

# HEALTH BELIEFS ON MANAGEMENT OF DIABETES MELLITUS

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## Abstract :

Prevalence of type 2 diabetes is increasing globally, more so in developing countries like India due to rapid urbanization. Health-related behavior is important in maintaining health and which is determined by individual beliefs and practice about health and illness.

The objectives of the study were to assess the health beliefs among diabetic adults on management of diabetes mellitus and to find the association between the health beliefs and study variable.

A descriptive cross sectional survey conducted among 125 diabetic adults, data collected by using structured questionnaire.

The study finding reveals that out of 125 diabetic adults, the majorities 49.6% were in the age group of 46-55 years, 51.2% were believed that diabetes caused by eating more sugar and 81.6% disagree that it's God's curse, 30% of diabetic adults agree with the statement that diabetes is because of past sin, 28% of subjects believe that it's a communicable disease. There was significant association between health beliefs and selected demographic variables such as age, religion, duration of illness and education.

Beliefs about health and illness that may affect self-care practice and health care seeking behavior in persons diagnosed with Diabetes mellitus

Keywords : Diabetes Mellitus, Belief, Adult

## Introduction :

Diabetes is an 'iceberg' disease. Diabetes mellitus (DM) is one of the most challenging health problems of 21st century and is now a global epidemic with devastating humanitarian, social and economic consequences. Type 2 diabetes mellitus is the commonest form of diabetes and accounts for over 90% of diabetes mellitus. It is estimated that prevalence of diabetes will rise to 5.5% in 2025 as compared to 4% in year 1995. The total direct cost for diabetes management has doubled from 1998 to 2005<sup>1,2</sup>. Various studies have shown that the high incidence of diabetes in India is mainly because of sedentary lifestyle,

lack of physical activity, obesity, stress and consumption of diets rich in fat, sugar and calorie. A mixture of causes of diabetes mellitus predominantly individual factors such as heredity,

overweight and wrong diet in combination with supernatural factors such as fate, punishment from God and witchcraft were mentioned<sup>3</sup>. According to WHO, 46 million people worldwide have diabetes. In 2004, an estimated 3.4 million people died from consequences of high blood sugar. More than 80% of diabetes deaths occur in low and middle-income countries<sup>4</sup>.

WHO projects those diabetes deaths will double between 2005 and 2030. The International Diabetes Federation estimates that the number of diabetic patients in India more than doubled from 19 million in 1995 to 40.9 million in 2007. It is projected to increase 69.9 million by 2025. Currently, up to 11 per cent of India's urban population and 3 per cent of rural population above the age of 15 has diabetes<sup>4</sup>.

Indian population consists of people from different cultural backgrounds and there is a very strong influence of the various myths on health seeking behavior in the population. Therefore, understanding the myths and

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misconceptions about the disease, like diabetes mellitus is important in providing excellent care and health education to both patients and healthy individuals. People believe in spiritual treatment and alternative forms of medicine, instead of coming to a doctor they visit a local traditional practitioner. There have been emergencies reported in cases of diabetes mellitus where the patients delayed their presentation to the doctor due to their myths and belief. Keeping these myths as background for the present study researcher has decided to seek the information on diabetic myths present in Udupi district.

#### Problem statement :

An explorative study to assess the health beliefs on management of diabetes mellitus among the diabetic adults in the selected villages of Udupi District

#### Purpose of the study :

The purpose of the study is to assess the health beliefs on diabetes mellitus among diabetic adults and improve health seeking behavior among the diabetic adults in the community.

#### Objectives of the study were to :

- assess the health beliefs among diabetic adults on management of diabetes mellitus
- find the association between the health beliefs and study variable such as age, gender, religion, education, income, duration of illness and source of information

#### Hypothesis :

All hypotheses were tested at 0.05 level of significance.

- H1: There will be significant association between health beliefs and selected variables on management of diabetes mellitus.

#### Assumptions :

The study assumes that diabetic adults may:

- have some health beliefs on the management of the diabetes mellitus.
- give willingness to take part in the study.
- have awareness of the disease through the mass media.
- give free and frank opinion about their practices on management of diabetes mellitus.

#### Variables :

Primary outcome variable:

Health beliefs on diabetes mellitus

Extraneous variable:

Age, Gender, Religion, Education, Income, Duration of the illness, Source of information.

#### Materials and methods :

A community based cross sectional descriptive study was carried out in order to explore the health beliefs on the management of diabetes mellitus. A non probability purposive sampling was used to select 125 diabetic adults. Data was collected by using structured questionnaire on belief on the management of diabetes mellitus.

Diabetic adults above 25 years who are willing to participate in the study were included in the study. The exclusion criteria were the diabetic adults who have psychological disorder and gestational diabetes mellitus.

Based on the objectives of the study the following tools were used for the study.

Tool-1: Demographic proforma

Tool-2: Beliefs on diabetes mellitus.

Demographic Proforma consisted total 11 items, were age, gender, education, occupation, religion, type of family, monthly income, type of diet, duration of illness and source of health related information. Beliefs on diabetes mellitus tool consisted of 30 items on 4 point likert scale related to various beliefs and the total maximum score 145 and the minimum score was 29. Both the tools were given to 7 experts for validation and reliability of the tool was determined by Cronbach's Alpha method. The reliability was  $r=0.8$  and questionnaire was found reliable. Pilot study was conducted after obtaining administrative permission and written consent from 20 diabetic adults. The main study data was collected from 125 diabetic adults and data was analyzed by using descriptive and inferential statistics.

#### Result :

The study finding reveals that out of 125 diabetic adults, the majorities 49.6% were in the age group of 46-55 years,

63.2% were females, and 44% of them had primary education. Most of them (53.6%) were housewife, majority of them (85.6%) were Hindu by religion and 53.6% had income of 6000-8999 rupees per month. Most of them (57.6%) were suffering from diabetes mellitus for the duration of 6-10yrs. All the participant of the study had the previous knowledge on diabetes from health care professional (Table 1).

The major findings of the beliefs were that 51.2% believe that eating more sugar causes diabetes mellitus, 81.6% disagree that it's God's curse, 3.2% believe that diabetes is caused due to overweight, 40.8% of the subject agrees that food restriction can control diabetes, 44.8 % believe that diabetic adults may show delayed wound healing, 30.4% of diabetic adults agree with the statement that diabetes is because of past sin, 28% of subjects believe that it's a communicable disease, 71.2% agreed with the statement that they need to carry sugar with them in case of unexpected hypoglycemia (Table 2).

Data in fig.1 indicate that 87.2 % of the diabetic adults fall under the positive health beliefs and only 12.8 % of subject had negative health beliefs. The study also revealed that there is significant association between health beliefs and selected demographic variables such as age ( $p < .010$ ), religion ( $p < .000$ ), monthly income ( $p < .007$ ), duration of illness ( $p < .000$ ) and education ( $p < .001$ ). Hence null hypothesis was rejected on these variables and research hypothesis was accepted (Table 3).

#### Discussion :

This study reveals most common myth in the population such as, eating more sugar causes diabetes mellitus (51%), diabetes mellitus is the result of past sin (3.2%) and diabetes mellitus can be cured by spiritual treatment (0.8%). This findings supported by Rai M et al., found most common myth in the population (22%) was that eating more sugar causes diabetes, diabetes can only occur in old age (7.2%), Soaking feet in water can help control blood sugar (11.8%), diabetes is a result of past sins and it can be cured by spiritual treatment (9.4%).<sup>3</sup> A study in America revealed that many of them believed that diabetes is due to

gods will or punishment, they believed that diabetic mellitus is serious illness and that they could not identify many of the symptoms. They identified the management of both medical and herbal treatment. Negative attitude towards insulin were common among the people<sup>4</sup>. A survey conducted to identify the Cultural Influences in the etiological beliefs of Saudi Arabian Primary Care Patients about their Symptoms. The study revealed that religious and supernatural aspects of culture affect patient's symptom beliefs, that their symptoms were a test or punishment from Allah, was the most common belief<sup>7</sup>. Raj PK et al., conducted hospital based cross sectional study to assess knowledge attitude and practice among diabetics, at Bijapur in India. Study consisted of 730 type 2 diabetic patients, aged 20 years. Results shows that 15.35% of respondents had poor, 59.9% average and 24.8% had good knowledge. Majority 60-90% of the respondents had positive attitudes. 36.4% of the respondents were taking extra care in case they were injured and 40.7% were exercising regularly. Study revealed that though good number of respondents had positive knowledge and attitude regarding diabetes, the same cannot be said about practices<sup>8</sup>.

#### Conclusion :

In this study only 28% of diabetic clients practicing regular exercise (walking, jogging) very often, 15% of them practicing pranayama and 84.8% of them not at all practicing meditation. Since many studies have been proved that yoga, meditation and exercises control the glucose level among diabetic clients. So awareness programs (interventions/educational sessions) required for the future among the diabetic population. The scientific base of the health practice shows that most of the people have the knowledge pharmacological activity of the nature which they pass through traditionally. Massive health education to the community will help to improve the public knowledge of health beliefs and practices on diabetes as India is turned capital of the diabetes.

Table 1: Frequency and percentage distribution of sample characteristics based on demographic data  
n=125

Sl.No	Sample characteristics	f	%	Sl.No	Sample characteristics	f	%
1.	Age (in years)			6.	Monthly income (in rupees)		
	25-35	01	0.8		Less than 2999	01	0.8
	36-45	08	6.4		3000-5999	33	26.4
	46-55	62	49.6		6000-8999	67	53.6
	Above 56	54	43.2		9000-11999	24	19.2
2.	Gender			7.	Source of information		
	Male	46	36.8		1. Health professional		
	Female	79	63.2		Yes	125	100.0
3.	Education				2. Newspaper		
	Uneducated	54	43.2		Yes	30	24.0
	Primary	55	44.0		No	95	76.0
	Secondary	13	10.4		3. TV, Radio, Internet		
	Higher secondary	03	2.4		Yes	30	24.0
4.	Occupation				No	95	76.0
	House wife	67	53.6		4. Relative		
	Agriculture	27	21.6		Yes	17	13.6
	Cooley	5.6	5.6		No	108	86.4
	Business	24	19.2		5. Friends		
5.	Religion				Yes	02	1.6
	Christian	09	7.2		No	123	98.4
	Hindu	107	85.6	8.	Duration of illness		
	Muslim	09	7.2		0-5	28	22.4
					6-10	72	57.6
					11-15	24	19.2
					>16	01	0.8

Table 2: Health beliefs on diabetes mellitus:

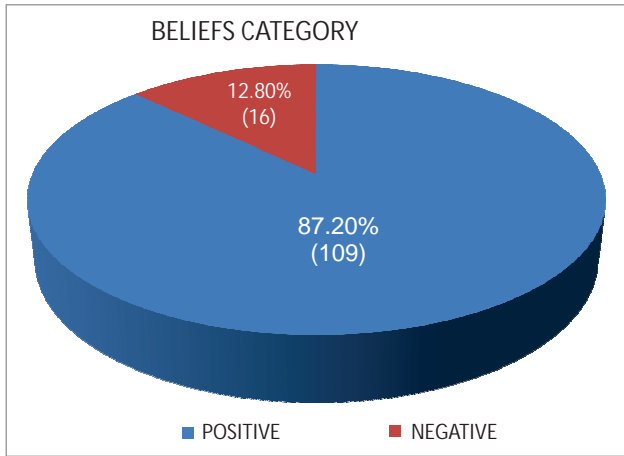
(n=125)

Health Beliefs	SD %	DS %	UD %	AG %	SA%
1. Eating more sugar causes diabetes mellitus	-	0.8	02.4	45.6	51.2
2. Diabetes mellitus is a curable condition	-	-	43.2	42.4	14.4
3. Diabetes mellitus is predominantly due to individual factor	-	-	13.6	45.6	40.8
4. Diabetes mellitus is occurring due to God's curse	44.0	37.6	18.4	--	--
5. Tension free mind helps to keep blood sugar under control	00.8	--	09.6	42.4	47.2
5. Controlling blood sugar is not a big task	32.8	40.8	23.2	03.2	--
6. If blood sugar is not controlled well it will lead to other deadly complication		00.8	19.2	40.0	40.0
7. Diabetes due to overweight	39.2	33.6	24.0	03.2	--
8. There is need for reduced intake of meat, oily food and fried food items.		00.8	18.4	40.0	40.8
9. Diabetes occurs most commonly among old age.	33.6	28.0	32.8	04.8	00.8
10. There is delayed wound healing	--	03.2	15.2	36.8	44.8
11. Soaking feet in water can help to control blood sugar	40.8	32.0	22.4	04.8	--
12. Diabetes mellitus is inherited	--	01.6	13.6	38.4	46.4
13. Diabetes mellitus is the result of past sin	33.6	36.8	26.4	03.2	--
14. Having chapatti will help to control diabetes	--	1.6	19.2	32.8	46.4
15. Diabetes mellitus can be cured by spiritual treatment	36.0	37.6	19.2	06.4	0.8
16. Having rice will increase blood glucose level	--	02.4	10.4	41.6	45.6
17. Diabetes mellitus is communicable disease	40.0	32.0	27.2	0.8	--
18. Herbal medicine is the treatment for diabetes mellitus	45.6	31.2	19.2	02.0	-
19. Medication will control blood glucose level.	--	00.8	13.6	38.4	47.2

Beliefs category					
Variable	Positive	Negative	df	2	p value

Belieory)F....

Fig 1: Pie diagram showing frequency and percentage distribution of health beliefs among diabetic adults.



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