

## ORIGINAL ARTICLE

### Diabetes and Ancient India: a Glimpse through Ancient Indian Scripture

#### Abstract

India is on the verge of becoming the diabetic capital of the world. The fact is that even in ancient India diabetes was prevalent and reference of diabetic-like condition is there in Atharvaveda, known as one of the oldest literature in the world. A search through ancient Indian religious, political and medical scripture shows various references of diabetes, better known as *prameha* or *madhumeha* to ancient India. Ancient Indian medicine was well developed and there are now vivid descriptions of the cause, symptoms, pathophysiology, complications and treatment of diabetes in these scriptures. *Arthashastra*, the famous political scripture of India even gives reference to diabetogenic techniques for destroying enemies. Charaka, Susruta and other contemporary physicians of ancient India had a scientific approach to diabetes and its management. Therefore, prevalence of diabetic has been documented in India since the Vedic period and ancient Indian scriptures have provided some valuable knowledge for diabetes.

**Key words:** *Prameha, Madhumeha, Diabetes, Ancient Indian Scripture*

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## Introduction

India has an overwhelming diabetic population. Of 371 million diabetic people worldwide, 63 millions are Indian, i.e. every sixth diabetic is an Indian, as reported by the International Diabetic Federation (IDF) 2012 report. There has been an increase of about 2 million in one single year, i.e. 63 million in 2012, compared with 61 million in 2011.<sup>1</sup> It is projected that the major global diabetic load occurs in India and China, where more than 75% of diabetic subjects will live by the year 2025,<sup>2,3</sup> and by then every fifth diabetic subjects in the world would be an Indian.<sup>4,5</sup>

It is said that the word diabetes is not a new term and was probably coined around 250 BC by Aretaeus. Diabetes literally meant “to go through” or siphon as the disease drained more fluid than a person could consume. And because a person with diabetes passes sweet urine so later on, the Latin word “mellitus” is added meaning “as if imbued with honey”, and the disease is henceforth known as diabetes mellitus.<sup>6,7</sup> Ancient India had a high quality of Medical Knowledge. The four Vedas i.e. Rig Veda, Yajur Veda, Sama Veda and Atharva Veda are considered the basic pillar of Indian Hindu civilisation. These ancient Vedas gives references to various aspects of Indian medicine. Ayurveda (the science of life) is considered as Upa Veda (supplementary subject) of the Atharva Veda. Ayurveda is the Indian system of Medicine developed in ancient India and by the medieval period Ayurvedic practitioners developed a number of medicinal preparations and surgical procedures for the treatment of various ailments.<sup>8</sup> Diabetes is not new to this country; our ancient Indian scriptures has made some vivid illustration as well as description of a disease condition which we call diabetes in modern medical sciences. This article is an attempt to highlight the knowledge of diabetes, better known as *prameha* or *madhumeha* to ancient India as evident from ancient Indian scriptures.

## Method

Extensive search for reference of *prameha* and *madhumeha* in ancient Indian scriptures was done. Search for available online and printed journals of Ayurveda and ancient Indian Medicine was also conducted. Compilations of ancient works by scholars and Acharyas of Ayurvedas were also referred. Various books on Ayurveda were also considered.

- 1- Sharma *et al.*, 2013a: 143-4.
- 2- Simon, 2010: 469-73.
- 3- Sarmah *et al.*, 2012: 1-10.
- 4- Sicree *et al.*, 2006: 15-103.
- 5- Sarmah *et al.*, 2012: 1-10.
- 6- Sharma *et al.*, 2013b: 73-9.
- 7- Sarmah *et al.*, 2012: 1-10.
- 8- Sarmah *et al.*, 2014: 19-39.



**India scriptures and diabetes**

Diabetes was very much recognized in ancient India and it is claimed that reference to diabetes has been found in Indian literature much before any other literature of the globe, perhaps because of its reference in the Indian Vedas. The Indian Vedas are very often considered as the oldest literature of the civilization. Though there are various opinions regarding the origin of the Vedas, Winternitz (1907) considers its beginning in 2000 or 2500 BC and the end in 750 to 500 BC.<sup>9</sup>

**Vedas:** *Atharvaveda*, the latest of the great Vedas gives some descriptions about the medical system of that time and in this context also gives some reference to diabetes.<sup>10,11</sup> *Atharvaveda* gives reference to terms like *asrava* and *prameha*. Various interpreters of the Vedas have interpreted the meaning as to flow. Sayana and Kesava, commentators of Vedic works, have discussed the term *mutratisara* i.e. excessive urination, which throws light on the existence of reference to a state of *prameha* in Vedic period.<sup>12</sup> “*Prakarsena Prabhutam Pracuram Varam Varam Va Mehati Mutratvagam Karoti Iti Pramehah*” – Ma. Ni. 33/1. *Prameha* is a word used in ancient India to denote a condition characterized by an increase in amount (*Prabhoota Mootra*) and turbidity of urine (*Avila Mootra*). The word *prameha* is derived from the Sanskrit root *Mih-Secane*. *Prameha* is a combination of two words “*pra*” and “*meha*”, while “*pra*” stands for excessive quantity and frequency of urination “*meha*” stands for profuse (watering).<sup>13</sup> *Madhumeha* is again a combination of two words “*madhu*” and “*meha*”; *madhu* means honey and the patient passes the urine similar to *madhu* (in having sweet taste) and “*meha*” again stands for profuse (watering). Scholars in Ayurveda sometimes consider *prameha* and *madhumeha* as two different disease conditions, though it is controversial.<sup>14</sup> Majority of Ayurvedic Acharyas, scholars and physicians, however, uses *Prameha* and *madhumeha* to denote diabetes in modern Ayurveda, the Indian system of Medicine.<sup>15</sup>

**Purana:** Various puranas also gives valuable references to disease conditions akin to modern diabetes. There is also reference of *Kshaudrameha* and *Akshaudrameha*, which means urine that resembles honey, as described in *Agni Purana*. *Garuaa Purana* also gives reference to *Madhuryacha tanorata* which indicates the stage of *Madhumeha*.<sup>16</sup>

**Epics:** The great Indian epic, the *Ramāyana*, also gives description of the colour of urine similar to *Madhu* (honey). This great Indian epic is originated about 500 to 100 century BC, although its origin is widely debated.<sup>17</sup> In the section

- 9- Winternitz, 1907.
- 10- Samvat, 1966.
- 11- Sayana, 1895.
- 12- Astangahridaya, 1844.
- 13- Murthy, 1989: 71-9.
- 14- Ibid.
- 15- Reghunathan *et al.*, 1969.
- 16- Indu, 2008.
- 17- Flood, 2003; 116-28.





*Ramayana* in *Ayodhya kanda* (Section - 1/5), there is a description where King of *Ayodhya* named *Dasaratha* falls into depression, after his son *Rama* went to forest. This great Indian epic describes how *Dasaratha's* body became pale, and weak; urine became as of honey and finally died. This reference gives evidence of prevalence of disease *Madhumeha* in that era.<sup>18</sup>

**Political scripture:** Kautilya (321 -296 BC), the father of diplomacy in his book *Arthashastra* describes the various tactics of politics. In a chapter dealing with the means to injure the enemies, Kautilya describes a method to produce diabetes as one of the methods to harm the enemy.<sup>19</sup> He writes that a mixture of burnt chameleon and lizard combined with intestine of frog and honey, if administered to one's enemy, causes diabetes. This refers to the existence of diabetogenic techniques in ancient India.<sup>20,21</sup> Reference of using the diabetogenic techniques against enemies is not available in any other ancient literature of the world. This implies that in older times diabetes was very much prevalent in that era and the incurable nature of the disease was also realized. It was established then that the person with diabetes suffered and died prematurely.

**Medical scripture:** Charaka, the father of Indian medicine, is the writer of *Charak samhita*, written in about 600 BC, and considered to be a complete treatise of medical science of its era.<sup>22</sup> This book gives a detail reference to the pathogenesis, complications, symptomatology and management of diabetes. Besides, it refers to the hereditary factor associated with diabetes. *Charak samhita* attributes diabetes to over nutrition and lack of exercise as the main causative factor for diabetes. This book gives a very scientific approach to diabetes and describes that the addiction to the pleasures of lounging and sleeping, the excessive use of curds, meat juice of domestic, aquatic and wet-land animals, milks, new grains and drinks and products of gur (jaggery) and all things that increase kapha dosha (one of the three doshas formed by a combination of water and earth; the factors considered as heavy diets, fatty foods which increase body weight, cholesterol and lead to obesity are the causative factors of *prameha*. It also describes the symptoms of *prameha* as excessive sweating with foetid odour, flabbiness of body, inclination to lie down, sedentary habits, excessive mucosal discharge, obesity and flabbiness, rapid growth of hairs and nails, thirst, sweetness of mouth, burning sensation in hands and feet, and swarming of ants on the urine. This book also gives reference to the excretion of

18- Upadhyay *et al.*, 1987: 235-39.

19- Ibid.

20- Gairola, 1984.

21- Gairola, 1970.

22- Tripathi Agnivesha, 2004.



sweet urine. *Charak samhita* perhaps is the pioneer among Indian scriptures which makes a very scientific approach to prameha.<sup>23,24</sup>

Another contemporary book of *charak samhita*, the *bhela samhita* introduces two types of diabetes, *prakriti prabaha* (congenital) and *svarakta* (acquired).<sup>25</sup> Another contemporary book, *harita samhita* has classified *Prameha* into 14 types.<sup>26</sup>

Susruta (600 BC), the well known ancient Indian Surgeon and Physician also describes two forms of diabetes, resulting from overeating and luxurious living habits. Susruta describes that day time sleeping, lack of exercise and laziness, too much cold, sweet, lipidemic and alcoholic foods and beverages can lead to diabetes. Regarding management of diabetes, Susruta gives more emphasis to it with a chapter dedicated to management of diabetes and its complications like carbuncles. *Susruta* also describes the selection of drugs, containing *Katu Vipaka*, *Ushna Verya* and *Cocaka*, *Chedana* (bitter, pungent, astringent) properties in the treatment of Madhumeha.<sup>27,28</sup>

The various ancient Indian medical treatise including *Charaka* and *Susruta* has described the involvement of all three *dosas* (*kapha*, *pitta*, *vata*) in the pathogenesis of *Prameha*. According to *Charaka*, cornerstone of classification of *Prameha* into 20 types is specific character acquired by *Mutra* due to aggravated qualities of *dosas*. Each type of *Prameha* is named after its specific qualities or after overall latent properties involved.<sup>29-32</sup>

Similar reference to diabetes, its etiology, symptomatology and treatment are compiled in *Harita Samhita* and *Kashyapa samhita*.

**More recent medical or Ayurvedic scripture:** Another great Indian physician (*Acharya*) during the 7<sup>th</sup> century, also described two types of diabetes: thin and obese diabetes. Several other Indian physicians contributed to the knowledge of diabetes and suggested various remedies for diabetic cure. The contributions of these ancient physicians were compiled in a book *roga viniskaya* by Madhavakara in the 9<sup>th</sup> century A.D.<sup>33</sup> Compilations of ancient Indian physicians with some new addition to the existing knowledge in diabetic was done by many, noteworthy among which being Gayadasa and Cakrapanidatta. Gayadasa made several scientific clarifications regarding *prameha* or diabetes. In the first chapter of his compilation, he clarified the misconception that females do not suffer from *prameha*.<sup>34-36</sup>

Dalhana is the commentator of *Susruta Saahita*. In com-

- 23- Charaka Samhita, 1941.
- 24- Tripathi Agnivesha, 2004.
- 25- Maharshi Bhela, 2009.
- 26- Upadhyay *et al.*, 1987: 235-39.
- 27- Dalhanacharya, 2008.
- 28- Vaidya Jadhavji Trikamji Acharya, 2008.
- 29- Dalhanacharya, 2008.
- 30- Vaidya Jadhavji Trikamji Acharya, 2008.
- 31- Tripathi Agnivesha, 2004.
- 32- Charaka Samhita, 1941.
- 33- Meulenbeld, 1974.
- 34- Upadhyay *et al.*, 1987: 235-39.
- 35- Shastri, 2003.
- 36- Gupta, 2007.



mentary *Nibandha samgraha*, Dalhana has also denied the opinion stated by some *Acharyas* that females don't suffer from *Prameha* on the practical ground.

Bhavamisra (16<sup>th</sup> century) is often considered as the last among the Indian physician contributing to the knowledge of diabetes which was by then commonly known as *madhumeha* among the Indian physicians. *Bhavamishra* has stated the observation that females do not suffer from *prameha*. According to him, menstruation helps to eliminate causative factors and clears the body. He has added some new herbo-mineral combinations for the treatment of different types of *prameha*.<sup>37,38</sup>

*Yogaratanakara* has described treatment of *prameha* in his compilation, *Uttarakhanda* elaborately. *Chandraprabha vati*, *Chandrakala vati*, *Vasantakusumakara rasa* are some of the most effective drug combinations described by him. He has described *Rasauçadhis* like *Vanga bhasma* (tin-based herbo-metallic preparation), *Naga bhasma* (lead-based herbo-metallic preparation), *Abhraka bhasma* (mica-based herbo-metallic preparation), *Shilajita* (Black Asphaltum), *Swarana-makshika* (Chalcopyrite) for the treatment of *prameha*.<sup>39</sup>

### Conclusion

The review of ancient Indian scripture shows that diabetes, known as *prameha* or *madhumeha*, was very much prevalent in ancient India. The reference to diabetes in the Atharvaveda is often considered as the most ancient documentation referring to diabetic-like conditions.<sup>40</sup> The diabetic and its complications has also been well recognized, and the use of diabetogenic techniques against enemies is notable. Although most of the ancient Indian description is not completely scientific, at that time, there was a very scientific approach as regards to the etiology, symptomatology, classification and treatment of diabetes made in the post Vedic medical scriptures of India. To conclude, diabetes has been prevalent in India before the Vedic period and the ancient Indian scripture contributes valuable knowledge of diabetes.

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37- Chandola *et al.*, 1980: 259-74.

38- Sharma, 1975.

39- Gupta, 1951.

40- Ibid





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