

REVIEW ARTICLE

POTENTIAL OF AYURVEDIC *PANCHAKARMA* IN PREVENTION AND MANAGEMENT OF LIFESTYLE DISORDERS WITH SPECIAL REFERENCE TO *MADHUMEHA*

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ABSTRACT

Panchakarma (Five fold therapeutic methods of Ayurveda) has immense potential in the context of tackling the lifestyle disorders with special reference to *Madhumeha* (Diabetes Mellitus). Ayurvedic *Panchakarma* procedures have been becoming popular of late and its usefulness in prevention and management of lifestyle disorders especially the *Madhumeha* may be one of the reason. It is therefore essential to recognize the potential of *Panchakarma* therapy of *Ayurveda* and convert into mainstream treatment. As a prelude to this, an attempt has been made to present the Ayurvedic textual references describing the multidimensional utility of *Panchakarma* especially the *shodhana* (Purificatory therapeutic methods of Ayurveda) in the prevention and management of *Madhumeha*. Efforts have been also made to hypothesize the mode of action of this therapeutic plan. It is proposed that prior to pharmacological intervention i.e., either *Ayurveda* or modern anti-diabetic management, *shodhana* might be extremely useful in terms of rendering the body highly responsive to the interventional methods. Potential areas of research have also been suggested.

KEY WORDS: *Panchakarma, Snehana, Vamana, virechana, Basthi, Nasya, Diabetes mellitus, Rasayana, Shodhana, Samana, Ritu Shodhana.*

KEY MESSAGE: Diabetes mellitus is an important global health concern of the present era and needs immediate attention. The various treatment options available in Ayurveda such as *shodhana* therapy acts on different aspects of the disease (etiology, symptomatology, pathogenesis, complications and lifestyle correction) thus providing an overall effective management of the condition.

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INTRODUCTION

Globally today there is a great awareness about the integrated approach to health care. Present work is an attempt to highlight the utility of *Shodhana* therapy (Cleansing Treatment) of *Ayurveda* (Traditional Indian System of medicine), before starting the oral medication of any system of medicine in the field of management of *Madhumeha* an approximate Ayurvedic analogous to Diabetes Mellitus (DM). Once known as the rich man's disease *Madhumeha*, has become common among the people of all economic classes probably due to change in the environment, lifestyle including diet. Literally *Madhumeha* indicates '*Mutradi Madhurye*' meaning urine with features like *Madhu* (honey) including taste, *Madhu Gandha Samanyat* (smell of honey), '*Madhurachha tanoratah*' (Sweetness throughout body indicating increased blood sugar). Even the term Diabetes mellitus conveys the meaning similar to Ayurvedic description. 'Diabetes' literally means 'passing through' 'mellitus' means 'Honey urine' is a clinical syndrome characterized by inappropriate hyperglycemia caused by a relative or absolute deficiency of insulin or by resistance to the action of insulin at the cellular level.^[1]

Panchakarma of Ayurveda is Purificatory measure which cleanses the toxins from the cellular level & also prevents the

production as well as the deposition of toxin in the body. It also rejuvenates the body cells. It plays a major role in prevention & cure of the life style disorders. Hence, of late it is becoming popular.

The literature review was done by compiling the data from original texts of Ayurveda on *Madhumeha* and *Panchakarma* and the interpretations were compared with the modern physiological interpretations. The present article unravels the concept of *Panchakarma* for the better management of *Madhumeha* in preventive, curative & promotive aspects. An attempt has been made to hypothesize the mode of action of these procedures in Ayurvedic and modern scientific perspectives^[1]. It is also suggested that ***Shodhana therapy*** (therapy which leads to evacuation or elimination of morbid *doshas*) can be conducted as the initial line of treatment before starting the *Shamana Oushadhi* (Ayurvedic pharmacological treatment) or Hypoglycaemic drugs of modern medicine in case of *Sthula pramehi* (Diabetes mellitus presenting in overweight people).^[2]

METHODOLOGY:

Various original scriptures of Ayurveda like *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya* were referred for descriptions of *Madhumeha* and utility of *Panchakarma*. Different commentaries and standard translations were referred and

arrived at appropriate interpretations of the descriptions. These concepts were compared with the descriptions of Modern Medicine, and the Ayurvedic approach regarding the disease condition and treatment modality and their modern connotations were hypothesized. Research studies supporting the hypothesis were reviewed for corroborating our theories in the light of contemporary science.

Madhumeha: an Ayurvedic approach:

Prameha is an important disease mentioned in Ayurveda which is characterized by *Prabhuta avila mutratva*. (Excessive and turbid urination). It is of 20 types based on the type of urination. *Madhumeha* is one variety of 'Vatika *Prameha*' (Type of *Prameha* caused due to vitiated *Vata*)^[3] It is told that, when different types of *Prameha* are left untreated, it leads to *Madhumeha*. Based on pathogenesis, *Madhumeha* is of two types.

1. *Dhatu kshayajanya* (Caused due to quantitative and qualitative diminution of body factors)

2. *Dosa avrutta janya* (Caused due to obstruction of the channels by the morbid bio forces called *Doshas*)^[4]

Based on type of patient affected, again it is classified into two types as ^[2]

1. *Sthula balavan* (Obese)
2. *Krusha-Durbala* (Non-obese)

Sushruta explained most interesting sign & symptoms.

- (1) *Gamanat sthananichanti* (The patient feels like standing at a place when he is moving)
- (2) *Sthanat asanan ichhanti* (Patient desires to sit when he is standing)
- (3) *Asanat shayanamicchati* (When the patient is sitting, he feels like lying down)
- (4) *Sayanat Swapnamicchanti* (The patient wants to fall asleep when he is lying down),

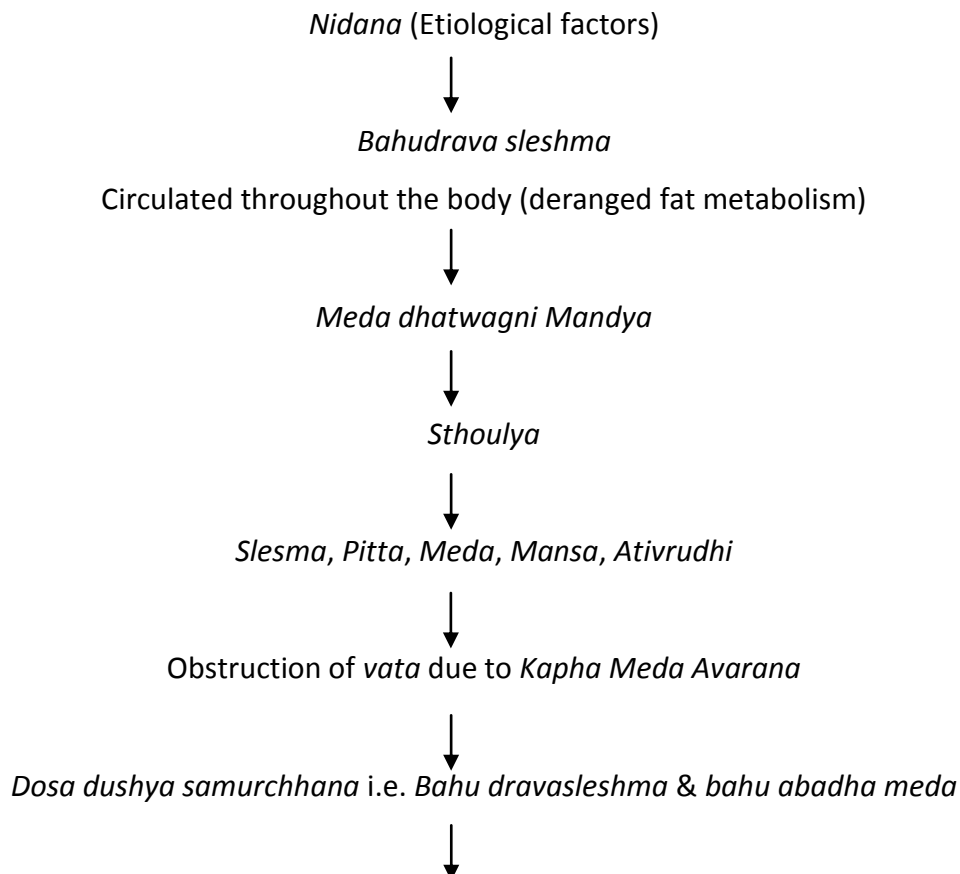
The above clearly states the effect of diabetes on the patient as it brings about fatigability and renders laziness^[5].

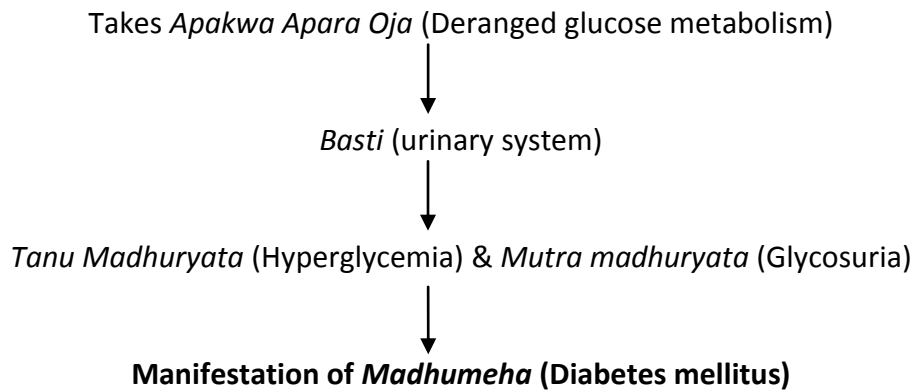
Prime Factors for Disease Manifestation^[6]:

Dosha vishesha (involvement of Bio-forces in the pathogenesis)	<i>Bahu drava Kapha, Vata avruta, Vruddha pitta</i> (Kapha attains fluidity, Pitta is increased quantitatively and Vata encompasses the other doshas)
Dushya vishesha (The body tissues which are	<i>Bahvabaddha Meda</i> (loosened fat tissue), <i>Mamsa</i> (muscle tissue), <i>Kleda</i> (all the fluid factors of the body),

involved)	<i>Shukra</i> (semen & other reproductory secretions), <i>Shonita</i> (blood), <i>Vasa</i> (fatty portion of the muscle tissue), <i>Majja</i> (the fatty portion which fills the bone marrow), <i>Lasika</i> (lymph), <i>Rasa</i> (the nutritious portion of the digested food), <i>Oja</i> (the essence of all the tissues of the body).
Dushti prakara (Type of vitiation of the body channels)	<i>Atipravrutti</i> (excessive flow of bodily tissues), <i>Sanga</i> (Obstructed flow), <i>Vimarga gamana</i> (Misdirected flow)
Agni (Metabolic factor)	<i>Dhatwagni mandya</i> (Morbid tissue metabolism)
Srotas (Involved body pathways)	<i>Medovaha</i> (Fat metabolism), <i>Manovaha</i> (Psychological involvement), <i>Annavaha</i> (digestive tract), <i>Udakavaha</i> (Fluid metabolism)
Nidana arthakara Roga (Aetiological conditions and/or Co-morbid conditions)	<i>Sthoulya</i> (Obesity)

Samprapti (Ayurvedic Pathogenesis) – Flow Chart: ^[4]





Shodhana as Preventive Measure in

Madhumeha: *Rutu Samshodhana* (cleansing according to seasons) i.e. *Vamana* in *Vasanta*, *Virechana* in *Sarat* & *Basti* in *Varsha Rutu* acts as preventive. As in *Charaka Samhita*, it is mentioned that “*Samshodhanam-akurvataṁ*” [not performing seasonal cleansing] is the prime causative factor for manifestation of *Madhumeha*^[7]. *Bahu Drava Sleshma* & *Bahu abaddha Meda* is the *Dosa Vishesa* & *Dushya Vishesa* of *Madhumeha*. By conducting *Rutu Samshodhana* the *Dosha* vitiation can be controlled. Hence *Rutu samshodhana* act as preventive way. In *vasanta rutu* it is advisable to conduct *Vamana Karma* in *Chaitra* (March & April) & *Virechana karma* in *Margasira* (November & December) & *Basti Karma* in *Sravana* (July-August)^[8].

As per modern medical science, β cells of Islets of Langerhans get dysfunctional due to Cytotoxic T cells, Natural killer lymphocytes and Nitric oxide (NO). The products of metabolism can be eliminated by *shodhana* as described by terms like *Malapaham* (excretion of toxins) and *Visudha kostha* (clearing the

gastrointestinal tract). The cleansing therapies therefore might reduce immune-inflammatory processes that have been implicated in dysfunction of Beta cells of Islets of Langerhans, thereby harmonizing their functioning.

Application of Shodhana as curative measure

Madhumeha patients present in two broad forms viz., *Sthula pramehi* (Obese patients) and *Krusha pramehi* (undernourished patients). The former are commonly seen as type 2 diabetes mellitus. They have been described as *Balavan* (patients who can tolerate the disease) for which the Ayurvedic pathogenesis has been described as *Margaavarodha* (metabolic derangement blocking the pathways). The second type has been described as *Apathya nimittaja* (inherited due to unhealthy lifestyle and food), *durbala* (patients who cannot tolerate the disease) and is commonly seen in type 1 DM & MMDM (Malnutrition modulated Diabetes Mellitus). The *sthula pramehis* require

shodhana treatment and *krusha pramehis* require *santarpana* (nourishing) treatment.

Recent research studies on *Shodhana*

Recent research has been conducted on the effect of **Vamana** and **Virechana** karma on *Madhumeha* which shows satisfactory result.

- Vamana with Madanaphaladi Yoga
- Virechana with kalyanaka guda
- Snehapana with Dhanwantharam ghrita

Drug action according to Ayurveda

Dhanwantaram ghrita: due to *katu tikta rasa* (Pungent and bitter taste), *Katu Vipaka* (Pungent post digestive effect), *Ushna veerya* (Catabolic in potency) and *Laghu ruksha guna* (Light and dry) it possesses *Agnideepti* (carminative), *MargaShodhana* (Clarifying effect on channels) hence perform reduction in peripheral resistance, β cell dysfunction, prevent further deposition of *meda* (fat tissue) and brings normalcy in receptor function.

Madanaphaladi yoga: Due to *vyavayi, anupravana & sukshma guna* (Capacity of the drug to pass through minute channels of the body immediately after consumption surpassing the process of digestion) it reaches at its desired site i.e. receptor & post receptor level. Due to *ushnaguna* its separates & liquefy the stagnated *dosha & dushya* in micro circulation. These liquefied

doshas & dushyas at the receptor (insulin binding site at the cell membrane) & post receptor level entered in to *kostha* & hence activate other receptors for proper functioning. Then from *kostha* by the action of *vyana vayu, Udana vayu, Agni mahabhuta* it moves in upward direction & gets eliminated by *vamana* (Induced emesis).

Kalyanaka guda^[9]:

It possesses *yakrut uttejak* (Hepato stimulation), *Rasayana* (Rejuvenation, anti-oxidant, immuno-modulation), *Rakta sodhaka* (haemo purification), *vatanulomana* (bringing back Vata to its proper direction), *Rechaka* (purgation), *Srotosodhaka* (cleansing of channels) & *Tridosasamaka* (Pacifying all the three doshas viz. *Vata, Pitta, Kapha*) effect. Thus, leading to the *samprapti vighatana* (acting against different levels of Pathogenesis) of *Madhumeha*. A Clinical trial conducted at Sushruta Ayurvedic Medical College and Hospital on effect of *virechana* with *Trivrut avaleha & snehapana* with *Mahatiktaka ghrith* showed a successful reduction in F.B.S. F.U.S & P.P.B.S. & P.P.U.S. Recent research has been conducted on the effect of *Madhu Tailaka basti* with *Samana Oushadha* in D.M. (*Madhumeha*) which shows the reduction of HbA1C (Glycosylated Hb%) from 9.23 to 8.20 along

with effect on F.B.S. & P.P.B.S. was satisfactory (Statistically significant & improvement in Hb%).^[10]

Areas for further research:

- Maharshi Sushruta mentioned in *vamana* with *priyangu taila/ghrita* after proper oleation followed by *virechana* followed by *Asthapana basti* with *surasadi gana kasaya* which needs further clinical study. Priyangu contains—Hydrocyanic acid that posses *Pramehaghna* effect^[12].
- After proper *snehana* & *swedana* in *chaturtha bhaktantara Tugaraka taila* should be administered with *Mantrapatha*, which will cause proper *Vamana* & *Virechana* – This needs further clinical study *Tugaraka* contains – Chalmagric acid, Hydnocarpic acid, palmitic acid & also posses *Pramehaghna* effect^[13].
- Charaka mentioned *Pancha Tiktaka Niruha Basthi* i.e. *Pancha Prasrutika Basthi* as *Mehaghna* – It needs clinical research^[14].
- Charak mentioned *Bidangadi Taila Pana*, *Abhyanga* or as *Anuvasana Basthi* Possess *Premeahghna* effect, it needs clinical research^[15].
- *Matra basthi* with *Maha Tiktaka Ghrita* or *Guggula Tiktaka Ghrita*, *Aswangandha ghrita*

- *Sneha prayoga*:- In case of *Kapha Anuvandha Kapha Nasaka Dravya Siddha Taila* and *Pitta Anuvandha Pitta Nasaka Dravya Siddha Ghrita* can be administered externally & internally.
- *Harita samhita* has advised *ghrita pana* and also milk +sugar (as *sadya sneha*) *taila paka ghrita paka abhyanga* as well as *pana* to cure *Madhumeha*^[16].
- *Swedana* is contra indicated but *mrudu swedana* can be given if necessary.

Classical Ayurvedic references for calorie burning exercises in management of *Madhumeha*^[17]: -

- ***Yojanam Satam Yayat*** – Walk for long distance which will helpful for the proper utilization of the glucose in the peripheral tissue & also cause the *bahu abaddha Meda vilayana* & *kapha nasa* & cause *sweda pravrutti* – excretion of toxins in the form of sweating hence helpful to cure *Madhumeha* so it can be considered as **poor man's Shodhana**.
- ***Khanedba Salilasayan*** – Dipping of well or pond now-a –days it can be taken as gardening i.e. Aerobic exercise which also prevent lipolysis & stimulate lipid synthesis. So cause *srotoshodhana* shows positive result in *Madhumeha*.
- ***Gobhihi eva saha brajet-*** To walk with cows while they graze an equivalent for exercise (brisk walk).

Shodhana as promotive aspect in Madhumeha

- In *Krusha pramehi (Beejadosaja)* even if it is *Asadhya* or *Kastasadhya* to provide them a better life *Abhyanga & Snehapana (Brumhana & Samsamana)* by the above mentioned oil can be administered.^[2]
- *Rasayana chikitsa* is more applicable – *Jala nasya, Brahma Muhurta Jala pana* (Vangasen samhita is advisable because it acts as *rasayana* & a cost less procedure.)
- Beyond this *Shodhana* all the pioneers given emphasis on the proper diet and regimen.

Probable mode of action Shodhana

Sneha pana

Liquefy the *dosha - Doshya Samurchhana (Bahu Abaddha Meda)* may dissolve fat soluble Amyloid deposition i.e. fibrillar protein leading to proliferation of the insulin secretory cells (By reducing the atrophy of the Islet epithelial cells).

Process of Vamana, Virechana, Asthapana Vasthi:

Due to *Vyavayi, Vikasi, Ushna, Tikshna & Anupravana Bhava* also by the effect of *Vyana, Udana, Apana, Vayu, Agni & Jala Mahabhuta* all the toxic materials get excreted through Gastrointestinal

tract (either in the upward or in the downward direction).

- *Srotoshodhana, Agnivardhana, Kostha Shodhana*
Activate *Medodhatwagni* (Activate Glucose & fat metabolism)
- Lack of *Meda sanchaya* (prevent Lypolysis & activate fat metabolism)
- *Vata avarana* will be removed (insulin resistance will be reduced)
- Reduces the stress on β cell
- Hence insulin deficiency will be corrected (leading to proper absorption as well as utilization of Glucose)
- *Madhumeha Nivruti* (disease control) leading to
Mutra apichhilam anabilam Visadam tikta katukam tada arogyam prachakshyte^[18]

CONCLUSION

Madhumeha is very common ailment in this mechanical era in which *tanu & mutra Madhuryata* is the presenting symptoms. *Samshodhana* therapy i.e. *vamana, virechana, Basthi* has a significant role in *Samprapti Vighatana* of *Madhumeha*. By *Agni Vrudhi & Srotoshodhana* effect of *Samshodhana Karma* it activates the insulin secretion as well as reduces peripheral insulin resistance. *Rutu Shodhana* possesses preventive effect due to its detoxifying action on free radicals hence

prevent disease production. *Shodhana* (Bahya *Shodhana*) *Abhyanga*, *Jala Nasya* posses the promotive effect by providing better & easy life specifically to *Krusha Pramehi*. *Panchakarma* i.e. *Abhyantara Shodhana* expels the toxins from the body at the cellular level, activate the function of cell membrane; activate digestion, metabolism, absorption, assimilation & excretion. So maintain the homeostasis of the body. *Panchakarma* therapy can be suggested as the initial line of treatment before starting either *Madhumeha* nasak of Ayurveda or Hypoglycemic drug of modern medicine for their better action specifically in *Sthula Pramehi*. Further clinical trials are required to establish the effect of *Panchakarma* by different formulation on *Madhumeha* by utilizing all the available scientific technology.

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