WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 13, Issue 1, 313-319. Review Article ISSN 2277–7105

EFFECT OF SHODHANA KARMA (VAMANA AND VIRECHANA) IN PREDIABETES - A REVIEW ARTICLE

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Article Received on
14 November 2023,

Revised on 04 Dec. 2023,
Accepted on 24 Dec. 2023

DOI: 10.20959/wjpr20241-30682

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ABSTRACT

Studies clearly defined about the risk factors of microvascular complications like microalbuminuria, increased C- Peptide levels in Prediabetic patients. Increasing prevalence of diabetes in young generation is leading to unhealthy lifestyle, early health issues and an extra financial burden on country's economy. Early diagnosis and treatment can help leading a better and healthy lifestyle. In Ayurveda sanshodhana treatment such as Vamana and Virechana procedures are answers to these predominant lifestyle and metabolic disorders such as diabetes mellitus, obesity etc. The vitiated doshas get normalize in the body after sanshodhana process. The seasonal purificatory methods would yield good health, better lifestyle and good quality of life as well. Ayurvedic sanshodhana processes have shown significant results in the management of prediabetes. Through this review, we want to highlight the possible ayurvedic interventions for prevention of Prediabetes.

KEYWORDS: Prediabetes, Sanshodhana, Vamana, Virechana.

INTRODUCTION

Diabetes has become a world-wide pandemic. The term "Pre-diabetes" was first used approximately 10 years ago, by the American Diabetes Association and the United States Department of Health and Human Services. Prediabetes is the intermediate stage in which the patients blood glucose levels remains higher than normal. This is the "Grey area" between normal and higher blood sugar levels.[1] When the body's glucose levels are above normal but not high enough to be diagnosed as diabetes mellitus, it is referred to as prediabetes. This is the stage in which the microvascular complications also appear.[2] The prevalence of

Prediabetes is 8.7% in urban and 7.9% in rural India. In India, the approximate prevalence of prediabetes is 14%, and that number only includes individuals who have undergone testing.[3] If prediabetic stage is not treated properly it will convert into diabetes. Researchers concluded that lifestyle changes combined with pharmacologic therapies (such as oral hypoglycemic medications and a variety of anti-obesity medications) can successfully delay the development of type-2 diabetes.[4] The objective of this review is to study possible ayurvedic interventions for prevention of Prediabetes and whether ayurvedic panchakarma therapy predominantly shodhana(bio-purification)-Vamana (therapeutic emesis) and Virechana (therapeutic purgation) are helpful in preventing prediabetes or not. As per ayurveda, medodhatwagni mandhya which ultimately lead to santharpana janya vikaras like prameha(diabetes), sthoulya(obesity) etc which exhibits similar symptoms of metabolic disorders.[5] For santharpana janya vyadhi, apatarpana will be the main treatment regimen and hence shodhan karma is the indication. For this purpose we reviewed 12 articles and included 6 articles in this review. International Diabetic Federation (IDF) in 2005 confirmed that diabetes is one of the most common communicable disease globally and constitutes the 4th or 5th leading cause of death in most developed as well as many developing countries. According to estimates, there would be 79.4 million cases of diabetes in India in 2030 as opposed to 31.7 million in 2000.[6] In India, prediabetes has been diagnosed in over 30 million persons.[6] India is thus one among the nations dealing with a pre-diabetic health epidemic. India is known as the diabetes capital of the world. By 2025, there will be an alarming 69.9 million people with diabetes worldwide, and by 2030, there will be 80 million.[6] This suggests that the emerging country is expected to increase by 266%. The most important realization for many diabetologists is that Type 2 diabetes may be substantially prevented with proper food and lifestyle management. But once it has taken hold in the body, it usually has an irreversible course. It progresses through various stages, including Type-1 and Type-2 diabetes, and its aftereffects include diabetic neuropathy, nephropathy, cardiomyopathy, and carbuncles, among other issues. Prediabetes is diagnosed by looking for signs of impaired glucose tolerance, impaired fasting glucose, and/or high HbA1C readings between 5.7% and 6.4%. Although the World Health Organization maintains a narrower threshold between 110 and 125 mg/dl, impaired glucose tolerance is defined as blood glucose levels of 140 to 199 mg/dl.[7,8] Acharya Charaka has discussed the causes of Prameha, or diabetes, including consuming too many grains and early-ripened pulses, using sugarcane and its products like sharkara and guda khand, using milk and its products, being lazy, not exercising, sleeping too much during the day, drinking alcohol, and so on. Emotional

factors—such as irritability, sadness, and eagerness—have been shown to be significant, as are those with a positive family history (sahaja prameha).[9] Charak Samhita lists a number of symptoms, including matting of hairs, sweet taste in the mouth, dehydrated sensation, attraction of ants and flies towards urine, urinary changes, foul body odour, lethargy, increased napping , heavinessin body ,constant feelings of laziness, increased hairs and nail growth, increased perspiration etc.

MATERIALS AND METHODS

Charak samhita, Sushruta samhita hindi commentaries along with the articles present on internet (google scholar) regarding shodhana karma in Prediabetes were viewed and matter has been collected from there.

Study Synthesis

Author	Inclusion criteria	Exclusion criteria	Groups	Intervention	Result
UMESH CHOUDHARY & AJAI KR. PANDEY[10]	Age between 30-60 yrs. Positive Family History of diabetes, hypertension and Dyslipidemia • Plasma glucose level: Fasting: 100-125 mg/dl Postprandial: 140-199 mg/dl	Age 60yrs. • Type ll Diabetes Mellitus (NIDDM) with and without complications. • Type l Diabetes Mellitus (IDDM) associated with and without complications. • Diabetes due to endocrinopathies e.g. Phaeochromocytoma, Acromegaly, Cushing's syndrome, hyperthyroidism etc. • Drug or chemical induced diabetes mellitus e.g. Glucocorticoids, Thyroid hormone, Thiazides, Phenytoin etc. • Certain genetic syndromes sometimes associated with diabetes mellitus e.g. Down's syndrome etc.	No. of patients - 60 Number of groups -3 20 in each group	Group A- Control group on metformin 500 mg BD Group B -Diet Restriction Group C- Vamana and Virechana Karma	The blood sugar fasting and post prandial in group A was statistically highly significant ($p<0.001$). Group B highly significant results in Fasing and PP ($p < 0.001$). Group C- highly significant in both fasting and PP ($p < 0.001$).
Umesh	Age 30-60	Age 60 years • Type-	No. of	Group-I: 30	Group A

Choudhary1, Srivastava Ragini2, V. K. Srivastava[11]	years • Family history of diabetes, hypertension, dyslipidemia • Plasma glucose level: Fasting: 100-125 mg/dl • Postprandial: 140-199 mg/dl • HbA1C: 5.7-6.4%.	II DM (NIDDM) with and without complications • Type-I DM (IDDM) associated with and without complications • Diabetes due to endocrinopathies, for example, pheochromocytoma, acromegaly, cushing's syndrome, hyperthyroidism, etc. • Drug or chemical-induced DM, for example, glucocorticoids, thyroid hormone, thiazides, phenytoin, etc. • Certain genetic syndromes	patients - 60 2 groups	patients recommended both Vamana therapy and Pathadi Ghana Vati drug Group-II: 30 patients in control group i.e., treated with modern drug (metformin 500 mg OD) on Doctor's prescription	and B – FBS and PPBS highly significant ($P < 0.001$). The rate of fall in FBS and PPBS in Group-I was maximum followed by Group-II
Bhagyashree, Shaila Borannavar[12]	FBS 169mg/dl PPBS 232 mg/dl HbA1C 6.4%	-	Case study	Vasantika vamana	FBS 72mg/dl PPBS 112mg/dl HbA1C 5.5%
Uttamram Yadav, Santosh Kumar Bhatted[13]	Age between 30 years and 60 years, obese patients, HBA1C 5.7% to 6.4%, FBS between 100 and 125 mg/ dl body mass index >25	Insulin-dependent diabetes mellitus patients, gestational diabetes, patients on steroids or oral hypoglycemic drugs, malignant and accelerated hypertension, CCF, pregnant women, and lactating mother ,suffering with any serious disease	Single group with 20 prediabetic patients	Vamana karma followed by the oral administration of Darvyadi Kwatha 80 ml twice a day before food to the patients for 30 days	statistically highly significant in HBA1c, FBS and PPBS.

DISCUSSION

A person with Prediabetes has deranged blood glucose levels, but cannot be diagnosed with diabetes mellitus. Microvascular complications start in Prediabetic state itself. Recently, there has been a significant correlation between prediabetes and cardiovascular disease. According to recent research, individuals with prediabetes may experience diastolic heart

failure and coronary artery disease prior to developing overt diabetes.[14] Moreover, prediabetes may have an effect on peripheral and coronary atherosclerosis that is comparable to that of diabetes.[13] Since metformin is used in prediabetes to prevent diabetes but its diabetes conversion rates are comparatively less[14] and its more beneficial to the one's who are overweight and higher fasting glucose levels.[15] Also metformine was founded to be less effective in comparison with physical exercise and lifestyle modifications.[15] Along with diabetes mellitus, chronic renal disease, cardiovascular disease, and fatty liver disease, prediabetes is included in the metabolic syndrome.[16] Shodhana process(bio-purification) improves these metabolic syndromes as well.

LIMITATIONS

Since sanshodhana karma (bio-purification of body) through vamana and virechan karma are beneficial in reducing blood sugar levels and glycated haemoglobin percentage as well above metformin and other lifestyle changes. But some challenges are also there since randomization is not possible for panchakarma procedures because there exists indications and contraindications of panchakarma. A further limitation is whether the intervention can mitigate or cure insulin resistance. In addition, the results cannot be generalized due to small sample size and shorter time duration of follow-ups of the patients.

CONCLUSION

If general population is made aware about these signs and symptoms and early screening is done in adult population and in those people where family history of diabetes is there, who are obese and female patients with PCOD are made aware and their screening is done then the present scenario can be reversed or the present rate of increase in the prevalence can be controlled. The seasonal purification as told in the texts like vamana in vasant ritu and virechana karma in sharad ritu will be helpful in achieving the goal to control the present rate of conversion of prediabetic population into diabetic population.

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