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Research Article

### ASSESSMENT OF LIFESTYLE PRACTICES AMONG THE DIABETIC PATIENTS IN DHQ, HOSPITAL GUJRANWALA

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**Abstract:**

**BACKGROUND:** According to WHO, about 8.8% of the total world population has diabetes out of which Pakistan ranks on number 7th with the most cases of diabetes mellitus. The prevalence of diabetes in Pakistan is about 7.6% of the total population of the country.<sup>1</sup>The recent world-wide increase in the cases of diabetes mellitus suggests lifestyle and environment changes, over-nutrition, low dietary fiber, sedentary lifestyle, sleep deprivation and depression to be the major contributing factors in this disease.

**METHODS:** It was a cross-sectional study carried out in District Hospital in Gujranwala. Sample size was 100. Questionnaire was formulated consisting of open and closed ended questions relating to demographic data, food concepts and food frequency of the diabetics. Questionnaires were filled by interviews.

**RESULTS:** Only 30%, of the 10 respondents who had their HbA1c done, had a good diabetes control, while 70% did not; 33% of the participants were not involved in any type of physical activity; 70% considered sugar consumption a cause of diabetes. Among the 100 diabetics, only 25% were involved in different physical activities on daily basis; 75% of the participants had never gone for any alternative treatments except medicine. Results of FFQ showed that on average, diabetics did not have poor dietary practices.

**CONCLUSION:** Diabetes mellitus is one of the most common chronic diseases widely prevalent in Pakistan. Diabetes mellitus, though is a multi-factorial disease, poor eating habits coupled with lack of physical activity are key contributors to the onset of diabetes mellitus. Self-care concepts such as SMBG and proper medication and insulin intake by the patients; is something that needs to be incorporated in diabetes education of the patients.

**KEYWORDS:** Diabetes mellitus, metabolic diseases, hyperglycemia, insulin secretion.

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**INTRODUCTION:**

According to WHO, about 8.8% of the total world population has diabetes out of which Pakistan ranks on number 7<sup>th</sup> with the most cases of diabetes mellitus. The prevalence of diabetes in Pakistan is about 7.6% of the total population of the country. The recent world-wide increase in the cases of diabetes mellitus suggests lifestyle and environment changes, over-nutrition, low dietary fiber, sedentary lifestyle, sleep deprivation and depression to be the major contributing factors in this disease.<sup>1</sup>

Diabetes mellitus is a group of diseases resulting from persistent high blood glucose levels due to defective insulin secretion, insulin action or both. Insulin is a hormone that aids in glucose uptake by the body cells which is used as an energy fuel for the cells to survive. Individuals with diabetes do not produce enough insulin; with insulin deficiency hyperglycemia occurs. Medical Nutrition Therapy for diabetes is integral to total diabetes care and management. MNT requires an individualized approach, education and counseling that enables an individual to do an effective nutrition self-management. Diet, physical activity, self-monitoring of blood glucose (SMBG) and diabetes education are the four pillars on which an effective diabetes management stands. The nutrition requirements of people with diabetes are the same as those of the normal individuals.<sup>2</sup>

According to WHO, about 8.8% of the total world population has diabetes out of which Pakistan ranks on number 7<sup>th</sup> with the most cases of diabetes mellitus. The prevalence of diabetes in Pakistan is about 7.6% of the total population of the country.<sup>1</sup> The recent world-wide increase in the cases of diabetes mellitus suggests lifestyle and environment changes, over-nutrition, low dietary fiber, sedentary lifestyle, sleep deprivation and depression to be the major contributing factors in this disease.<sup>8</sup> Other risk factors for diabetes include: age, gender, ethnicity, obesity, smoking and physical inactivity.<sup>6</sup> Vascular complications which include retinopathy, neuropathy, nephropathy and cardiovascular diseases add to the burden of diabetes.<sup>5</sup> A study suggested that people in Asia, despite having lower proportion of obesity, tend to develop diabetes, suffer with its long-term complications and die earlier than people from other parts of the world.<sup>11</sup>

**LITERATURE REVIEW:**

Descriptive cross-sectional study was conducted at THE UNIVERSITY OF LAHORE, ISLAMABAD CAMPUS, PAKISTAN. Among 250 patients, 159 were male and 91 were female. Diabetes was more

prevalent among people of 40-70 years age. Most of the patients were less educated, only few of them were graduates (14.7%). Most of the patients had positive family history of Diabetes (60%). Most of the patients had inadequate knowledge about disease (54%). Only 35% patients knew normal fasting blood glucose level range.<sup>3</sup>

A hospital based cross sectional study was conducted at PRATHIMA INSTITUTE OF MEDICAL SCIENCES, INDIA. A total of 117 diabetic patients consented and participated in the study of whom 63 (53.85%) were male and 54 (46.15%) female. 75 (64.10%) belonged to lower class, and 71 (61.68%) were aware of importance of physical activity for the control of disease while 88 (75.21%) said sugar control is essential for the control of the disease. 75 (64%) of the respondents had HbA(1c) with a good glycemic control.<sup>15</sup>

A cross-sectional study was done at THE DIABETIC CLINIC OF MAMELODI HOSPITAL, PRETORIA, GAUTENG PROVINCE, SOUTH AFRICA. Of the 217 participants, 154 (71%) were obese and 15 (7%) were morbidly obese. The majority of respondents (92.2%) had poor knowledge of the benefits of exercise, weight loss and a healthy diet. What is interesting is that the majority (97.7%) demonstrated bad practices in relation to lifestyle modifications, although over four-fifths (84.3%) had a positive attitude toward healthy lifestyle modifications.<sup>10</sup>

According to a cross-sectional study survey done in five health systems in UNITED STATES OF AMERICA, out of 686 participants, 66% reported that they did not know their last HbA(1c) value and only 25% accurately reported that value. Respondents who knew their last HbA(1c) value had higher odds of accurately assessing their diabetes control (95%) and better reported understanding of their diabetes care. HbA(1c) knowledge was not associated with respondents' diabetes care self-efficacy or reported self-management behaviors.<sup>7</sup>

**AIMS AND OBJECTIVES:**

The study will help us to assess the lifestyle practices among the diabetics. It will provide us with the data that will benefit to plan intervention strategies for the widely prevalent wrong practices and food concepts among the people with diabetes mellitus.

**Objectives were:**

1. To assess lifestyle practices among adults with diabetes.
2. To identify the gaps in the practices of lifestyles adopted by these diabetics.

**METHODOLOGY:**

- **Study Design:** Descriptive cross sectional study
- **Study Area:** District Head Quarter Hospital Gujranwala
- **Study Population:** Patients of DHQ
- **Study Duration:** Three months from July, 2018 to September, 2018.

- **Sample Size:** 100 patients
- **Inclusion Criteria:** Patients of DHQ with diabetes
- **Exclusion Criteria:** Subjects outside DHQ
- **Data Collection tool:** Semi-structured, pre-tested questionnaire survey
- **Data analysis plan:** SPSS Version 21 software

**RESULTS:****Table. 1 No. of participants**

Gender of participants	No.of participants	Percentage
Male	40	40%
Female	60	60%

A total of 100 patients were studied consisting of 40 males and 60 female

**Table.2 Economic status**

INCOME LEVEL	≥10000 PKR	11,000-20,000 PKR	21,000-30,000 PKR	31,000-40,000 PKR	41,000-50,000 PKR	<50,000 PKR
PERCENTAGE	27	27	16	8	10	12

This table represents the income level of the 100 respondents who fall in different categories. 27% have less than equal to 10,000 PKR monthly income and other 27% have monthly income ranging from 11,000 to 20,000 rupee.

This data shows that most of the diabetics belong to a low socio-economic status

**Table. 3 Educational status.**

EDUCATION LEVEL	UNEDUCATED	UNDER-MATRIC	MATRIC	INTER-MEDIATE	GRADUATE	POST-GRADUATE
PERCENTAGE	32	21	18	8	10	11

Most of the respondents were illiterate. From 100, they are 32%; 21% are under matric. While few are post graduates.

**Table. 4 Laboratory tests**

HbA1c	LESS THAN 7	GREATER THAN OR EQUAL TO 7
PERCENTAGE	30%	70%

Only 10 of the diabetics had their HbA1c done. Out of which only 30% have good diabetes control while a major percentage of 70% do not have so.

**Table. 5 Food Concepts**

FOOD CONCEPTS	YES %	NO %	NO IDEA %
Eating too much sugar can cause diabetes?	70.0	21.7	8.3
Do you think honey is better than table sugar?	67.3	18.3	14.4
Do you think diet sodas (Pepsi, Sprite Zero etc.) are better than regular sodas?	44.0	40.0	16.0
Do you think restricting sugar from diet can lower blood glucose levels?	62.7	27.3	10.0
Do you think eating rice can raise blood sugar levels?	50.0	37.5	11.5
Do you think green tea is good for diabetics?	53.5	24.8	21.7

When food concepts of the participants were analyzed, the results showed that 70% of them consider that more sugar consumption is a cause of diabetes. 62% of them think that if they restrict sugar from their diet their blood glucose levels can be lowered.

**Table. 6 Physically Activity Criteria:**

How often do you exercise?	Never %	Rarely %	Monthly%	Weekly%	Daily%
	31.3	20.2	3.7	3.7	24.5

More percentage of diabetics do not involve themselves in any kind of physical activity. While 25% are physically active on daily basis.

Table. 7 Diabetes awareness

DIABETES AWARENESS	YES %	NO %	NO IDEA %
Do you think diabetes is a life-threatening disease?	58.7	33.2	8.2
Do you think diabetes can be transferred from one person to another?	26.5	60.2	13.3
Do you think diabetes is curable?	44.2	42.8	13
Do you think medicine is the only treatment for diabetes?	46.2	39.8	14

Almost 59% of the respondents think diabetes is a life threatening disease. 60% think that diabetes cannot be transferred from one person to another. 44% consider it a curable disease and 46% consider medication as the only treatment.

Table. 8 LIFESTYLE PRACTICES

Table 6 LIFESTYLE PRACTICES					
How often do you dine out?	Never	Rarely	Monthly	Weekly	Daily
	42.2	38	9.5	7	3.3
What is your average time gap between two meals?	2—3 Hours		4—5 Hours	≥6 Hours	Irregular
	23.3		47.5	22	7.2
Have you ever gone for any alternative treatment other than medicine for diabetes?				Yes %	No %
				24.8	75.2
If Yes, then which one	Home Remedy %	Spiritual Therapy%	Herb Therapy%	Homeopathy%	N/A%
	11.2	5.2	3.8	5	74.8
Do you skip medicines (when Blood Glucose Levels are normal)?			Yes %		No %
			28		72

Lifestyle practices of the individuals were analyzed. The results showed that 42% never dine out. 48% of the diabetics have an average meal gap of 4-5 hours. 75% of the diabetics have never gone for any

type of treatment other than medicine. Of the remaining 25%, 11% practice home remedies. 72% of the diabetics do not skip medicine even if their blood glucose level is normal.

Table. 9 Educational level of participants

EDUCATION LEVEL OF THE PARTICIPANTS (%)							
FOOD CONCEPTS		Uneducated	Under Metric	Metric	Intermediate	Graduate	Post Graduate
Eating too much sugar can cause diabetes?	Yes	24	15	11	9	9	3
	No	6	4	4	2	3	3
	No Idea	2	2	2	1	1	0
Do you think honey is better than table sugar?	Yes	21	12	10	9	10	5
	No	5	5	5	1	1	1
	No Idea	5	4	3	1	2	0
Do you think diet sodas are better than regular sodas?	Yes	16	10	6	6	5	2
	No	10	6	8	5	6	4
	No Idea	6	4	4	1	1	0
Do you think restricting dietary sugar can reduce blood sugar level?	Yes	11	6	7	5	6	2
	No	17	10	9	6	5	3
	No idea	4	5	2	1	1	1

When the food concepts were evaluated by the education level of the 100 participant, some results were quite noticeable. 24% uneducated and 9% graduate diabetics consider excessive sugar consumption as the cause of diabetes development in a healthy individual. 21% of the illiterate diabetics have this awareness that blood sugar level can be

affected by the sugar intake and if they restrict sugar from diet can lower their blood glucose level. People are also aware of the fact that home remedies cannot be that much helpful in diabetes management and the greater percentage of participants with this concept belongs to the illiterate and under metric diabetics.

**DISCUSSION:**

Diabetes mellitus is a chronic disease of life long duration and its management requires a fundamental change in patient's life style and eating habits. HbA1c is a good indicator of diabetes control. According to a study HbA1c plays a central role in diabetes management and clinical guidance. According to our study out of 100 patients only 10 diabetics had their hbA1c checked out of these 10 only 30% had good diabetes control. According to a study respondents who knew their hbA1c value reported better diabetes care , understanding and assessment of glycemic control than those who did not<sup>3</sup>

Another study suggested that health care providers should give ample knowledge about diabetes management and self-care to the patients.<sup>7</sup> According to a study people can prevent long term consequences of diabetes if they have their HBA1c done .<sup>13</sup>

The myth that sugar causes diabetes is commonly accepted by many people. This is a complicated issue. Eating sugar has nothing to do with developing type 1 diabetes. Type 1 diabetes mellitus is caused by genetics and other unknown factors. The results of our study showed that 70% of the people thought that eating sugar can cause diabetes. People don't have knowledge about the prevention of diabetes. Another study suggested that high sugar consumption does not contribute significantly to the prevalence of diabetes .<sup>4</sup> Another study proves that the prevalence of myths about diabetes is high in Asian population and it could be associated with poor health behavior, poor compliance with treatment and lack of knowledge.<sup>14</sup>

" Physical activity plays an important role in preventing diabetes and its consequences. According to WHO "physical activity is bodily movement produced by skeletal muscles that requires expenditure of energy." Physical inactivity linked to weight gain and obesity which causes insulin resistance. According to a study physical inactivity is the leading cause of chronic disease like CVD and diabetes mellitus.<sup>10</sup>

According to a study people who are physically inactive are obese and obesity is one of the cause of diabetes .<sup>12</sup> From our study we came to know only 24% people were physically active daily and 31% never involved in any physical activity. According to a study physical activity can improve glycemic control if conducted under controlled conditions.<sup>2</sup> We also came to know that people do not have enough knowledge about the physical activity. Most of the people considered house hold work as part of their

physical activity. Very limited literature exists on the knowledge beliefs and practices of people with diabetes in Pakistan.

Only a few patients receive formal diabetes education in Pakistan. Our study provides further evidence that there is a lack of information available to people with diabetes and it is a widely prevalent myth that eating sugar is causing diabetes mellitus. They don't consider physical activity (exercise) important in their disease management.

**CONCLUSION:**

Only 30%, of the 10 respondents who had their HbA1c done, had a good diabetes control, while 70% did not; 33% of the participants were not involved in any type of physical activity; 70% considered sugar consumption a cause of diabetes. Among the 100 diabetics, only 25% were involved in different physical activities on daily basis; 75% of the participants had never gone for any alternative treatments except medicine. Results of FFQ showed that on average, diabetics did not have poor dietary practices.

**RECOMMENDATIONS:**

- Every patient should be provided with all the necessary health education regarding diabetes.
- Food concepts such as over consumption of table sugar causes diabetes, so it should be avoided in diabetic patients.
- There should be adequate surveillance measures for assessment of developing diabetes.
- Awareness of physical activity should be provided to reduce the risk of diabetes.
- Awareness of HbA1c test should be provided for early detection of diabetes.
- TV shows and social media should help clear and correct various wrong concepts and wrong practices of individuals with diabetes.
- Diabetic support group can also be beneficial in effective diabetes management.

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