakyadi Varga*.

तरुणं शाल्मलीमुलं स्निग्धं वृष्यं रसायनम्।
शीतलं मधुरं तेन बृद्धोऽपि तरुणायते।
(Priya Nig. Haritkyadi varg 158)

Here young root of *Shalmali* is mentioned as very effective *Vrishya* as well as *Rasayana*, intake of which old age become Youth.

In addition to the above mentioned classics, *Bhaishjya Ratnavali* an well established *Ayurveda* formulatory described juicy extraction of root bark of the old *Shalmali* plant along with sugar for the treatment of oligospermia. A special composition of *Semalmoosli*, *Sweta-moosli and Misrichurna* along with *Go-ghrit* and *Go-dugdha* can increase the sexual vigour as that of Sparrow.

CLASSIFICATION:

Sl. No.	Name of the Classic	*Mahakashaya/ Varga/ Gana*
1.	*Charak Samhita*	*Pureesavirajaniya, Sonitasthapana, Vedanasthapana & Kashaya Skandha*
2.	*Sushruta Samhita*	*Shakavarga, Priyangvadi Gana (Mochrasa)*
3.	*Astanga Hridaya*	•
4.	*Dhanvantari Nighantu*	*Amradi Varga*
5.	*Sodhal Nighantu*	*Amradi Varga*
6.	*Madanpal Nighantu*	*Vatadi Varga*
7.	*Kaideva Nighantu*	*Ausadhi Varga*
8.	*Bhavaprakash Nighantu*	*Vatadi Varga*
9.	*Raj Nighantu*	*Shalmalyadi Varga*
10.	*Shaligram Nighantu*	*PhalaVarga*
11.	*Nighantu Adarsha*	*Shalmalyadi Varga*
12.	*Priya Nighantu*	*Harityakadi Varga*

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Synonyms of *Shalmali* mentioned in different *Nighantus*:

S.No.	Synonyms	Dh.N.	S.N.	M.N.	K.N.	Bh.N.	R.N.	Sh.N.	N.A.	P.N.
1.	*Shalmali*	-	+	+	+	+	+	+	+	+
2.	*Chirajeevi*	-	-	-	-	-	+	-	-	+
3.	*Picchila*	+	+	+	+	+	+	-	+	+
4.	*Raktapuspak*	-	-	+	+	-	+	-	-	+
5.	*Kukkuti*	+	-	+	-	-	+	-	-	-
6.	*Tulabrikshya*	-	+	-	+	-	+	-	-	-
7.	*Mocha*	+	+	+	+	+	-	-	+	-
8.	*Kantakdrum*	-	-	-	-	-	+	-	-	+
9.	*Raktaphal*	+	-	-	+	-	+	-	-	+
10.	*Ramyapuspa*	-	-	-	+	-	+	+	-	-
11.	*Bahuvirya*	+	+	-	-	-	+	-	-	-
12.	*Yamdrum*	+	+	-	-	-	+	-	-	+
13.	*Deerghadrum*	-	-	-	+	-	+	-	-	+
14.	*Deerghayu*	-	+	-	-	-	+	-	-	+
15.	*Kurkuti*	-	-	-	+	-	-	-	-	-
16.	*Sthirajeevika*	-	-	-	+	-	+	-	-	-
17.	*Sthulaphala*	-	-	+	+	-	-	+	-	-
18.	*Kantakakshya*	-	+	-	+	-	+	-	-	-
19.	*Supurani*	+	-	-	+	-	-	-	-	-
20.	*Mandrum*	-	-	-	+	-	-	-	-	-
21.	*Tulini*	-	-	-	+	+	+	+	+	-
22.	*Raktapuspa*	+	-	-	+	+	+	-	-	-
23.	*Chirajeevika*	+	+	-	-	-	-	-	-	-
24.	*Chulini*	+	-	-	+	-	-	+	-	-
25.	*Kantakadhya*	+	-	+	+	-	-	-	-	-
26.	*Purani*	-	-	-	-	+	-	-	+	-
27.	*Sthirayu*	-	-	-	-	+	-	-	+	-

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INTERPRETATION OF SOME IMPORTANT SYNONYMS:

●	*Shalmali*		
●	*Rakta puspa*	:	Having beautiful red flowers.
●	*Kukkuti*		
●	*Bahuvirya*	:	An efficacious drug used in many disorders.
●	*Mandrum*	:	Tall tree.
●	*Chirajeevika*	:	Long lived tree.
●	*Purani*		
●	*Kantakaddhya*	:	Thorny tree.
●	*Mocha*		
●	*Picchila*	:	Releases slimy juice & exudation
●	*Paorani*		
●	*Tulini*	:	Cotton yielding tree.
●	*Mocha*	:	*Mocha* means *Kela* in Hindi. Fruits of *Shalmali* looks like banana.

TYPES OF *SHALMALI*:

Acharya Bhavamishra mentioned *Shalmali* in *Vatadivarga* as of two types-

- *Shalmali* - Salmalia malabarica Schott & Engl or Bombax malabarica Dc. or Bombax ceiba Linn.
- *Kuta Shalmali* - Eriodendron anfructuosum D.C. or Ceiba Pentandra Linn

Another variety of *Shalmali* is available in the costal part of South India & Nicobar Island and botanical source of which is Salmalia Insignis (wall) Scott & End.

***Mocharasa* :** This is gummy exudation from the bark of *Shalmali*, Which occurred from natural wounds caused probably by decay or by insects or as a result of some functional diseases. The gum is not exuded from artificially made wounds on healthy bark. It occurs in light brown nodular, hallow tears, these tears turn deep brown and latter become opaque and dark. Collection time of *Mocharasa* is from the month of November to June.

Semal musli : *Semal musli* is the root of 1-2 years aged *Shalmali* tree used in medications. It is considered as one of the best *Vajeekaran* drugs in ancient *Ayurveda* classics.

Pharmacodynamic properties of Shalmali according to different ancient classics:

Sl. No.	Name of the book	*Rasa*	*Guna*	*Virya*	*Vipak*	Action on *doshas*
1	Charak Samhita (Ch.Su.27/99, 104)	Madhur, Kashaya	Guru, Rukshya	Sheeta		Mitigates Pitta & Rakta
2	Sushruta Samhita	Kashaya, Madhur & Tikta	Laghu	Sheeta	Madhur	Mitigates Pitta & Rakta, Pacifies Kapha, Slightly increases Vata

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3	Astanga Samgraha (mochrasa)	Madhur & Kashaya	Guru	Sheeta	Madhur	Mitigates Rakta & Pitta, Increases Kapha
4	Madhava Nidan	Madhur	Picchila	Sheeta	Madhur	Pacifies Rakta & Pitta
5	Dhanvantari Nighantu	Kashaya	Snigdha	Sheeta	Madhur	Aggravates Kapha
6	Kaidev Nighantu	Madhur, Kashaya	Snigdha	Sheeta	Madhur	Supresses Pitta & Rakta
7	Bhavaprakash Nighantu	Madhur, Kashaya	Guru	Sheeta	Madhur	Increases Kapha & Suppresses Pitta, Vata,Rakta
	Flowers	Madhur, Tikta, Kashaya	Grahi, Ruksha, Guru	Sheeta	Madhur	Increases Vata, Suppresses Rakta, Pitta, & Kapha
8	Raj Nighantu	Madhur, Laghu,	Kashaya Snigdha, Picchila	Sheeta		Aggravates Kapha
	Flower	Kashaya	Grahi			Pacifies Kapha & pitta
	Mocharasa	Kashaya	Grahi	Sheeta		Pacifies Vata & Increases Kapha
9	Priya Nighantu	Madhur, Kashaya	Stambh-an	Sheeta	Madhur	
10	Dravya Guna Vigyan (P.V. Sharma)	Madhur	Laghu	Sheeta	Madhur	Pacifies Vata & Pitta
	Mocharasa	Kashaya	Picchila, Snigdha	Katu		Pacifies Kapha & Pitta

Ras Panchak :

- *Ras:Madhur, (Mocharasa:Kashaya)*
- *Guna:Laghu, Snigdha & Picchila*
- *Virya : Sheeta*
- *Vipak : Madhur (Mocharasa : Katu)*

Action on *Dhatu/Upadhatu*

Due to *Madhura Rasa, Laghu, Snigdha and Picchila Guna* it directly nourishes the body and gradually increasing *Dhatu* and *updhatu*. Various *Nighantus* also mentioned it as *Rasayana* and *Brimhana*. As almost all qualities of *Shukra dhatu* is present here so intake of *Shalmali* increases Shukra dhatu in terms of quantity following basic principle "*Samanyam Vriddhikaranam*"

Effect on *Mala*

As it has *Madhura rasa, snigdha guna, madhura vipaka and sheeta virya* it will increase *malas*.

Summarized action and properties :

Dosakarma : Vatapittasamak

Kaphapittasamak (*mocharasa*,flowers and Fruits)

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Karma : Purisavirajaniya

Stambhana (mocharasa-exudate)

Raktastambhan (flower & exudate)

Mutral (unripe fruit)

Vrishya (root)

Sukrastambhan (*mocharasa*)

Balya-brimhana (fruits)

Sothahar –dahaprasamana (Bark)

Lekhana-varnya (thorns)

Chemistry:

All parts of the plant gave betasitosterol and its glucosides; seeds, bark and root bark, lupeol; flowers, hentriacontane, hentriacontanol; root bark, in addition, gave -hydroxycadalene. The seed oil yields arachidic, linoleic, myristic, oleic and palmitic acids; seeds contain carotenes, n-hexacosanol, ethylgallate and tocopherols; the gum contains gallic and tannic acids, yields L-arbinose, D-galactose, D-galacturonic acid and D-galactopyranose. Younger roots contain more sugars (arabinose and galactose and peptic substances than the older ones. They contain mucilage, starch, mineralmatter, tannins and non-tannins, along with other constituents. [Indian Medicinal Plants An Illustrated Dictionary]

Parts used : Roots, leaves, gum, bark, flowers.

Studies done :

- **Antiangiogenic**: Study of methanol extract of stem barks of Bombax ceiba exhibited significant antiangiogenic activity on in-vitro tube formation on human umbilical venous endothelial cells.

- **Hypotensive/ Shamimicin**: Study yielded shamimicin from the stem bark of Bombax ceiba, along with lupeol, which was found to possess potent hypotensive activity.

- **Antioxidant**: 1. Study of methanol extract of Bombax ceiba showed antioxidant activity in assays – DPPH, lipid peroxidation and myeloperoxidase activity.

2. Antioxidant Effect (Bark): Study evaluated the antioxidant potential of aqueous and ethanolic extracts of bark of B. ceiba in antioxidant screening models such as DPPH, ABTS, NO and superoxide radical scavenging activity, lipid peroxidation inhibition, ferric oxide reduction, and total antioxidant capacity. The extracts showed potent antioxidant activity in all models studied.

- **Blood Glucose Reduction**:

1. In Sprague-Dawley rats, a dose of 500 mg/kg of Shamimin, a C-flavonol glucoside from B Ceiba, produced a significant reduction of glycemia.

2. In a comparative study of herbal plants, chloroform and alcoholic extract of bark of B. ceiba showed significant reduction of blood glucose level in alloxan-induced diabetic Wistar rats compared to control and glibenclamide.

- **Free Radical Scavenging**: Phytochemical screening showed high amount of phenolics (30.95%) and tannins (15.45%) and very good dose-dependent DPPH radical scavenging activity. The strong in vitro and in vivo antioxidant potential of the root powder validates its use in diabetes mellitus and heart disease as described in traditional medicine.

- **Hepatoprotective / INH and Rifampin**: Study concluded the methanolic extract of BC did not completely revert the hepatic injury caused by INH and Rifampin, but it could limit their effects to the extent of necrosis.The reason for the hepatoprotective effect may be due to the flavonoids and sesquiterpenoids with its free-radical scavenging.

- **Anabolic Effect**: Root has been traditionally used for debility and impotence. In this case study of a patient with involuntary and idiopathic weight loss treated with CB root powder with milk, weight lost was regained, with normal body mass, a 147% rise in fibrinolytic activity and marked improvement in total antioxidant status. Results document the anabolic potential of BC root powder. The effect may be possibly explained by the presence of high amounts of steroids in the root, with an activity like 5-a-reductase, an enzyme catalyzing the conversion of testosterone to 5-a-dihydrotestosterone (DHT), which might provide the androgenic effect.

- **Antimicrobial**: Study of methanol extract

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showed activity against multi-drug resistant Salmonella typhi

- **Antimicrobial / Bark:** Study of various extracts of BC bark for antibacterial and antifungal activity showed effective activity against all tested pathogens: S. aureus, S. pyogenes, K. pneumonia, E. coli, K. aerogenes, N. gonorrhea and Candida albicans. An aqueous extract showed a higher zone of inhibition.

- **Anti-Inflammatory Effect / Fruits:** Study evaluated the in-vitro anti-inflammatory activity of crude extracts of Bombax ceiba bark by HRBC membrane stabilization method. Results showed significant anti-inflammatory activity, the ethanol extract >aqueous extract.

Referances-

1. Agnivesh, Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014,page no.61.
2. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014,page no.138
3. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014,page no.35.
4. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014,page no.159.
5. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014,page no.30.
6. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014, page no.285
7. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014,page no.430.
8. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014,page no.434.
9. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014, page no.509
10. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014, page no.510
11. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014, page no.506.
12. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014, page no.594
13. Agnivesh,Charak Samhita, Revised By Charak and Dridhabala with the Ayurveda dipika commentary of Chakrapani data, edited by Vaidhya Jadavaji Trikamji acharya, Chaukhambha Publications, Edition 2014, page no.445.
14. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of Shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya, published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no.234
15. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya, published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no581.
16. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya, published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no.66.
17. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya,

PDF Created with deskPDF PDF Writer - Trial :: http://www.docudesk.com

published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no.453.

18. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya, published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no.462.

19. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya, published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no.546.

20. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya, published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no.701.

21. Sushruta, Sushruta samhita, with the Nibandha samgraha commentary of shri Dalhanacharya edited by Vaidhya Jadavji Trikamji acharya, published by Chaukhamba Sanskrit Sansthan, Varanasi, Edition 2014, page no. 706.

22. Vagbhatta, Ashtangahridaya, with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 30.

23. Vagbhatta, Ashtangahridaya,with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 30.

24. Vagbhatta, Ashtangahridaya, with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi ,edition 2014, page no. 651.

25. Vagbhatta, Ashtangahridaya,with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no.651.

26. Vagbhatta, Ashtangahridaya, with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 652.

27. Vagbhatta, Ashtangahridaya,with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 657.

28. Vagbhatta, Ashtangahridaya,with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 660.

29. Vagbhatta, Ashtangahridaya,with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 661.

30. Vagbhatta, Ashtangahridaya, with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 892.

31. Vagbhatta, Ashtangahridaya, with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by pt. Hari Sadashiva Shastri Paradakar, published by Chaukhambha Surbharti Prakashan, Varanasi, edition 2014, page no. 900.

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Literary Review

A Concept of *Mala* In Ayurvedic System Of Medicine -A Short Review

*Vaidya. Patil Arati S., **Vd.Dnyaneshwar.K.Jadhav

Abserct:

The simple English meaning of the word Mala is 'Waste Products' of the body. However the Ayurvedic meaning is much deeper to understand the real function of *mala*.

Though these are called Waste Products, their role in body's normal functioning is unquestionable and very important. It took modern medical science long time to realize but now every laboratory does Stool and Urine examination for diagnosis. Ayurved knew it from thousands of years. Ayurved has explained three *Malas* (waste products) which are excreted in visible form they are *Purish* (Stool), *Mutra* (Urine) and *Sweda* (Sweat). In addition to these *Malas Ayurved* has explained seven *Malas* of seven *Dhatus*. This is the unique concept of *Ayurvedic* system of medicine which gives a different dimension to diagnosis and treatment of diseases.

Malas can have adverse effects on body functioning, if not excreted properly and remain in the body for long time. There are three main *Malas* - *Purish* (Stool), *Mutra* (Urine), *Sweda* (Sweat) have big influence on physiology of the body.

Key Words: *Mala*, Ayurvedic View, Waste Products Of Body, Its Importance.

सारांश-

मल का सामान्य अंग्रेजी अर्थ शरीर का अपशिष्ट पदार्थ है। आयुर्वेदीय अर्थों को गहन रूप से समझने पर ही मल का वास्तविक कार्य समझा जा सकता है।

यद्यपि ये अपशिष्ट पदार्थ कहलाते है, किन्तु शरीर में इनका सामान्य कार्य आवश्यक एवं शंका रहित है। आधुनिक चिकित्सा विज्ञान ने इसे जानने में अधिक समय लिया लेकिन आज रोग निदान हेतु प्रत्येक प्रयोगशाला में मल एवं मूत्र का परीक्षण किया जाता है। जिसे आयुर्वेद में हजारों वर्षों पूर्व जाना जा चुका है। आयुर्वेद में मुख्यत: 3 मलों का वर्णन है जो कि पुरीष (मल), मूत्र एवं स्वेद के रूप में उत्सर्जित होते है। इन मल के अतिरिक्त आयुर्वेद में धातुओं के मल वर्णित है। यह आयुर्वेद का सार्वभौमिक सिद्धान्त है जोकि रोग निदान के साथ उसकी चिकित्सा में विभिन्न दिशायें दिखाता है। यदि मल का उत्सर्जन पूर्ण रूप से नहीं होता है और वह लम्बे समय तक शरीर में रहे तो वह शरीर के कार्यों पर विपरीत प्रभाव डालने लगता है। ये मुख्यत: 3 मल-पुरीष (मल), मूत्र, स्वेद शरीर की क्रियाओं को प्रभावित करते है।

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Literary Review

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Vaidya. Patil Arati S., Vd. Dnyaneshwar. K. Jadhav.

Introduction

Mala is an important topic of *Ayurvedic Sharira Kirya* (human physiology). Mala are the waste substances that are excreted out of the human-body. [1] Mala represents the by-products resulting from the physiological and metabolic activities going inside the human- body. Elimination of the *malas* is necessary for maintaininance of better health.

In Ayurvedic system of medicine, *purish* (stool), *Mutra* (urine) and *sweda* (sweat) are considered to be major class of *Malas*. [2] *Malas* are better known as dosh- pollutants, as they have an influential effect on the *vikriti*-pathology caused which is caused by imbalanced three biological humors. Precisely, *malas* get the name due to its property of malinikaran (toxification). *Malas* have equal import ants as three *doshas* & seven *dhatus* in the human body.

The three biological humors must remain in balanced equilibrium in order to ensure regular and normal evacuation.

Any imbalance between these the three *Doshas* can lead disease. *Ama* production is another factor, which can result in diseases like *Amvata* (Rheumatoid arthritis), Sandhigata vata (osteoarthritis), *kativata* (low-back pain), *tamak svasa* (Asthma), and *pakvasjayagata.In* Ayurveda it is clearly mentioned that *Ama* can produced due to *malas*.

Mala as Vital Factors

Due to metabolic activities being carried out by the human-body, by-products of the ingested food and waste products are formed. If the *malas* are not formed at regular basis, besides the beneficial products, which feed nutrients to the *dhatu*, then the anabolic and catabolic (metabolic) processes are ultimately and its results in the formation of malforming *dhatu*-tissues. Hence, appropriate segregation of essence of ingested food-stuffs and *malas*-waste product plus proper and their regular digestion for maintenance of the health. *Malas* represents the waste products of the human body and their proper excretion from the human-body is vital things.

Three Forms Of *Mala*

1. *Purish* (Stool or human feces) –

Stool or human feces occur as a result of a process of defecation. Stools are the waste product of the human gastro- intestinal system. Stool can vary in appearance from one person to another person, which depends upon the *Koshtha* (human gastro-intestinal system). Normal stools are in semisolid state, with a mucus covering. Any fallacy caused in the normal process of excretion of stools (defecation) can result in flatulence, constipation, diarrhea and colicky pain.

2. *Mutra* (Urine) -

Urine is a liquid waste- product of the human-body, secreted out by *vrrka* (the kidneys) through a process of glomerular filtration from the connective tissue, the blood. Urethra excretes urine from the urinary system of the human body. Any fallacy caused in the normal process of excretion of urine results lead in anuria, oliguria, urinary tract infections, renal stones, colicky pain and renal failure.

3. *Sweda* (Sweat) -

In the Ayurvedic system of medicine and physiology, perspiration or sweating is known as *Sweda*. It is basically a fluid that comes out of the skin pores and primarily consists of water as well as various dissolved solids.

Pariman (Quantity) Of *Malas* :

There is no fix *parimana* of the *malas*. because every *sharir* is different.[3]

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Malakshaya* And *Malavrridhi

Decrease or increase in the quantity of the waste products (stools, urine or sweat) produced symptoms on body. Its detail *lakshanas* given by *sushruta* and *vagbhata*. The *doshas* (humors), *dhatu* (tissue) and *malas* (waste-products) assist support the vital functions of the human-body. In Ayurveda, *malaksahya* is a significant feature in the pathogenesis of *Rajayashama*. According to Charka, *malaksahya* should be dealt effectively in better prognosis of *Rajayshama*. *Malakshay* is more harmful than *malavrudhi*. [4]

Purish kashay [5]- *Hrutpida, pashwapida, sasbhabda vayorudhvagamana, kukshi sanchrana.*

Mutra kshaya- *Bastitoda*[6], alpamutra[6], *Mutravivarnata*[7], *mutrakruchata*[7]

Sweda kasya[8]- *Stabdharomkupata, twakshosha, sparshavaigunya, swedanasha.*

Purishvrushi- *Aatop*[9], *kukshishula*[9], *Gauvrav*[10], *Adhamana*[10]

Mutra vruddhi – *Muhumuhu pravrutti*[11], *bastitoda*[11], *aadhmnam*[11], *Kruteapiakrute sadnyata*[12]

Swedavrudhi –*Drogndha, kandu.* [13]

Ativrudha Mala Chikitsa[14] **:**

Sanshodhana, kshapna, kashyaviruddha kriya.

Mala Kshya Chikitsa[15] **:**

Mala, mutra - Swayonivardhna drvaya.

Sweda – Abhyaga, Swedana.

Karma Of Malas :

- **Purisha Karma** –*Upastambha, vayavgnidhanrna, Avasthambha*[16]
- ***Mutra Karma*** –*Bastipurna, vikeldna.*
- ***Sweda Karaa*** –*Keldatwaka, sokumarya.* [17]

Concept of *Dhatu Mala's* [18]**:**

Each *Dhatu* produces *Upadhatu* and Mala i.e waste product after action of Agni on them. *Dhatu Malas* are the substances visible outside the body in various forms such as Nails which is Mala of *Asthi* Dhatu.

Knowledge about these *Malas* is has importance for precise diagnosis and deciding on the appropriate line of treatment. For example Deformity of nails denotes disorder related to *Asthi Dhatu.*

***Malas* Of Each *Dhatu* :**

Malas	Malas Of Each Dhatu[19]Chrk	Mala[20]Susu
Rasa	Kapha	Kapha
Rakta	Pitta (Bile)	Pitta (Bile)
Mamsa	Khamala (Wax of ear)	**Karna-mukha-nasikadi mala**
Meda	Sticky substances in nose, on teeth, arm pit and sexual parts	Sticky substances in nose, on teeth, arm pit and sexual parts
Asthi	Nails	**Nakha-kehs-shamshru-rom**
Majja	Sticky substance of eye	**Twaka-netra mala**
Shukra	Oilyness and acni on the face	-

Importance Of Malas : Even *malas* are weast product of the body. It's have own importance. *Rajayashma* –the king of the disease, in such disease *bala* of patients is depend on *purish* [21].it indicated that even *malas* are weast product still its play major role in physiology of the body which enhance all systems of body.

Conclusion : According to Ayurveda, the only balanced condition of *doshas*, *dhatus* and *malas* is Aarogya (good health or disease free condition) and their imbalance causes ill health or disease [22].

Refrences :

1. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita, maharshi susruta. Sutra-stan; Doshdhatumalakshayvrudhiadhyaya: Chapter 15.verse no.3. Varanasi : Chukhambha prakashan, 2010; page no.114.

PDF Created with deskPDF PDF Writer - Trial :: http://www.docudesk.com

2. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat, vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Ayushkamiya-Adhya ; chapter 1. verse no.13 ; pune : profesent publishing house,2009 ; page no.3.

3. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita, maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.42. Varanasi : Chukhambha prakashan, 2010 ; page no.129.

4. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat,vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Doshadividnyniya-Adhya ; chapter 11. verse no.25 ; pune : profesent publishing house,2009 ; page no.61.

5. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.15. Varanasi : Chukhambha prakashan, 2010 ; page no.120.

6. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.15. Varanasi : Chukhambha prakashan, 2010 ; page no.120.

7. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat,vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Doshadividnyniya-Adhya ; chapter 11. verse no.12 ; pune : profesent publishing house,2009 ; page no.60.

8. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.15. Varanasi : Chukhambha prakashan, 2010 ; page no.120.

9. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.18. Varanasi : Chukhambha prakashan, 2010 ; page no.122.

10. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat, vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Doshadividnyniya-Adhya; chapter 11. verse no.12; pune: profesent publishing house, 2009; page no.60.

11. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita, maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.18. Varanasi: Chukhambha prakashan, 2010 ; page no.122.

12. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat, vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Doshadividnyniya-Adhya; chapter 11. verse no.13 ; pune : profesent publishing house,2009 ; page no.60.

13. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat, vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Doshadividnyniya-Adhya; chapter 11. verse no.13 ; pune : profesent publishing house,2009 ; page no.60.

14. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.21. Varanasi: Chukhambha prakashan, 2010; page no.123.

15. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.16. Varanasi : Chukhambha prakashan, 2010 ; page no.120.

16. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat, vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Doshadividnyniya-Adhya; chapter 11. verse no.4; pune: profesent publishing house, 2009; page no.59.

17. Dr.Ganesh Krushana garde, (12th Ed.), Sartha vagbhat, vagbhtakryta ashtangrudhaya and its Marathi translation, Sutra-stan; Doshadividnyniya-Adhya ; chapter 11. verse no.4 ; pune : profesent publishing house, 2009; page no.59.

18. Dr.Y.G.Joshi, Charak Samhita of maharshi charak, Chukhambha prakashan, Varanasi, 2010, Chikitsastan, Grahani-adhya, chapter 15,verse no.18, page no.348.

19. Dr.Y.G.Joshi, Charak Samhita of maharshi charak, Chukhambha prakashan, Varanasi, 2010, Chikitsastan, Grahani-adhya, chapter 15,verse no.19, page no.348.

20. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 46.verse no.60. Varanasi : Chukhambha prakashan, 2010 ; page no.452.

21. Dr.Y.G.Joshi, Charak Samhita of maharshi charak, Chukhambha prakashan, Varanasi, 2010, Chikitsastan, chapter 8,verse no.42, page no.213.

22. Dr.Anant Ram Sharma, edited with 'susrutavimarsini' Hindi commentary. (2nd Ed.). Susruta samhita,maharshi susruta. Sutra-stan; Rasavisheshyavidnyaniya-adhya: Chapter 15.verse no.47. Varanasi : Chukhambha prakashan, 2010 ; page no.47.

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Case Report

A case study on Ayurvedic management of Hypothyroidism

*Dr.Amarnath Shukla,**Dr.Ashok Kumar Sinha, ***Dr.Utkarsha Nehra

Abstract-

Context: Hypothyroidism is a clinical syndrome resulting from a deficiency of thyroid hormones, which in turn results in a generalized slowing down of metabolic processes. There is no direct mention of the thyroid gland in Ayurveda, but Acharya charaka states that "'Vikaranamakusalo na jihriyat kadachana Nahi sarva vikaranam namoto asti dhuvasthitih" keeping this in mind because Increasing incidence of the disease has made it necessary to incorporate some more details of the subject in ayurvedic studies. The analysis of their signs and symptoms shows that most of the signs and symptoms attributed to hypothyroidism belong to Kapha may be produced due to Dhatvagnimandya and Rasa Dhatu. **Objective:** The main purpose of this study is to To find out a safe & effective remedy for hypothyroidism. **Case :** A 30 year-old male presented with complaints of progressive weight gain from last 6 months, fatigue, postural dizziness, loss of memory, slow speech, deepening of her voice, dry skin, constipation, and cold intolerance, has been presented here. **Intervention:** Herbal compound is formulated on the basis of Bhaisajya Ratnavali where Kanchnar Gutika has been specifically prescribed for Galganda treatment. There is some modification in the Yoga , Chitraka, Devdaru and Jalkumbhi Kshar were added which are mentioned in the treatment of Kaphaja Galganda by different Acharyas. **Results:** There was not only reduction in TSH level to normal but also marked relief was noted in associated symptoms when treated with Ayurvedic principles. **Conclusions:** From the classical text description we can say that Galaganda is a condition related to thyroid gland. But hypothyroidism is not just a local disease; it has many symptoms related to many systems. So it is better not to restrict hypothyroidism with Galaganda as mentioned in the classics.

Keywords: Hypothyroidism, *Galganda*, *Dhatwagnimadya*

सारांश–

हाइपोथायरायडिज्म रोग थायराइड हार्मोन थायरोक्सिन की कमी से उत्पन्न एक नैदानिक जटिल रोग है, जो एक चयापचय की प्रक्रिया के धीमा होने के कारण होता है। यहाँ आयुर्वेद में थायरॉयड ग्रंथि के रोगो का कोई सीधा उल्लेख नहीं है, लेकिन आचार्य चरक ने नए रोगो के लिए सूत्र रुप में उपदेश किया है कि 'विकाराणाम कुशलो न जिहियात कदाचन: नाहि सर्व विकराणाम नामतो अस्ति ध्रुवस्थिति इसी सूत्र को ध्यान में रखकर आयुर्वेदिक अध्ययन में इस हाइपोथायरायडिज्म के लक्षणों के विश्लेषण से रस धातु विकृति एवं कफ दोष बाहुल्य होने का पता चलता है। **उद्देश्य:** इस अध्ययन का मुख्य उद्देश्य हाइपोथायरायडिज्म के लिए एक सुरक्षित और कारगर उपाय खोजने के लिए है। **प्रकरण:** पिछले 6 महीनों से थकान, असहनीय चक्कर आना, याददाश्त में कमी, धीमी गति से भाषण, आवाज में कर्कशता बनाने, शुष्क त्वचा, कब्ज और ठंड से असहिष्णुता , निरन्तर वजन बढ़ने की शिकायतों के साथ प्रस्तुत एक 30 वर्षीय पुरुष, यहां प्रस्तुत किया गया है। **औषधि :** कांचनार गुटिका जो विशेष रुप से गलगण्ड के चिकित्सा के लिए भैषज्य रत्नावली में वर्णित किया गया है जहां के आधार पर एक विशेष योग तैयार किया गया है इसमें कुछ संशोधन कर चित्रक, देवदारु और जलकुम्भी क्षार जोड़ा गया है। **परिणाम:** T-3 एवं T-4 सामान्य करने के साथ TSH स्तर में भी कमी देखी गई, आयुर्वेदिक सिद्धांतों के साथ इलाज करने पर संबंधित लक्षण में भी लाभ प्रदर्शित हुआ। **निष्कर्ष:** शास्त्रीय वर्णन से यह स्पष्ट है कि गलगण्ड थायरॉयड ग्रंथि से संबंधित है लेकिन हाइपोथायरायडिज्म सिर्फ एक स्थानीय बीमारी नहीं है यह कई स्रोतसों से सम्बंधित है।

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Case Report

A case study on Ayurvedic management of Hypothyroidism

Dr. Amarnath Shukla, Dr. Ashok Kumar Sinha, Dr. Utkarsha Nehra

Introduction:

Hypothyroidism is a common endocrinal disorder around the world. Its incidence is increasing day by day and its name became a common on the tongue of society. It effects the body physiology as well as psychology. Modern medical science treats hypothyroidism by the hormone pills to make normal level of hormones in blood. But along with this therapy the patients may suffer from many symptoms like puffiness of face, oedema, body ache, weight gain, anorexia etc and also with psychological symptoms like depressed mood, forgetfulness, lethargy etc. [1] In Ayurveda, hypothyroidism is not as such mentioned but on basis of its clinical presentation we can co-relate it with *Kaphaja Galganda* for local symptom related with thyroid gland and *Kaphaja - Rasaja Vikara* for its general symptoms. Sushruta and Vagbhata both have prescribed Vamana Karma in the treatment of Kaphaja Galganda [2]. Kapha Dosha plays a major role in the pathogenesis of Hypothyroidism.

Hypothyroidism may be classified in a number of ways. It may be primary, (thyroid Failure) secondary (to pituitary TSH deficit), or tertiary (due to hypothalamic deficiency of TRH); or there may be and abnormality of the thyroxine (T4) receptor in the cell, inducing Peripheral resistance to the action of thyroid hormones.[3]

Case Report: A 30 years old male complained of feeling tired easily and of weight gain from past 6 months. She had swelling in the thyroid gland. On advice she underwent a thyroid profile on Oct 2015 and was found to have TSH > 150 and was diagnosed as hypothyroidism. He was under Ayurvedic management for three months in kayachikitsa department. There was not only reduction in TSH level to normal but also marked relief was noted in associated symptoms when treated with Ayurvedic herbal compound fallowed by Vamana Karma (Therapeutic emesis).

***Pradhan vedana* (Chief complaint) :**

- Easily tired with increase in weight since 6 months, *Vartamanvedanavrutta* (H/o Present complaint) : Patient complaining that he was quite well 5 years back then he gradually develops, easy tiredness and gaining weight from past 6 months, (4 kgs), left sided headache on and off since 3 years , acne with scars on face and back of the chest with itching since 2 years, sneezing 8-10 times on and off with tickling sensation in nose followed by running of nose and blocking since 2 years.

***Purva vydhivrutta* (Past History):**

Had jaundice 5 years back.

***Kulaja vrutant* (Family history):**

Mother suffering from hypothyroidism, Father is hypertensive.

***Roga Pareksha* (Examination)**

Vitals were normal. Cardiovascular system, respiratory system and per abdomen examinations had shown no deformity.

***Prakriti* (constitution) was Kapha-vataj.**

Samanya Sharirik (General examination):

- Weight : 64 kgs
- B.P 120/80 mm Hg,
- PR: 72/min,
- Complexion- fair,
- Appetite-normal,
- thirst –normal,
- bowel movements –regular,
- Urine – NAD.
- Desire – not particular

***Mansik*(Mental generals):**

- Easily irritable,

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- dislikes to undertake work
- Anger from contradiction.

***Asthavidh Pareksha* :**

Nadi (pulse) was *kaphadhikatridosaja*. There was no complaint with regard to Mutra (urine). Frequency and color were normal. *Mala* (stool) was constipated and passes with a foul smell and dark color, once in 1–2 days. *Jihva* (Tongue) was *sama* (coated suggestive of improper digestion). Sabda (speech) was harsh(hoarseness of voice). *Sparsa* (touch) was cold and dry (due to decrease in basal metabolic rate). Drk (eyes) showed squint in right eye (divergent and the concomitant type of squint). *Akrti* (appearance) was looking obese (due to serum cholesterol and phospholipid rise in hypothyroid state).

Local examination:

Thyroid gland: slight swelling of gland noted on empty swallowing

Investigation: T3 – 76 ng/dl ; T4- 3.50 µg/dl; TSH > 150.00 µIU/ ml

Intervention:

Vamana (Therapeutic emesis) followed by *Samsarjana Karma* and administration of herbal compound in vati form were administered in the dose of 2 gms thrice a day with milk for 90 days.

Table 1 (Contains of herbal formulation)

S.u	Drogue	Composition
1	Powder of Kanchnar chhala	2 part
2	Trikatu powder	1 part
3	Powder of Chitraka mula	1 part
4	Devdaru Powder	1 part
5	Jalakumbhi's Kshar	1part
6	Triphala powder	1 part
7	Guggulu	3 part

Results:

Table 2 (Effect of the therapy on biochemical parameters)

S.NU.	Investigation	BT	AT
1.	S.T3 (ng/ml)	76	167
2.	S.T4 (ìg/dl)	3.50	10.4
3.	S.TSH (ìIU/ml)	150	13.65

Mode Of Action:

Being a multipurpose therapy, vaman eliminates vitiated kapha and pitta from the body. It may help in decreasing dravta of pitta and guruta of kapha. Hence, prithvi and apa bhutas may get decreased with eventual elevation of agneya tatva. In this way it may help in potentiating agni. Most of the symptoms seen in hypothyroidism due toVrudhi of vitiated rasa dhatu which again is caused by rasadhatvagnimandya. Alleviation of this symptom may be due to deepana, pachana properties of drugs under herbal preparation.

Discussion:

Clinical presentation of hypothyroidism show resemblance with different clinical conditions

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described in Ayurvedic classics up to some extent but it looks closer to galagand because the signs and symptoms of hypothyroidism mentioned in modern medicine show that Kapha Dosha play a major role in this disease, Due to the dominance of Kapha Dosha in the pathogenesis of hypothyroidism and Vamana Karma being specially selected here. The site of action of Vamana is Amashaya which is mentioned as a Kaphasthana. By the act of Vamana Srotoshodhana, Agnideepana and Vatanulomana are the main outcome which are achieved by vaman. Due to Margavaranajanya Samprapti and Kapha dominant state with Pitta Dushti, to remove obstruction of Kapha and to regularize the movement of Vata.

For *shaman* (palliative major) our herbal formulation contains *Triphala, Trikatu, Kanchnar Tvak, Guggulu* and *Madhu*. Comparison to *kanchnar gugulu*, there is some modification we added other three drugs in this yoga viz *Chitraka, Devadaru* and *Jalakumbhi's Kshar*. *Chitraka* is mentioned as *Shothhara* and *Galgandhara* by *Sushruta*. *Devadaru* is also useful in *Shotha* and *Galgand*, particularly in *Kaphaja Galganda* (*Bangsen*). *Vrindmadhava* and *Bhavprakash* have prescribed *Kshar* of *Jalkumbi* for *Galgand*. *Kanchnar* is commonly used in *Galganda Chikitsa* and is considered as a *Kapha-Pitta Shamaka*. *Guggulu* has *Lagu, Ruksha, Tikshana* and *Tridosha Shamaka* properly and well known *Medohar* drug.

Conclusion:

Present study was consisting of patient who was on thyroid hormone Supplement. This supplement was stopped after gradual reduction of doses. Probably, results can be obtained with more honestly and purity, if patients of Hypothyroidism, who are not on any hormonal supplement, are taken in the study. The study reveals that Purification followed by palliative therapy was found as a suitable treatment plan to manage hypothyroidism. Onset of hypothyroidism is so insidious that the classical clinical manifestation takes months to appear and the disease frequently goes unnoticed for years. The analysis of their signs and symptoms shows that most of the signs and symptoms attributed to hypothyroidism belong to Kapha may be produced due to Dhatvagnimandya and Rasa Dhatu.

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References:

1. Cap J. Hypothyroidism substitution and adrenal insufficiency in diabetic patients, VnitrLek. 2009 Apr;55(4):371-4.

2. http://www.japi.org/thyroid_special_jan_issue_2011/article_01.html assess on 12-09-15.

3. Vagabhata, Ashtanga Hridaya with the commentaries Sarvangasundara of Arundatta and Ayurveda Rasayana of Hemadri, edited by Pandit Hari Sadasiva Sastri Paradakara Bhisagacarya; Chaukhambha Orientalia, Varanasi, Reprint - 2011. Uttar tantra 22/71, p.188.

4. Lineswala Gaurang, Gurdeep singh. A clinical study in the role of *Vamana* and *Shamana* in *Kaphaja Galaganda* w.s.r. to Hypothyroidism, Department of Kayachikitsa (PK), I. P. G. T. & R.A. Jamnagar 2002

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Reviewers' comments will be sent to other reviewers of the same manuscript, which helps reviewers learn from the review process, and reviewers may be notified of the editor's decision.

II.F. Protection of Human Subjects and Animals in Research

When reporting experiments on human subjects, authors should indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. If doubt exists whether the research was conducted in accordance with the Helsinki Declaration, the authors must explain the rationale for their approach, and demonstrate that the institutional review body explicitly approved the doubtful aspects of the study. When reporting experiments on animals, authors should be asked to indicate whether the institutional and national guide for the care and use of laboratory animals was followed.

III. Publishing and Editorial Issues Related to Publication in Biomedical Journals

III.A. Obligation to Publish Negative Studies

Editors will consider seriously for publication any carefully done study of an important question, relevant to readers, whether the results are negative (that is, convincingly allow the null hypothesis to be accepted) or positive (that is, allow the null hypothesis to be rejected).

III.B. Corrections, Retractions and "Expressions of Concern"

Editors assume initially that authors are reporting work based on honest observations. Nevertheless, two types of difficulty may arise.

First, errors may be noted in published articles that require the publication of a correction or erratum of part of the work. The corrections will appear on a numbered page, be listed in the contents page, include the complete original citation, and link to the original article and vice versa online. It is conceivable that an error could be so serious as to vitiate the entire body of the work, but this is unlikely and will be handled by editors and authors

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on an individual basis. Such an error should not be confused with inadequacies exposed by the emergence of new scientific information in the normal course of research. The latter requires no corrections or withdrawals.

The second type of difficulty is scientific fraud. If substantial doubts arise about the honesty or integrity of work, either submitted or published, it is the editor's responsibility to ensure that the question is appropriately pursued, usually by the authors' sponsoring institution. However, it is not ordinarily the task of editors to conduct a full investigation or to make a determination; that responsibility lies with the institution where the work was done or with the funding agency. The editor should be promptly informed of the final decision, and if a fraudulent paper has been published, the journal will print a retraction. If this method of investigation does not result in a satisfactory conclusion, the editor may choose to conduct own investigation. As an alternative to retraction, the editor may choose to publish an expression of concern about aspects of the conduct or integrity of the work.

The retraction or expression of concern, so labeled, will appear on a numbered page in a prominent section of the print journal as well as in the online version, be listed in the contents page, and included in its heading the title of the original article. It will not simply be a letter to the editor. Ideally, the first author will be the same in the retraction as in the article, although under certain circumstances the editor may accept retractions by other responsible persons. The text of the retraction should explain why the article is being retracted and include a full original citation reference to it.

The validity of previous work by the author of a fraudulent paper cannot be assumed. Editors may ask the author's institution to assure them of the validity of earlier work published in their journals or to retract it. If this is not done editors may choose to publish an announcement expressing concern that the validity of previously published work is uncertain.

III.C. Copyright

The copyright status of articles in a given journal can vary: some content cannot be copyrighted (articles written by employees of the governments in the course of their work, for example).

III.D. Overlapping Publications

III.D.1. Duplicate Submission

The Journal will not consider manuscripts that are simultaneously being considered by other journals.

III.D.2. Redundant Publication

Redundant (or duplicate) publication is publication of a paper that overlaps substantially with one already published in print or electronic media.

Readers of primary source periodicals, whether print or electronic, deserve to be able to trust that what they are reading is original unless there is a clear statement that the article is being republished by the choice of the author and editor. The bases of this position are international copyright laws, ethical conduct, and cost-effective use of resources. Duplicate publication of original research is particularly problematic, since it can result in inadvertent double counting or inappropriate weighting of the results of a single study, which distorts the available evidence.

This journal does not wish to receive papers on work that has already been reported in large part in a published article or is contained in another paper that has been submitted or accepted for publication elsewhere, in print or in electronic media. This policy does not preclude the journal considering a paper that has been rejected by another journal, or a complete report that follows publication of a preliminary report, such as an abstract or poster displayed at a professional meeting. Nor does it prevent the journals considering a paper that has been presented at a scientific meeting but not published in full or that is being considered for publication in a proceedings or similar format.

When submitting a paper, the author must always make a full statement to the editor about all submissions and previous reports that might be regarded as redundant or duplicate publication of the same or very similar work. The author must alert the editor if the manuscript includes subjects about

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which the authors have published a previous report or have submitted a related report to another publication. Any such report must be referred to and referenced in the new paper. Copies of such material should be included with the submitted paper.

III.D.3. Acceptable Secondary Publication

Certain types of articles, such as guidelines produced by governmental agencies and professional organizations, may need to reach the widest possible audience. In such instances, editors will choose to publish material that is also being published in other journals. Secondary publication for various other reasons, in the same or another language, especially in other countries and/or states, is justifiable, and can be beneficial, provided all of the following conditions are met.

1. The authors have received approval from the editors of both journals; the editor concerned with secondary publication must have a photocopy, reprint, or manuscript of the primary version.
2. The priority of the primary publication is respected by a publication interval of at least one week.
3. The paper for secondary publication is intended for a different group of readers; an abbreviated version could be sufficient.
4. The secondary version faithfully reflects the data and interpretations of the primary version.
5. The footnote on the title page of the secondary version informs readers, peers, and documenting agencies that the paper has been published in whole or in part and states the primary reference. A suitable footnote might read: "This article is based on a study first reported in the [title of journal, with full reference]."

   Permission for such secondary publication should be free of charge.
6. The title of the secondary publication should indicate that it is a secondary publication (complete republication, abridged republication, complete translation, or abridged translation) of a primary publication. Of note, the National Library of Medicine does not consider translations to be "republications," and does not cite or index translations when the original article was published in a journal that is indexed in MEDLINE.

III.D.4. Competing Manuscripts Based on the Same Study

Two kinds of competing submissions will be considered: submissions by coworkers who disagree on the analysis and interpretation of their study, and submissions by coworkers who disagree on what the facts are and which data should be reported.

Setting aside the unresolved question of ownership of the data, the following general observations may help editors and others dealing with these problems.

III. D.4.a. Differences in Analysis or Interpretation

If the dispute centers on the analysis or interpretation of data, the authors should submit a manuscript that clearly presents both versions. The difference of opinion should be explained in a cover letter. The normal process of peer and editorial review of the manuscript may help the authors to resolve their disagreement regarding analysis or interpretation.

If the dispute cannot be resolved and the study merits publication, both versions will be published. Options include publishing two papers on the same study, or a single paper with two analyses or interpretations. In such cases it would be appropriate for the editor to publish a statement outlining the disagreement and the journal's involvement in attempts to resolve it.

III.D.4. b. Differences in Reported Methods or Results

If the dispute centers on differing opinions of what was actually done or observed during the study, the journal editor will refuse publication until the disagreement is resolved. Peer review cannot be expected to resolve such problems. If there are allegations of dishonesty or fraud, editors will inform the appropriate authorities; authors will be notified of editor's intention to report a suspicion of research misconduct.

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III.D.5. Competing Manuscripts Based on the Same Database

Editors may sometimes receive manuscripts from separate research groups that have analyzed the same data set, e.g., from a public database. The manuscripts may differ in their analytic methods, conclusions, or both. Each manuscript will be considered separately. Where interpretations of the same data are very similar, it is reasonable but not necessary for editors to give preference to the manuscript that was received earlier. However, editorial consideration of multiple submissions may be justified in this circumstance, and there may even be a good reason for publishing more than one manuscript because different analytical approaches may be complementary and equally valid.

III.E. Correspondence

As a mechanism for submitting comments, questions, or criticisms about published articles, as well as brief reports and commentary unrelated to previously published articles. This will likely, but not necessarily, take the form of a correspondence section or column. The authors of articles discussed in correspondence should be given an opportunity to respond, preferably in the same issue in which the original correspondence appears. Authors of correspondence will be asked to declare any competing or conflicting interests.

Published correspondence may be edited for length, grammatical correctness, and journal style.

Although editors have the prerogative to sift out correspondence material that is irrelevant, uninteresting, or lacking in cogency, they have a responsibility to allow a range of opinion to be expressed. The correspondence column will not be used merely to promote the journal's, or the editors', point of view. In all instances, editors will make an effort to screen out discourteous, inaccurate, or libelous statements.

In the interests of fairness and to keep correspondence within manageable proportions, journal may want to set time limits for responding to articles and correspondence, and for debate on a given topic. Journal has also set policy with regard to the archiving of unedited correspondence that appears on line. These policies should be published both in print and electronic versions of the journal.

III.F. Supplements, Theme Issues, and Special Series

Supplements are collections of papers that deal with related issues or topics, are published as a separate issue of the journal or as part of a regular issue, and are usually funded by sources other than the journal's publisher. Supplements can serve useful purposes: education, exchange of research information, ease of access to focused content, and improved cooperation between academic and corporate entities. Because funding sources can bias the content of supplements through the choice of topics and viewpoints, this journal adopts the following principles. These same principles apply to theme issues or special series that have external funding and/or guest editors.

1. The journal editors take full responsibility for the policies, practices, and content of supplements, including complete control of the decision to publish all portions of the supplement. Editing by the funding organization will not be permitted.
2. The journal editors will retain the authority to send supplement manuscripts for external peer review and to reject manuscripts submitted for the supplement.
3. The journal editors will approve the appointment of any external editor of the supplement and take responsibility for the work of the external editor.
4. The sources of funding for the research, publication, and the products the funding source make that are considered in the supplement should be clearly stated and prominently located in the supplement, preferably on each page. Whenever possible, funding should come from more than one sponsor.
5. Secondary publication in supplements (republication of papers previously published elsewhere) will be clearly identified by the citation of the original paper. Supplements will avoid redundant or duplicate publication. Supplements will not republish research results, but the republication of guidelines or other material in the public interest might be appropriate.

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IV. Manuscript Preparation and Submission

IV.A. Preparing a Manuscript for Submission

Editors and reviewers spend many hours reading manuscripts, and therefore appreciate receiving with manuscripts that are easy to read and edit. Much of the information in journals' instructions to authors is designed to accomplish that goal in ways that meet each journal's particular editorial needs. The guidance that follows provides a general background and rationale for preparing manuscripts for any journal.

IV.A.1.a. General Principles

The text of observational and experimental articles is usually (but not necessarily) divided into sections with the headings Introduction, Methods, Results, and Discussion. This so-called "IMRAD" structure is not simply an arbitrary publication format, but rather a direct reflection of the process of scientific discovery. Long articles may need subheadings within some sections (especially the Results and Discussion sections) to clarify their content. Other types of articles, such as case reports, reviews, and editorials, are likely to need other formats.

Publication in electronic formats has created opportunities for adding details or whole sections in the electronic version only, layering information, cross-linking or extracting portions of articles, and the like. Authors need to work closely with editors in developing or using such new publication formats and should submit material for potential supplementary electronic formats for peer review.

Double spacing of all portions of the manuscript including the title page, abstract, text, acknowledgments, references, individual tables, and legends-and generous margins make it possible for editors and reviewers to edit the text line by line, and add comments and queries, directly on the paper copy. If manuscripts are submitted electronically, the files should be double spaced, because the manuscript may need to be printed out for reviewing and editing.

During the editorial process reviewers and editors frequently need to refer to specific portions of the manuscript, which is difficult unless the pages are numbered. Authors should therefore number all of the pages of the manuscript consecutively, beginning with the title page.

IV.A.1.b. Reporting Guidelines for Specific Study Designs

Research reports frequently omit important information. The general requirements listed in the next section relate to reporting essential elements for all study designs. Authors are encouraged in addition to consult reporting guidelines relevant to their specific research design. For reports of randomized controlled trials authors should refer to the CONSORT statement. This guideline provides a set of recommendations comprising a list of items to report and a patient flow diagram.

IV.A.2. Title Page

The title page should carry the following information:

1. The title of the article. Concise titles are easier to read than long, convoluted ones. Titles that are too short may, however, lack important information, such as study design (which is particularly important in identifying randomized controlled trials). Authors should include all information in the title that will make electronic retrieval of the article both sensitive and specific.
2. Authors' names and institutional affiliations.
3. The name of the department(s) and institution(s) to which the work should be attributed.
4. Disclaimers, if any.
5. Corresponding authors. The name, mailing address, telephone and fax numbers, and e-mail address of the author responsible for correspondence about the manuscript (the "corresponding author;" this author may or may not be the "guarantor" for the integrity of the study as a whole, if someone is identified in that role. The corresponding author should indicate clearly whether his or her e-mail address is to be published.
6. The name and address of the author to whom requests for reprints should be addressed.
7. Source(s) of support in the form of grants,

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equipment, drugs, or all of these.

8. Word counts. A word count for the text only (excluding abstract, acknowledgments, figure legends, and references) allows editors and reviewers to assess whether the information contained in the paper warrants the amount of space devoted to it, and whether the submitted manuscript fits within the journal's word limits. A separate word count for the Abstract is also useful for the same reason.
9. The number of figures and tables. It is difficult for editorial staff and reviewers to tell if the figures and tables that should have accompanied a manuscript were actually included unless the numbers of figures and tables that belong to the manuscript are noted on the title page.

IV.A.3. Conflict of Interest Notification Page

To prevent the information on potential conflict of interest for authors from being overlooked or misplaced, it is necessary for that information to be part of the manuscript. It should therefore also be included on a separate page or pages immediately following the title page.

IV.A.4. Abstract and Key Words

An abstract should follow the title page. The abstract should provide the context or background for the study and should state the study's purposes, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific effect sizes and their statistical significance, if possible), and principal conclusions. It should emphasize new and important aspects of the study or observations.

Because abstracts are the only substantive portion of the article indexed in electronic database and the only portion many readers read, authors need to be careful that abstracts reflect the content of the article accurately.

3 to 10 key words or short phrases that capture the main topics of the article. These will assist indexers in cross-indexing the article and may be published with the abstract. Terms from the Medical Subject Headings (MeSH) list of Index Medicus should be used; if suitable MeSH terms are not yet available for present terms may be used.

IV.A.5. Introduction

Provide a context or background for the study (i.e., the nature of the problem and its significance). State the specific purpose or research objective of, or hypothesis tested by, the study or observation; the research objective is often more sharply focused when stated as a question. Both the main and secondary objectives should be made clear, and any pre-specified subgroup analyses should be described. Give only strictly pertinent references and do not include data or conclusions from the work being reported.

IV.A.6. Methods

The Methods section should include only information that was available at the time the plan or protocol for the study was written; all information obtained during the conduct of the study belongs in the Results section.

IV.A.6.a. Selection and Description of Participants

Describe your selection of the observational or experimental participants (patients or laboratory animals, including controls) clearly, including eligibility and exclusion criteria and a description of the source population. Because the relevance of such variables as age and sex to the object of research is not always clear, authors should explain their use when they are included in a study report; for example, authors should explain why only subjects of certain ages were included or why women were excluded. The guiding principle should be clarity about how and why a study was done in a particular way. When authors use variables such as race or ethnicity, they should define how they measured the variables and justify their relevance.

IV.A.6.b. Technical information

Identify the methods, apparatus (give the manufacturer's name and address in parentheses), and procedures in sufficient detail to allow other workers to reproduce the results. Give references to established methods, including statistical methods see below; provide references and brief descriptions for methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate

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their limitations. Identify precisely all drugs and chemicals used, including generic name(s), dose(s), and route(s) of administration.

Authors submitting review manuscripts should include a section describing the methods used for locating, selecting, extracting, and synthesizing data. These methods should also be summarized in the abstract.

IV.A.6.c. Statistics

Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals). References for the design of the study and statistical methods should be to standard works when possible (with pages stated). Define statistical terms, abbreviations, and most symbols. Specify the computer software used.

IV.A.7. Results

Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Extra or supplementary materials and technical detail can be placed in an appendix where it will be accessible but will not interrupt the flow of the text; alternatively, it can be published only in the electronic version of the journal.

When data are summarized in the Results section, give numeric results not only as derivatives (for example, percentages) but also as the absolute numbers from which the derivatives were calculated, and specify the statistical methods used to analyze them. Restrict tables and figures to those needed to explain the argument of the paper and to assess its support. Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables. Avoid non-technical uses of technical terms in statistics, such as “random” (which implies a randomizing device), “normal,” “significant,” “correlations,” and “sample.”

Where scientifically appropriate, analyses of the data by variables such as age and sex should be included.

IV.A.8. Discussion

Emphasize the new and important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or other material given in the Introduction or the Results section. For experimental studies it is useful to begin the discussion by summarizing briefly the main findings, then explore possible mechanisms or explanations for these findings, compare and contrast the results with other relevant studies, state the limitations of the study, and explore the implications of the findings for future research and for clinical practice.

Link the conclusions with the goals of the study but avoid unqualified statements and conclusions not adequately supported by the data. In particular, authors should avoid making statements on economic benefits and costs unless their manuscript includes the appropriate economic data and analyses. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses when warranted, but clearly label them as such.

IV.A.9. References

IV.A.9.a. General Considerations Related to References

Although references to review articles can be an efficient way of guiding readers to a body of literature, review articles do not always reflect original work accurately. Readers should therefore be provided with direct references to original research sources whenever possible. On the other hand, extensive lists of references to original work on a topic can use excessive space on the printed page. Small numbers of references to key original papers will often serve as well as more exhaustive lists, particularly since references can now be added to the electronic version of published papers, and since electronic literature searching allows readers to retrieve published literature efficiently.

Avoid using abstracts as references. References to papers accepted but not yet published should be designated as “in press” or “forthcoming”; authors should obtain written permission to cite such papers as well as verification that they have

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been accepted for publication. Information from manuscripts submitted but not accepted should be cited in the text as "unpublished observations" with written permission from the source.

Avoid citing a "personal communication" unless it provides essential information not available from a public source, in which case the name of the person and date of communication should be cited in parentheses in the text. For scientific articles, authors should obtain written permission and confirmation of accuracy from the source of a personal communication.

Some journals check the accuracy of all reference citations, but not all journals do so, and citation errors sometimes appear in the published version of articles. To minimize such errors, authors should therefore verify references against the original documents. Authors are responsible for checking that none of the references cite retracted articles except in the context of referring to the retraction. For articles published in journals indexed in MEDLINE, the ICMJE considers PubMed the authoritative source for information about retractions.

IV.A.9.b. Reference Style and Format

The Uniform Requirements style is based largely on an ANSI standard style adapted by the National Library of Medicine (NLM) for its databases. For samples of reference citation formats, authors should consult National Library of Medicine web site.

References should be numbered consecutively in the order in which they are first mentioned in the text. Identify references in text, tables, and legends by Arabic numerals in parentheses. References cited only in tables or figure legends should be numbered in accordance with the sequence established by the first identification in the text of the particular table or figure. The titles of journals should be abbreviated according to the style used in Index Medicus.

This Journal requires that the references from the Ayurvedic classics should be cited within parentheses in the text, i.e. (Cha. Soo. 25/40).

IV.A.10. Tables

Tables capture information concisely, and display it efficiently; they also provide information at any desired level of detail and precision. Including data in tables rather than text frequently makes it possible to reduce the length of the text.

Type or print each table with double spacing on a separate sheet of paper. Number tables consecutively in the order of their first citation in the text and supply a brief title for each. Do not use internal horizontal or vertical lines. Give each column a short or abbreviated heading. Authors should place explanatory matter in footnotes, not in the heading. Explain in footnotes all nonstandard abbreviations. For footnotes use the following symbols, in sequence:

***,†,‡,§,||,¶,**,††,‡‡**

Identify statistical measures of variations, such as standard deviation and standard error of the mean.

Be sure that each table is cited in the text.

If you use data from another published or unpublished source, obtain permission and acknowledge them fully.

Additional tables containing backup data too extensive to publish in print may be appropriate for publication in the electronic version of the journal. In that event an appropriate statement will be added to the text. Submit such tables for consideration with the paper so that they will be available to the peer reviewers.

IV.A.11. Illustrations (Figures)

Figures should be either professionally drawn and photographed, or submitted as photographic quality digital prints. In addition to requiring a version of the figures suitable for printing, this Journal asks authors for electronic files of figures in a format (e.g., JPEG or GIF) that will produce high quality images in the web version of the journal; authors should review the images of such files on a computer screen before submitting them, to be sure they meet their own quality standard.

For x-ray films, scans, and other diagnostic images, as well as pictures of pathology specimens

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or photomicrographs, send sharp, glossy, black-and-white or color photographic prints, usually 127 x 173 mm (5 x 7 inches). Letters, numbers, and symbols on Figures should be clear and even throughout, and of sufficient size that when reduced for publication each item will still be legible. Figures should be made as self-explanatory as possible. Titles and detailed explanations belong in the legends, however, not on the illustrations themselves.

Photomicrographs should have internal scale markers. Symbols, arrows, or letters used in photomicrographs should contrast with the background.

If photographs of people are used, either the subjects must not be identifiable or their pictures must be accompanied by written permission to use the photograph. Whenever possible permission for publication should be obtained.

Figures should be numbered consecutively according to the order in which they have been first cited in the text. If a figure has been published, acknowledge the original source and submit written permission from the copyright holder to reproduce the material. Permission is required irrespective of authorship or publisher except for documents in the public domain.

IV.A.12. Legends for Illustrations (Figures)

Type or print out legends for illustrations using double spacing, starting on a separate page, with Arabic numerals corresponding to the illustrations. When symbols, arrows, numbers, or letters are used to identify parts of the illustrations, identify and explain each one clearly in the legend. Explain the internal scale and identify the method of staining in photomicrographs.

IV.A.13. Units of Measurement

Use only standard Units of Measurements. If some new measurements or scoring patterns are used they should be explained in detail in the text.

IV.A.14. Abbreviations and Symbols

Use only standard abbreviations; the use of non-standard abbreviations can be extremely confusing to readers. Avoid abbreviations in the title. The full term for which an abbreviation stands should precede its first use in the text unless it is a standard unit of measurement.

IV.B Sending the Manuscript to the Journal

This Journal accepts electronic submission of manuscripts, whether on disk or attachments to electronic mail. Electronic submission saves time as well as postage costs, and allows the manuscript to be handled in electronic form throughout the editorial process (for example, when it is sent out for review). When submitting a manuscript electronically, authors should consult with the instructions for authors of the journal they have chosen for their manuscript.

If a paper version of the manuscript is submitted, send the required number of 6 copies of the manuscript and figures; they are all needed for peer review and editing, and editorial office staff cannot be expected to make the required copies.

Manuscripts must be accompanied by a cover letter, which should include the following information.

- A full statement to the editor about all submissions and previous reports that might be regarded as redundant publication of the same or very similar work. Any such work should be referred to specifically, and referenced in the new paper. Copies of such material should be included with the submitted paper, to help the editor decide how to handle the matter.
- A statement of financial or other relationships that might lead to a conflict of interest, if that information is not included in the manuscript itself or in an authors' form
- A statement that the manuscript has been read and approved by all the authors, that the requirements for authorship as stated earlier in this document have been met, and that each author believes that the manuscript represents honest work, if that information is not provided in another form; and
- The name, address, and telephone number of the corresponding author, who is responsible for communicating with the other authors about revisions and final approval of the proofs, if that

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information is not included on the manuscript itself.

The letter should give any additional information that may be helpful to the editor, such as the type or format of article in the particular journal that the manuscript represents. If the manuscript has been submitted previously to another journal, it is helpful to include the previous editor's and reviewers' comments with the submitted manuscript, along with the authors' responses to those comments. Editors encourage authors to submit these previous communications and doing so may expedite the review process.

Copies of any permission to reproduce published material, to use illustrations or report information about identifiable people, or to name people for their contributions must accompany the manuscript.

V. References

A. References Cited in this Document

1. Davidoff F for the CSE Task Force on Authorship. Who's the Author? Problems with Biomedical Authorship, and Some Possible Solutions. Science Editor. July-August 2000: Volume 23 - Number 4: 111-119.
2. Yank V, Rennie D. Disclosure of researcher contributions: a study of original research articles in The Lancet. Ann Intern Med. 1999 Apr 20;130(8):661-70.
3. Flanagin A, Fontanarosa PB, DeAngelis CD. Authorship for research groups. JAMA. 2002;288:3166-68.
4. Peer Review in Health Sciences. F Godlee, T Jefferson. London: BMJ Books, 1999.
5. World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. JAMA. 2000 Dec 20;284(23):3043-5.
6. Pitkin RM, Branagan MA, Burmeister LF. Accuracy of data in abstracts of published research articles. JAMA. 1999 Mar 24-31;281(12):1110-1.
7. Patrias K. National Library of Medicine recommended formats for bibliographic citation. Bethesda (MD): The Library; 1991.

B. Other Sources of Information Related to Biomedical Journals

World Association of Medical Editors (WAME) www.WAME.org <http://www.WAME.org>

Council of Science Editors (CSE) www.councilscienceeditors.org <http://www.councilscienceeditors.org>

European Association of Science Editors (EASE) www.ease.org.uk <http://www.ease.org.uk>

Cochrane Collaboration www.cochrane.org <http://www.cochrane.org>

The Mulford Library, Medical College of Ohio www.mco.edu/lib/instr/libinsta.html <http://www.mco.edu/lib/instr/libinsta.html>

"This is a reprint (*with minor alterations according to the need of this Journal*) of the ICMJE Uniform Requirements for Manuscripts Submitted to Biomedical Journals. The editors of this Journals prepared this altered version. The ICMJE has neither endorsed nor approved the contents of this reprint. The ICMJE periodically updates the Uniform Requirements, so this reprint prepared on 1.1.2007 may not accurately represent the current official version at www.ICMJE.org <http://www.ICMJE.org>. The official version of the Uniform Requirements for Manuscripts Submitted to Biomedical Journals is located at www.ICMJE.org <http://www.ICMJE.org>."

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Annexure I

Manuscript no. JOA/NIA/20 /

Authorship Criteria and Responsibility
Financial Disclosure, Acknowledgment and Copyright Transfer Form

Manuscript Title :

I/We certify that the manuscript represents valid work and that neither this manuscript nor one with substantially similar content under my/our authorship has been published or is being considered for publication elsewhere. For papers with more than 1 author, We agree to allow the corresponding author to serve as the primary correspondent with the editorial office, to review the edited typescript and proof.

I/We have seen and approved the submitted manuscript. All of us have participated sufficiently in the work to take public responsibility for the contents. All the authors have made substantial contributions to the intellectual content of the paper and fulfil at least 1 condition for each of the 3 categories of contributions: i.e., Category 1 (conception and design, acquisition of data, analysis and interpretation of data), Category 2 (drafting of the manuscript, critical revision of the manuscript for important intellectual content) and Category 3 (final approval of the version to be published).

I/We also certify that all my/our affiliations with or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript are completely disclosed on the title page of the manuscript. My/our right to examine, analyze, and publish the data is not infringed upon by any contractual agreement. I/We certify that all persons who have made substantial contributions to the work reported in this manuscript (e.g., data collection, writing or editing assistance) but who do not fulfil the authorship criteria are named along with their specific contributions in an acknowledgment section in the manuscript. If an acknowledgment section is not included, no other persons have made substantial contributions to this manuscript. I/We also certify that all persons named in the acknowledgment section have provided written permission to be named.

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Authors' name(s) in order of appearance in the manuscript.

1. Name	Signatures	(date)
2. Name	Signatures	(date)
3. Name	Signatures	(date)
4. Name	Signatures	(date)
5. Name	Signatures	(date)
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Annexure II

Manuscript Submission Checklist

Submitted by: E-mail ☐ Post ☐ Both ☐

Covering letter and submission :

1. Covering letter (in original) ☐
2. Copyright transfer form (in original) ☐
3. Illustrations (in original) ☐
4. Manuscript (E-mail/original) ☐
5. Category for which submitted ☐

Presentation and Format :

1. Printed on A4 paper with 1" margins on all sides in double space. ☐
2. Abstract, text, acknowledgement, references, legends, tables starting on a new page. ☐
3. Title page contains the following:
   - Full title of the paper ☐
   - Initials, surname and highest degree of authors, affiliation ☐
   - Name of Departments/Institution ☐
   - Details of Corresponding Authors including e-mail ☐
   - Numbers in Arabic numerals. ☐
4. Abstract (Hindi and English) and Key words provided. ☐
5. “What this study adds” Box (only for research papers and short communications). ☐
6. References. ☐
7. Pages numbered consecutively. ☐

Language and Grammar :

1. Uniform American English. ☐
2. Abbreviations spelt out in full for first time. ☐
3. Text arranged as per IMRAD format. ☐
4. Follows style of writing in Journal of Ayurveda. ☐
5. Conventional units used throughout manuscript. ☐

Tables and Figures :

1. No repetition of data in Table/graphs and in text. ☐
2. Figures are black and white (except Images), good quality; with labels on back. ☐
3. Table numbers in roman numerals and Figure numbers in Arabic numerals. ☐
4. Correct symbols used for footnotes to tables. ☐
5. Figure legends provided. ☐
6. Patient privacy maintained ☐

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Short Communication

AYURVEDA NEWS AND VIEWS

Dr. Rizwana Parveen

National & Internal Seminars and Fairs

- 2nd Global Summit on Herbals & Natural Remedies, organized by OMICS International, Scientific Events.

  Date : 17th to 19th October, 2016.

- EWAC#2: The 2nd European World Ayurveda Congress, organized by European World Ayurveda Congress, Koblenz
  Date : 15th and 16th October, 2016.

- National seminar on Ayurved Nidan: Challenges & Prospects, organized at Shri Ayurved Mahavidyalaya, Nagpur.
  Date : 15th & 16th October, 2016.

- Tatwaprakashini-2016, organized at AVP Center for Advanced Learning Patanjalipuri.

  Date : 11th to 24th October, 2016.

- National Seminar on "Hormonal Disorders and it's Ayurvedic Management", organized at Kurtkoti Sabhagruh, Shankaracharya Nyas Sankul, Nashik. Date : 2nd October, 2016.

- National "GCP Training" Workshop "Good Clinical Practices", organized at Kbiper, Gandhinagar, Gujarat.

  Date : 1st October, 2016.

- National Seminar on "Concept of Manas and Manas Roga in Ayurvedic Samhita", organized by Banaras Hindu University, Varanasi.

  Date : 8th October, 2016.

- SADHANAM-2016, organized by Ayurveda Academy, Bangalore.

  Date : 17th to 27th October, 2016.

- CAME on Concept of Raktavaha Srotas-Clinical Perspective, organized by Mahatma Gandhi Ayurved College, Hospital & Research Centre, Wardha.

  Date : 19th October, 2016.

- Ayurveda for Prevention and Control of Diabetes, organized by Ministry of Ayush, New Delhi.

  Date : 28th October, 2016.

- Symposium on "Ayurveda Principles and Practice in Light of Contemporary Science", organized at Ram Manohar Lohia Hospital, New Delhi.

  Date : 4th October, 2016.

- NAMSCON-2016: 56th Annual Conference, organized at All-India Institute of Medical Sciences, Raipur.

  Date : 21st to 23rd October, 2016.

- 19th International Conference On "Integrated Medicine For Perfect Health", organized at Lucknow, India.

  Date : 4th to 6th November, 2016.

- International Conference on Climate Change and Its Implications on Crop Production and Food Security, organized by Mahima Research Foundation & Social Welfare.

  Date : 12th and 13th November, 2016.

- World Congress on Drug Discovery & Development-2016, organized by J.N.Tata Auditorium Indian Institute Of Science Bengaluru.

  Date : 23rd to 25th November, 2016.

- International Conference on Climate Change and its Implications on Crop Production and Food Security (ICCCICPFS), organized by Mahima Research Foundation & Social Welfare,

*Sr. Research Fellow-Journal of Ayurveda, NIA, Jaipur

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Varanasi.

Date : 12th and 13th November, 2016.

- UGC National Seminar on and Yoga, "Direction of Physical Education in the 21st Century", organized by CHC Athletic Association. Date : 17th and 18th November, 2016.
- 19th International Conference on Integrated Medicine for Perfect Health, organized at Indira Gandhi Pratishthan, Lucknow. Date : 4th to 6th November, 2016.
- CME Programme for Medical Officers (Ayurveda), organized by North Eastern Institute of Ayurveda and Homeopathy, Shillong.

  Date : 7th to 12th November, 2016.
- 19th International Conference on "Integrated Medicine for Perfect Health", organized at Indira Gandhi Pratishthan (IGP), Lucknow. Date : 4th to 6th November, 2016.
- International Marma Science and Marma Therapy Training Workshop, organized at Shri Mrityunjay Campus, Hardwar.

  Date : 20th to 24th November, 2016.
- Research Methods, Manuscript Writing and Career Opportunities in Ayurveda, organized by Rashtriya Ayurveda Vidyapeeth, New Delhi. Date : 15th to 17th November, 2016.
- National Conference on Cardiology in Ayurveda, organized by Mahatma Gandhi Ayurved College, Hospital & Research Centre, Wardha & DMIMS. Date : 17th and 18th November, 2016.
- SAMSIDDHI-2016 : National Seminar on Dosha Pratyaneeka & Vyadhi Pratyaneeka Chikitsa, organized by Ayurveda College, Coimbatore. Date : 18th to 20th November, 2016.
- Training on Kerala Panchakarma based on Ashtavaidya Tradition, organized by Vaidyaratnam Ayurveda Foundation, Kerala. Date : 14th to 19th November, 2016.
- Workshop on Syllabus of Kaumarbhrityatantra of Third Year BAMS, organized by Shri Gurudev Ayurved Mahavidyalaya, Amaravati. Date : 29th November, 2016.
- Compendium of Kaumarabhritya-2016, organized by Shri BMK Ayurveda Mahavidyalaya & Hospital, Belgaum.

  Date : 26th and 27th November, 2016.
- 5th Field Workshop on Medicinal Plants in Western Ghats, organized by Regional Medical Research Centre, Belagavi.

  Date : 23rd and 26th November, 2016.
- Workshop On Roadmap For Value Addition In Aromatic Crops: Optimizing Synergy Among Farmers, Government & Industry, organized by Fragrance & Flavour Development Centre.

  Date : 26th and 27th November, 2016.
- ICMAP 2016 : 18th International Conference on Medicinal and Aromatic Plants, organized at Penang, Malaysia.

  Date : 1st and 2nd December, 2016.
- 7th World Ayurveda Congress And Arogya Expo, organized at Science City, Kolkata. Date : 1st to 4th December, 2016.
- International Conference on Medicinal Plants and Management of Lifestyle Diseases, organized by Mahima Research Foundation & Social Welfare.

  Date : 17th and 18th December, 2016.
- 4th International Conference On Ayurveda, Unani, Siddha & Traditional Medicine - 2016 (Icaust 2016), organized by Institute of Indigenous Medicine, Sri Lanka.

  Date : 8th to 10th December, 2016.
- Sampraharsha-2016 : National Conference and Workshop on Vajikarana, organized by Shri B. M. Kankanwadi Ayurveda Mahavidyalaya, Belgaum.

  Date : 29th December 2016 to 1st January 2017.
- ICRACH-2016 : 5th International Conference on Recent Advances in Cognition and Health, organized by Banaras Hindu University, Varanasi.

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Date : 19th to 21st December 2016.

- National Seminar on Role of Ayurveda in Rakta-Pradoshaja Vikaras, organized by Banaras Hindu University, Varanasi.

  Date : 10th and 11th December 2016.

- Application for CME Program for Teachers in Panchakarma, organized by Rashtriya Ayurved Vidyapeeth, New Delhi.

  Date : 12th to 17th December 2016.

- Ayurvision 2016: National Conference on Holistic Approach to Lifestyle Disorders, organized at Interact hall, KMC Manipal. Date : 13th and 14th December 2016.

- Indo-European Seminar on Ayurveda, organized by Ayurclinic Goa - Ayurveda speciality center.

  Date : 18th December 2016.

- National Seminar on Peoples' Health and Quality Of Life In India, organized by Indian Academy Of Social Sciences and University Of Mysore.

  Date : 19th to 23rd December 2016.

- Workshop on Personality Development and Career Building-2016, organized by Department Of Vikriti Vigyan and Vishwa Ayurved Parishad.

  Date : 7th to 9th December 2016.

- 11th National Symposium on "Noni and Medicinal Plants for Health and Livelihood Security", organized by WNRF, ISNS, Chennai & ICAR-IISR, ICAR-CISH, Lucknow.

  Date : 3rd and 4th December 2016.

- Alumni Meet-2016 & National Seminar on Role of Ayurveda in Health Management of India, organized by Puratan Chhatra Ayurved Mahavidyalaya & Chikitsalaya Varanasi Kalyan Samiti.

  Date : 17th December 2016.

- State Level CME on "Role of Parasurgical Procedures and Kriyakalpa in Shalya-Shalakya Tantra", organized by Mahatma Gandhi Ayurved College, Hospital & Research Centre, Wardha. Date : 30th December 2016.

Bed-wetting in Children: Causes & Ayurvedic treatment

Bed wetting (nocturnal enuresis) in children, is a condition when a child passes urine unknowingly during sleep at night. Generally babies urinate round the clock, and later make a transition into urinating during waking hours only. Majority of toddlers stay dry all night by age four. Beyond age five, one out of five still wets the bed, but at six, the numbers drop to just one in ten, and by the time children reach puberty bed-wetting stops completely. If a child continues to bed-wet beyond the age five, parents are advised to discuss the matter with the doctor about the possible cause and treatment.

Common causes for bed-wetting:

An early attempt for bladder training, excessive fluid intake during late evening, delayed bladder maturation, excessive sweet foods at night, excess sleep, emotional immaturity, conflict between parents or among siblings, sense of insecurity, nightmares, stress or anxiety, urinary tract infection or diabetes are various reasons for bed-wetting in children.

Studies have also shown that often, parents of children who bed-wet had also faced the same problem during their younger days. So the reason for bed wetting may be hereditary too.

Treatment methods

It is better to first find out if the reason for bed wetting is physical or emotional, and should be correctly treated. Initially, try taking some precautionary measures like not giving too much water or fluids close to bed time, ensuring that the child urinates before going to bed, and to make the child wake up in the night at least once to visit the toilet.

If the reason behind bed wetting is psychological, counselling should form the main course of treatment. Firstly, do not make the child feel guilty about it, else, they will continue to wet more and more. They should be told that it is only a temporary problem, and can be brought under

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control. To encourage the child, reward the child when he/she does not wet the bed, as it would boost her confidence.

Ayurvedic medicines

Ayurveda suggests de-worming as in many cases, treatment for intestinal worms have provided relief. Medicinal herbs such as Shilajit, Khadira, Hareetaki, Guggulu, Shati, Haridra, Chandraprabha vati, Triphala choorna, can provide relief.

Sarshapa in powdered form is advised with half a cup of milk at bed time. Most Ayurvedic remedies to treat bed-wetting aim to strengthen the nervous system and urinary tract.

Ayurvedic Home remedies

If constipation is the cause of bed wetting, then treatment for constipation should be adopted as a patient's bowels should be clear, so that it does not put undue pressure on the bladder, and to avoid problems of intestinal worms. Food that cause constipation and spicy food should be avoided.

A pinch of turmeric, with 2 pinch of Amla (Indian gooseberry) powder can be taken together with honey twice a day, for effective relief from bed wetting.

Fresh juice of the root of Bimbi (coccine fruit) can be mixed (2 -3 ml) in 3-4ml of honey and administered to children.

A mixture of jiggery, black sesame seeds and celery seeds can be added to a cup of milk and offered to the child every morning, as the mixture has warming effect on the body. Therefore, this is best given during winter time, when bed wetting is frequent.

Mix oak bark, barberry and horsetail in small amounts in a pan of boiling water, and boil this for about two hours at low speed. You can give this herbal tea to your child twice a day and a cup of tea an hour before bed time. Consuming this herbal tea on regular basis will reduce bed wetting issues considerably.

Note: It is very important for parents to understand that children do not bed-wet intentionally. They have no control over this situation, and hence, do not make them feel guilty by being angry or acting disgusted. Try to be supportive and encouraging, as far as possible.

Five Power herbs for women from *Ayurveda*

In ancient days, women largely relied on natural products like herbal pastes and powders for their health and beauty care. Today, women have gone back to the age old traditions, and prefer home remedies and natural products, to fancy brands and synthetic chemical-based products. This is because they have noticed that herbal formulations can tackle several chronic conditions, and are also quite affordable. Particularly, in India, there is rich flora and the treasure trove of Ayurveda that comes to their rescue.

Listed here, are five effective herbs that help in overall well-being of women.

Guduchi

Guduchi (Scientific name: Tinospora Cordifolia), commonly known as Giloy, is found in abundance in India, Sri Lanka and Myanmar. Being rich in antioxidants, they have anti-ageing properties too. The best way to consume this is to use a powder made from stem of the Guduchi herb. The powder can be mixed in water and honey, and consumed.

Guduchi helps people with diabetes, although it should be taken only under medical supervision. In Ayurveda, the herb is used for treatment of various infections, fevers, urinary tract disorders, digestive disorders, and water-borne diseases like jaundice.

The extract of the herb is a good tonic for liver, improves vision, reduces stress, treats cough and cold, and cures stomach disorders. It also increases platelet count, and is therefore excellent in treating cases of dengue too. For women particularly, it helps conditions like PCOS (Poly Cystic Ovarian Syndrome).

Wheatgrass

Wheatgrass is rich in vitamins A, B-complex, C, E, K and helps improve immunity. It is noticed that anaemia is more common in women than in men, and wheatgrass can help in cases of iron deficiency. Due to the presence of chlorophyll in

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large quantities, Wheatgrass helps in improving haemoglobin levels in the body. Wheatgrass is also rich in proteins and amino acids.

Wheatgrass can be consumed as fresh juice, or taken in powdered form. But, wheatgrass may cause nausea, appetite loss and constipation in some people. Therefore, pregnant and lactating women are advised to consult their gynaecologist before consuming wheatgrass.

Drumstick leaves

Drumstick leaves (muringa as it is popularly called) is a nutrient-rich herb, rich in vitamin C and beta carotene. It has anti-inflammatory, anti-diabetic, cholesterol lowering properties, and is a natural energy booster. It can be added to regular food when cooking, or infused as tea. Drumstick leaves helps improve haemoglobin levels, increases milk production in lactating mothers, and is good for bone health.

Lodhra

Another powerful herb, that women should consider exploring, is Lodhra (Symplocos Racemosa Roxb). Being a good coagulant, it is used to stop bleeding. Therefore, it is used in treatment of bleeding disorders like bleeding wounds and gums. Lodhra is particularly beneficial in cases of uterus inflammation. It supports women during heavy menstrual discharge and leucorrhoea. It helps in maintaining health and strength of uterus during pregnancy, and also helps prevent miscarriage.

Lodhra is also beneficial as a beauty agent, and hence is used in face packs and anti-acne formulations, given its astringent properties. Lodhra helps in treatment of ulcers, eye infections, diarrhoea, dry eyes, and in conjunctivitis. Pregnant and lactating women should seek advice from their doctors before consuming Lodhra.

Shatavari

Shatavari (Asparagus Racemosus) is beneficial for women of reproductive age. Shatavari seals its place in Ayurveda as a powerful herb in formulations meant to strengthen the female reproductive system. It helps in hormonal balance, and helps women transition peacefully into menopause. Shatavari is also an immunity booster, and is excellent in boosting energy levels. Half to one teaspoon of Shatavari can be mixed with warm milk and add honey to taste for consumption. However, women with estrogen-sensitive tumours should avoid this herb. Also, people taking diuretic drugs should avoid Shatavari, as the herb is a powerful diuretic.

6 effective Ayurvedic remedies with Tea Tree Oil

Tea Tree oil has grown in popularity in recent times, as majority of people these days, prefer herbal and ayurvedic treatments over chemical-based products for most common ailments. The antibacterial, antimicrobial and antiseptic properties of Tea Tree oil are well-known, and therefore, it proves to be an all-round beneficial product for overall good health of an individual.

Unlike what its name suggest, Tea Tree oil is not extracted from tea leaves or tea oil. Rather, this magical product is extracted from leaves and twigs of tea tree through a process of steam distillation. The plant is considered an all-cure miraculous plant since ancient days.

It is never an exaggeration to say that Tea Tree Oil is a miraculous product for health ailments. This medicinal extract has worked wonders for human health time and again, and is believed to treat majority of infections and boosts immune system. Apart from major health issues, it also helps in treating skin and hair related issues.

Ayurveda makes use of tea tree and its essential oil for treating several infectious diseases and respiratory disorders including Asthma, Tuberculosis, Bronchitis, venomous bites, acne, psoriasis, dermatitis, and other skin problems. Ayurvedic treatment begins with identifying the unique individual constitution, made up of three energy elements known as doshas, including vata, pitta and kapha dosha. Tea tree essential oil is believed to have equal effects on all three doshas, given, its cooling and moisturizing energies. Therefore, Tea tree oil is considered to be extremely beneficial for skin, respiratory system and nervous system.

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In Ayurveda, Tea Tree Oil has been used as an antiseptic bactericide since primeval times. This is due to its effectiveness in treating various skin ailments, given its fungicidal, antimicrobial, disinfectant, anti-inflammatory, antiseptic and antiviral properties.

Treatment of wounds & Scars: Tea Tree oil (2 drops) is mixed with Jojoba oil (15 drops) and applied on acne or wounds for quicker healing and visible results. This blend is also effective on scars left by accidents, pox, acne, surgical and stretch mark.

Treatment of respiratory disorders: Tea tree oil is used largely in treatment of viral infections like cold, cough, and other respiratory disorders like bronchitis, sinusitis asthma, tuberculosis, and pharyngitis. Being a good expectorant, it loosens phlegm and mucous deposits that cause breathing difficulties.

Tea tree oil can be added to warm bath water, or two to three drops of the oil can be used during steam inhalation to open blocked nasal passages and treat congestion and headache. The oil can also be directly massaged on to chest, neck and back at bed time for significant relief.

Treatment of nervous disorders: Tea tree oil has a warm, spicy, and yet refreshing fragrance that pacifies and inspires the mind. Therefore, Ayurveda believes that tea tree oil can soothe mind and body when dealing with anxiety, fear, fatigue, or shock.

For a good relaxation, massage your body with tea tree oil (five drops), blended with coconut oil (40 to 45 drops). This can lift up your mood, relax muscles, strengthen your emotions and alleviate stress. Else, tea tree oil (3 drops) can be added to your diffuser to clear your mind and render a fresh feeling.

Treatment of Athlete's Foot: Tea Tree oil has been shown to fight the fungus that leads to all types of skin infection including athlete's foot and jock itch. Combine tea tree oil (5 drops) with any carrier oil like almond oil (5 drops), and drop these into a cotton ball and apply on the skin, or just mix it in the palm of your hand and apply twice daily to treat fungal infection.

Dandruff and lice: Among major hair problems that spoil the health of hair are dandruff and lice. Tea Tree Oil, being an effective fungicidal and antimicrobial oil, helps fight against dandruff causing agents and nourishes dry scalp and kills head lice. Two drops of tea tree oil can be added to regular shampoo or hair wash and massaged gently onto the scalp.

Boosts immunity: Tea tree oil strengthens immunity and makes your body resistant against the effects of all kind of infections. Topical application of 2 drops of tea tree oil, with 10 drops coconut oil can treat psoriasis, bed sores, wounds, boils, insect bites, abscess, diaper rashes, cold sores, dermatitis, herpes, genito-urinary infections, cystitis, vaginal thrush, deep wounds and ear infections.

Tea tree oil is considered as 'liquid gold' due to its effectiveness in treating multiple health problems including rheumatic pain, oral infections, bad breath, candida, flea bites, cankers, warts, ticks, sunburn, mosquito bites and what not! However, consult your Ayurvedic practitioner before using it for your health condition and individual body type.

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