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COMPARISON OF AYURVEDIC AND ALLOPATHIC TREATMENT IN TYPE 2 DIABETES MELLITUS

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ABSTRACT

Ayurveda is considered an ancient medical practice that is used as a complementary and ultimate treatment for chronic illness. This study is based on the treatment of diabetes and its medical integration. It explores the ayurvedic and allopathic diagnosis and the treatment of diabetes type 2 with a special focus on adults. A shortcoming of medical treatment for treating chronic illness has increased the value of the integration of Ayurveda and allopathy. This study mainly finds out the answer to how ayurvedic and allopathy treatment is used for the treatment of diabetes type 2 including its persecution.

Keywords: Ayurveda, allopathy, diabetes, medicine, treatment, patient

INTRODUCTION

According to the World Health Organization (WHO), the majority of Type 2 diabetes (DM2) patients in India are underweight, indicating a prevalence of malnutrition-related diabetes mellitus (MRDM) rather than obesity. Research suggests that chronic

disorders like diabetes are more likely to develop in young individuals compared to adults [1]. Fetal susceptibility to diabetes risk factors, including obesity, is linked to the mother's nutritional state during pregnancy [2]. The epidemiological landscape is rapidly

transforming, particularly in urban populations in India, with an increase in diabetes associated with shifts in nutrition and physical activity.

Ayurveda, derived from the terms Ayu (life) and Veda (knowledge), encompasses mind, body, behavior, and environment [3]. Ayurveda identifies three biological senses of humor, known as doshas—Vata, Pitta, and Kapha. Its physiology aims to maintain open body pathways for all activities, stating disease results from channel obstruction [3]. Ayurveda's third principle tailors healing to each patient's unique needs, emphasizing the role of *ahar vihar*, the patient's psychophysiological constitution, in illness treatment.

In contrast, allopathy is defined as a medical approach utilizing effective scientific and evidence-based approaches to treat anatomical, physiological, psychological, and emotional diseases [4]. Globally, diabetes poses a significant threat, affecting 8.3% of the population, with 387 million people aged 40-59 in low- and middle-income countries. Research indicates a higher risk of diabetes and coronary artery disease among Asian Indians due to increased insulin resistance and abdominal fat. Treatment selection for diabetes considers factors such as severity, risk of hypoglycemia, hepatic and renal

functions, body mass index, self-monitoring ability, and drug cost. Insulin injections, Sitagliptin, and Innap peptide therapy are the part of the treatment for type 1 DM [5].

Efficacy of ayurvedic remedies in type 2 diabetes

Diabetes Mellitus (DM) is a complex metabolic disorder with insulin deficit, insulin action deficiency, or a combination of both, as identified by Kumari (2022) [6]. Prolonged elevation of blood sugar levels can lead to severe complications, including diabetic retinopathy, nephropathy, neuropathy, and an increased risk of cardiovascular disease.

Ayurveda, a holistic medical system, offers alternative treatments for diabetes. The Ayurvedic approach involves not only herbal medications but also purification processes, lifestyle modifications (*Patiya-Apathya*), and yoga (*Yoga Nidra*). McKinlay (2000) highlights the safety and efficacy of Ayurvedic treatments, emphasizing the use of *Shodhana karma* followed by *Shamana*, with *Pathya Ahara* and *vihara*, was proven to be an effective therapeutic regimen for diabetes control. *Shamana Chikitsa* prescribes *Medhya Aushadha* (brain tonics) in addition to other medications since treating disease pathology and reducing illness-triggering factors like emotional stress are equally vital.

Chattopadhyay (2020) [7] states ayurveda's holistic approach, incorporating dietary changes, Panchkarma (system cleaning), yoga, and specific herbs like Shilajit, neem, Triphala, and rose apple.

Studies by Shubhashree (2019) [8] and Deshpande (2018) [9] caution about potential risks in Ayurvedic treatments, including contamination with heavy metals and the presence of fake herbal remedies. Despite these concerns, Rastogi (2020) notes the prevalence of complementary and alternative medicine (CAM) use among diabetics. However, limited high-quality research, including randomized controlled trials (RCTs) and controlled clinical trials (CCTs), hinders a definitive conclusion on the effectiveness of Ayurvedic remedies.

While Ayurvedic medicines like Vasanta Kusumakar Ras and Chandraprabhavati are mentioned as potential treatments for diabetes, the lack of robust evidence is highlighted by Rastogi (2020). Additionally, concerns about contamination and safety issues with herbal remedies were mentioned by Deshpande (2018) [9].

In conclusion, Ayurveda presents a holistic approach to diabetes treatment, incorporating herbal medicines, lifestyle modifications, and cleansing processes. Despite the widespread use of complementary and alternative

therapies, the lack of rigorous research with large sample sizes and methodological flaws inhibits conclusive statements about their effectiveness and safety. Healthcare professionals and patients should exercise caution and consider a balanced approach to diabetes management, incorporating evidence-based practices alongside complementary therapies.

Influence of complementary and alternative medicine in type 2 diabetic patients

Diabetes mellitus, affecting 347 million people globally in 2013, is a leading cause of mortality. The rising popularity of Complementary and Alternative Medicine (CAM) is evident, with cinnamon, fenugreek, and bitter melon commonly used. However, the widespread adoption of CAMs has outpaced evidence on their safety and efficacy. As reported by various studies, including those by Samara *et al*, [10] Kausar *et al*, [11] and Tekulu *et al*, [12] individuals worldwide, including 2.3 to 3.6 million in the United States, are increasingly turning to CAMs for diabetes management. Despite a surge in herbal medicine use, robust data supporting their effectiveness remains limited.

Cinnamon

Cinnamon, with over 250 species, holds therapeutic value in Ayurvedic medicine. Among which Ceylon or True Cinnamon (*C. Verum*) and Chinese cassia cinnamon (*C. aromaticum*) are widely utilized.

Fenugreek

Fenugreek has been used for a wide range of medicinal purposes in Ayurvedic and Chinese medicine for many years. Early studies involving animals and humans indicate that taking fenugreek seed powder orally may help lower blood sugar levels.

Doan *et al.* highlight the longstanding practice of using food components to treat diseases, prevalent in complementary and alternative medicine (CAM). Studies show patient acceptance of CAM, often as a dietary supplement [13].

Treatment of diabetes with lifestyle changes: diet

Joshi *et al.* highlights the prevalent struggle with weight gain among type 2 diabetics, emphasizing NHANES III data indicating that a significant majority were overweight or obese in 1999–2002. Aging exacerbates weight concerns, often leading to the use of oral hypoglycemic medications. The overarching goal of diabetes treatment is to achieve and maintain a healthy weight, with a modest 5 to 10 percent body weight

reduction bringing various benefits, including decreased reliance on diabetes drugs, blood pressure medications, cholesterol medications, and lowered cardiovascular mortality [14].

Ling *et al.* reports a 25 percent lower overall death rate and a 28 percent lower diabetes-related and cardiovascular mortality rate among overweight individuals with diabetes ($BMI \geq 27 \text{ kg/m}^2$) in the United States, as revealed in observational research. However, caution is warranted, as a U-shaped association between mortality and weight loss is noted, particularly with a body weight decrease of less than 30% [15].

LeRoith *et al.* suggests that diabetic individuals struggling to regulate blood sugar despite proper medication use; may benefit from an intensive diet based on diabetes nutrition guidelines. The Look AHEAD clinical research emphasizes the efficacy of comprehensive lifestyle interventions, including diet, exercise, and regular medical visits, as the most effective therapy for overweight or obese patients with type 2 diabetes and related conditions [16].

Magkos *et al* reports the success of a lifestyle intervention over a typical educational program in reducing body weight, improving blood pressure, and controlling blood glucose over four years. Notably, some patients achieved remission, with a substantial

increase in HDL cholesterol after four years. Moderately obese diabetics experienced significant improvements in blood pressure, plasma glucose, HbA1c, and triglycerides after losing 7–10% of their initial body weight [17].

Optimal diet composition

Nutrition therapy in diabetes aims to control blood glucose, prevent hypoglycemia, maintain a healthy BMI, delay complications, manage lipids and blood pressure, and enhance well-being. Garcia-Molina *et al.* advocates for healthy eating, emphasizing nutrient-rich, high-quality foods. Recommended patterns include DASH, the Mediterranean diet, and plant-based eating, with the "Plate model" as a practical guide. Diabetic diets align with general guidelines but prioritize reducing fat and carbs, emphasizing specific macronutrient proportions [18].

Carbohydrates serve as the primary energy source and can significantly impact blood glucose levels, particularly post-meal. For diabetics, consuming an ample amount of carbohydrates is crucial for maintaining healthy blood glucose levels. Uusitupa *et al* notes a historical recommendation for diabetics to avoid all sugar, as it was believed to elevate blood glucose [19]. However, contemporary research indicates that sucrose

has a similar impact on blood glucose as an equal caloric amount of starch. Nonetheless, nutritional sweeteners are discouraged due to their contribution to "empty" calories and weight gain. In economically developed nations, protein intake has risen, with suggested limits acknowledging the importance of maintaining protein levels above 0.6 g/kg/day to prevent nutritional deficiencies.

Reasons why modern doctors deny ayurveda for diabetics

As of 2022, the International Diabetes Federation projects 463 million global cases and 88 million in Southeast Asia by 2022, with 77 million in India. The prevalence is 8.9%, impacting 72.96 million Indian adults. Urban areas show a higher incidence of 10.9-14.2%, while rural regions range from 3.0-7.8% (INDIAN Study). Mishra *et al.* predicts India's diabetic population will reach 123 million by 2035, with a rising trend in Type II Diabetes Mellitus diagnoses among 20-30-year-olds. Contrary to the misconception of plumpness, many Indians are underweight, facing malnutrition related Diabetes Mellitus - (MRDM). Malnourished children exhibit higher diabetes risks. Recent research links maternal peri-conceptual nutrition to diabetes risk factors. India's epidemiological shift, driven by dietary changes, particularly

in urban areas, anticipates altering diabetes statistics and reflecting a departure from Western trends [20].

Ayurveda Vs Allopathy

Ayurveda, as described by Khan *et al.* is a living philosophy valuing both Ayur (life) and Veda (knowledge). This holistic approach integrates the mind, body, activities, and environment as interconnected entities. The body's three doshas—Vata, Pitta, and Kapha—regulate catabolic and anabolic metabolism. Ayurvedic physiology emphasizes unobstructed processes for overall well-being; blockages lead to disease. Healing, unique to each individual, centers on Ahar vihar—the patient's psychophysiology. In essence, Ayurveda's core principle is personalized healing, recognizing the interconnected nature of mind and body to maintain the health [21].

Gaidhane *et al.* defines Allopathy as a scientific medical system utilizing effective techniques for treating illnesses. It is recognized as the "branch of science," emphasizing evidence-based medicine. Allopathy examines structural, physiological, psychological, and emotional abnormalities, investigating disorders rooted in natural science principles affected by biological, chemical, physical, and psychological factors [22].

Mohiuddin *et al.* highlights Ayurveda's use of differential diagnosis, diverging from established biomedicine categories.

Ayurvedic treatments are tailored to individual psycho-physiological imbalances. Leguizamon notes both biomedicine and Ayurveda's role in illness development, with Ayurveda attributing primary causation to the soul, mind, senses, and physical body. The anatomical structure in Ayurveda differs significantly, viewing the body as a network of canals. Ayurveda like biomedicine, emphasizes the pivotal role of diet in contemporary medicine, recognizing it as a crucial element in preventing illness. This highlights Ayurveda's holistic approach, addressing both physical and metaphysical aspects of health [23].

In addressing diabetes, Ayurveda's ancient approach, Prameha or Madhumeha, aligns with contemporary symptoms. Ayurvedic interventions involving primary herbs like Amalaki and Methi, along with yoga asanas and Kerala's haridra, contribute to lowering blood sugar levels. The paragraph critiques allopathic management, emphasizing the limitations of medications in diabetes treatment. Allopathic drugs, while controlling sugar levels, do not cure diabetes, often leading to complications. Ayurveda's holistic perspective, encompassing dietary, lifestyle,

and herbal interventions, offers a distinct approach, challenging the prevailing allopathic paradigm in recognizing the potential for diabetes reversal.

Is allopathy more effective or ayurveda

Parajuli *et al.* emphasizes the importance of comprehending diabetes characterization in both Ayurvedic and allopathic systems for effective comparison. Interview of participants revealed diverse perspectives on DM2 classification. Ayurvedic and allopathic doctors, along with dual-trained Dr. Deepak Joshi [27], discussed distinct treatment approaches. This study explores variations in viewpoints on DM2 treatment among these practitioners [24]. Long-term hyperglycemia is the hallmark of diabetes mellitus. Controlling blood sugar levels relies on insulin, which is produced in the pancreas. To completely comprehend diabetes, one must have a thorough understanding of how food is processed and used by the body. Pannu *et al.* highlight glucose as the primary energy source for the human body, facilitated by pancreatic insulin. This hormone transports glucose from the bloodstream to muscle, fat, and liver cells, serving as a vital fuel for cellular functions. Diets high in fats and sugars can elevate insulin levels, contributing to high blood sugar. Individuals experiencing diabetes may encounter

insufficient insulin production or diminished cellular responsiveness, causing an inability to utilize glucose effectively. This insulin deficiency or increased peripheral insulin resistance is central to diabetes etiology, impeding glucose uptake by cells even when insulin levels are normative [25].

Rastogi *et al.* examined the American Diabetes Association's classification of diabetes into four types, including gestational diabetes mellitus (GDM) and Type II diabetes (DM2). Notably, Type 1 diabetes mellitus (DM1) arises from the destruction of pancreatic β -cells, leading to a near-complete loss of insulin production. This insulin deficit prevents cells from absorbing glucose, resulting in dangerously elevated blood sugar levels. DM1 is often diagnosed at birth, presenting early and severe symptoms, with a heightened risk of ketosis. Individuals with DM1 require lifelong insulin injections to manage their condition, underscoring the critical role of insulin replacement therapy in their care [26].

According to Banerjee *et al.* Ayurveda, it is said to be the oldest and most reliable source of knowledge about diabetes. One of the first doctors to address diabetes prevention and treatment was Sushruta, an Ayurvedic physician who wrote on the benefits of exercise. Diabetic patients' urine is described

as delicious in the ancient Vedas, which were written around 5,000 years ago, as well.

Ayurveda's portrayal of diabetes differs greatly from biomedicine in its focus on dosha imbalance, but allopathy may find common ground in their scientific understandings of diabetes, such as elevated blood glucose levels or insulin dysregulation. Examining these contrasts offers insight into potential correlations, facilitating a deeper understanding of diabetes within the frameworks of Ayurveda and allopathic medicine [27].

Blessy *et al.* identify 20 distinct urinary illnesses in Ayurveda's concept of Prameha, each attributed to interactions between the three doshas and ten dushyas. The categorization is based on the predominant dosha: ten types in Kapha, six in Pitta, and four in Vata. While not all 20 prameha types are detailed in this study, it underscores that lifestyle, mental well-being, and heredity contribute to these conditions. Ayurvedic therapies for type 2 diabetes (DM2) are diverse, emphasizing an individual's constitution and viewing diabetes more as a condition than a disease (Lang *et al.*) [28]. Treatments encompass lifestyle adjustments, dietary changes, meditation, yoga, and Panchakarma therapy, involving Sanshodhana, Snehana, and Swedana.

Ayurveda associates laziness, poor eating habits, sedentary lifestyles, and digestive issues with DM2 development, characterized by elevated blood sugar levels [29].

Paudyal *et al.* asserts Ayurveda's emphasis on nutrition for overall health, with Kayakalp influencing eating patterns for chronic illness patients. Tailored diets align with psychophysiological constitutions.

Controlling diet over time facilitates studying its impact on chronic conditions, aligning with both contemporary medicine and Ayurveda's consensus on modified meal amounts and timing for diabetics. Avoidance of Kapha-enhancing foods is recommended [30].

Dr. Deepak Joshi *et al.* advocates eliminating fatty, sugary, and high-calorie meals, promoting a balanced, nutritional diet. He notes that insufficient nutrition or low-calorie intake may reduce insulin production, observing a 25-50% increase in insulin secretion among those transitioning to a nutritionally balanced diet. Acknowledging commonalities between Ayurvedic and biomedical approaches, these insights emphasize the importance of personalized dietary interventions, reinforcing the critical role of nutrition in managing diabetes [31].

In summary, Ayurveda's holistic perspective on Prameha and its multifaceted therapies,

combined with the significance of nutrition highlighted by both Blessy and Paudyal, offers a comprehensive approach to understanding and managing DM2.

Recognizing shared principles across Ayurveda and allopathic medicine underscores the potential for integrative strategies in diabetes care, providing a nuanced and patient-centered approach to treatment.

CONCLUSION

Both allopathy and Ayurveda remain different in their definitions of diabetes, even though they share many scientific concepts 'foci on dosha imbalance, its various categories of diabetes (including those for the pre-diabetic patient), and its use of therapeutic techniques other than medicine to treat the diabetic patient were the most notable differences between the parties.

Due to their wide scope, doctors' common perceptions also include some subtle variances, differing in their appearance and strength. While it is reasonable to anticipate some variation among doctors trained in various treatment modalities, the allopathy itself does not entirely account for this. Regardless of the kind of medicine they practice, each doctor's views and opinions are shaped by the life events and upbringing that led them to where they are now. Despite the appearance of trends, it is impossible to

generalize the views of allopathy from the statements of its practitioners. Instead, the goal of this study is to learn about the common perspectives among practitioners, as well as the degree to which they differ from one another.

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