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WHAT DIABETICS KNOW ABOUT DIABETES?

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ABSTRACT

Background: Patient's lack of understanding of disease hinders in proper control of disease thus increasing the morbidity and mortality. Review of the studies done in this region, dose not provide a detail account of patients understanding about the disease. Majority of patients when interviewed in clinics do not know the right answer to cause, level of desired sugar, possible complication. **Material and methods:** Hospital-based cross-sectional KAP study was conducted on diabetic patients visiting the diabetic clinic in two tertiary care Hospitals and a diabetic poly clinic in different areas of Karachi during the month of September 2012. **Results:** The mean age was 56 years, with 122 male and 118 female, 40.4 % patients were uneducated, 22.9% metric, 12.9% intermediate and 22.9% were graduate. Considering the knowledge, as to what is diabetes? only 46% answered correctly. What could cause the disease? 35% thought there was no reason for sugar. Regarding most frequent symptom, 27% thought there were no specific symptoms, 24.2% weight loss and 23.8% excessive urine and 21.7% thought not healing of wound was first indicator and 2.1 % thought that increase appetite is the cause. The desired levels of random sugar only 24.2% thought it be around 180 mg /dl while 32.5% had no idea about the value. Desired fasting sugar was correctly known by 34.6% as less than 100 mg/dl and 22.9% as less than 120 mg/dl. , Duration of treatment was believed to be life long treatment by 85%.Oral hypoglycemic were consumed by 68%, 24% were on insulin. And 6% were using both. 75% patients did not do exercise regularly. Regarding the harms created by diabetes, 51.3 % knew that heart or kidneys may get damaged. Regular doctor visits were done by 80% , and 85 % were satisfied with the level of care. The average sugar check cost was less than 100 rupees for 62.1 % . **Conclusion:** Lack of proper concepts regarding the disease, desired level of sugars, possible complications could be a big hinder in achieving good diabetic control. Thus by addressing the specific deficiencies in the knowledge and practices of patients, a better outcome may be achievable.

Keywords: Diabetes, mortality,

INTRODUCTION

Globally the prevalence of Type 2 diabetes is increasing. It is estimated the diabetic adults will be more than double between 2000 and 2030, with most of the increment occurring in developing countries, particularly in Asia. According to WHO estimates the prevalence of diabetes for all age-groups worldwide was estimated to be 2.8% in 2000 and 4.4% in 20301. The total number of people with diabetes is projected to rise from 171 million in 2000 to 366 million in 2030. (1)With the rising trend of diabetes seen world-wide Pakistan was estimated to be 8th in the world ranking for diabetes and estimated to become 4th by the year the year 2025 with nearly 14.3 million diabetics2. With the rise of diabetes to the extent of becoming a pandemic, the only way to treat is to have a good glycemic control. This can only be achieved if the patient understands his own disease. Patient's lack of understanding of disease hinders in proper control of disease thus increasing the morbidity and mortality. According to one survey done in 2002 in Pakistan on patients visiting the diabetic clinic it was noted that about 54% had poor knowledge while thirty four percent had fair knowledge about diabetes and only 13% had good knowledge3. Similar studies were also conducted in Nepal and India, which also showed a low score for knowledge of patients regarding diabetes 4,5.This fact is frequently noticed in regular clinics as well. For example if patients are inquired about what is the good fasting or random sugar level for a good diabetic control? Majority of patients would not know the right answer. Thus identification of the exact deficiencies in the patients knowledge and detailed perception of diabetic patients about their disease is preliminary . Review of the studies done in this region in this regard also lacks the detailed account of patients' under standing about the disease 3,7,8. We believe that in order to improve

Table 1. Demographic Data.

Gender.	**Frequency**	**Percent**
Male	122	50.83
Female	118	49.16
Education	**Frequency**	**Percent**
Uneducated	97	40.41
Metric	55	22.91
Inter	31	12.91
Graduate	56	23.3
did not answer	1	0.41
Total	240	100
last checked sugar	Mean	212.44
duration of disease	Mean	8.27

the morbidity and mortality, the specific area of deficit in perception should be addressed .With this aim we conducted a KAP study on diabetic patients visiting the diabetic clinic in two tertiary care Hospitals and a diabetic poly clinic in different areas of Karachi. These included Civil hospital, Jinnah Medical college Hospital Korangi and Memon Diabetic Clinic.
We designed our own questionnaire, which included questions regarding level of education, the status and the duration of disease, symptoms suggestive of disease, possible cause of disease, optimum level of sugar both fasting and random, frequency of sugar, checks, exercise, damages done by uncontrolled diabetes frequency of regular medical checks , satisfaction from treatment, and the cost of sugar testing.

MATERIAL AND METHODS

Study design:
Hospital-based cross-sectional study.
Participant:
Patients with diabetes attending the clinic at Civil Hospital, Jinnah medical college, And Memon diabetic clinic during the month of September 2012.
Study variables:
Included questions regarding knowledge like level of education, duration of disease, value of last sugar, , symptoms suggestive of disease, possible cause of disease, optimum level of sugar both fasting and random, anticipated duration of treatment and damages done by uncontrolled diabetes Attitude and Practice related questions like frequency of sugar checks, exercise, regular follow-up medical checks , satisfaction from treatment, and the cost of sugar testing, addition of homeopathic meds.

Statistical analysis:
The data was analyzed on SPSS 17. Frequencies were determined and the results were compared with the other studies.

RESULTS

The age of patients ranged from 23 years to 90 years with mean being 56 years, 122 male and 118 female. The education level showed that 40.4 % patients were uneducated, 22.9% metric, 12.9% e intermediate and 22.9% were graduates The mean of last sugar checked was 212mg/dl (49 to 462mg/dl) while the mean of duration of disease was 8.27 years (from one month to 35 years).
What is diabetes? was answered by 46% as increased blood sugar, by 4.6% as decrease in blood sugar and by 1.7 % as infective, by 27.9 % as being unaware of the cause and by 19% as a genetics disease.

What could cause the disease? 34.2 thought that there was no reason for sugar to occur while 28.3% thought there could be a reason. 35% thought increase sugar intake is the reason, 20.8% believed that increase fat intake was the reason, 27.9% believed that increase weight can cause it,43.3% believed that mental stress could lead to Diabetes and 44.2% believed that only genetics can cause the diabetes.

While considering the most frequent symptom, 27%

Table 2: Knowledge related questions.

What is diabetes?	**Frequency**	**Percent**
excess of glucose in blood	111	46.25
decrease of glucose in blood	11	4.58
spread by germs	4	1.66
genetic disease	46	19.16
don't know the cause	67	27.91
did not answer	1	0.41
Signs of sugar ?	**Frequency**	**Percent**
urine excess	57	23.75
wound not healing	52	21.66
weight loss	58	24.166
increased appetite	7	2.9166
no sign	65	27.08
did not answer	1	0.41
Which form of drugs being used?	**Frequency**	**Percent**
Tabs	165	68.75
Insulin	58	24.16
Both	15	6.25
did not answer	1	0.41
no med	1	0.41
Fasting Blood Sugar should be	**Frequency**	**Percent**
Below or around100	83	34.58
Below or around 120	55	22.91
Below or around150	6	2.5
Below or around180	3	1.25
don't know	93	38.75
Random Blood Sugar should be.	**Frequency**	**Percent**
Below or around100	12	5
Below or around 120	42	17.5
Below or around150	50	20.83
Below or around180	58	24.16
don't know	78	32.5
Harms done by uncontrolled sugar.	**Frequency**	**Percent**
no loss	16	6.66
yes but don't know	100	41.66
kidney, liver or heart disease	124	51.7
Total	240	100

Table 3: Knowledge related questions.

What is the cause?	Frequency	Percent
There is a reason.	68	28.33
There is no reason.	82	34.16
did not answer	90	37.49
Genetics Disease?	**Frequency**	**Percent**
Yes	106	44.16
No	73	30.41
did not answer	61	25.4
Mental Stress?	**Frequency**	**Percent**
Yes	104	43.33
No	45	18.75
did not answer	91	37.9
increase sugar intake?	**Frequency**	**Percent**
Yes	86	35.83
No	66	27.5
did not answer	88	36.66
Increase fat intake ?	**Frequency**	**Percent**
Yes	50	20.83
No	80	33.33
did not answer	109	45.82
Over weight?	**Frequency**	**Percent**
Yes	67	27.91
No	76	31.66
did not answer	96	40.41
Total	240	100

thought there were no specific symptoms, while weight loss and urine excess followed i.e. 24.2%and 23.8% respectively, 21.7% thought not healing of wound was first indicator and 2.1 % thought that increase apatite is the cause Regarding the desired levels of random sugar 5% thought it should be less than 100 mg/dl,17.5% thought it be 120 mg/dl,20.8% thought it be around 150mg/dl, 24.2% thought it be around 180 mg /dl,32.5% had no idea about the value. When considering the fasting sugar 34.6% thought it should be less than 100 mg/dl,22.9% thought it be 120 mg/dl,2.5% thought it be around 150mg/dl, 1.3% thought it be around 180 mg /dl,38.8 % had no idea about the value.

68% were on oral hypoglycemic, 24% were on insulin. 6% (15%) on both,o.4% (one patient) was not taking medication.10% (24 pt)were also using homeopathic meds while 89% were only on allopathic meds Frequency of sugar checking showed that 11.7% checked it once a day, 17.9%once in 15 days, 42.9% once in a month, 20.8% once in three months, 6.7% did not remember when last checked.

To the question, Dose one need to take anti diabetic meds for life long? , 85% believed it's a life long treatment. Regarding physical activity 75% patients said that they did not exercise regularly.

Regarding the harms created by diabetes, 6.7% said no damage done, 41.7 % believed some damage will happen but did not know what sort and 51.3 % knew that heart or kidneys may get damaged.

Table 4: Attitude and practice related questions.

Allopathic or Homeopathic!	Frequency	Percent
Yes	24	10
No	215	89.58
What is the cost of sugar check?	**Frequency**	**Percent**
less than 50	77	32.08
less than 100	149	62.08
less than 200	12	5
did not answer	2	0.83
Daily work get hampered by sugar?	**Frequency**	**Percent**
Yes	47	19.58
No	191	79.58
did not answer	2	0.82
Regular doctor check	**Frequency**	**Percent**
Yes	195	81.3
No	43	17.91
did not answer	2	0.83
Are you satisfied with your treatment?	**Frequency**	**Percent**
Yes	204	85
No	35	14.58
did not answer	1	0.41
Do you exercise regularly?	**Frequency**	**Percent**
Yes	57	23.75
No	183	76.3
Sugar meds be taken life long?	**Frequency**	**Percent**
Yes	207	86.3
No	33	13.8
Frequency of sugar check?	**Frequency**	**Percent**
Once a day	28	11.66
in 15 days	43	17.91
Once a month	103	42.91
Once in three months	50	20.83
don't remember when checked last	16	6.66
Total	240	100

80 % visited doctor regularly, 85 % were satisfied with the level of care. Only 19.6 % patients complained that sugar hampers their work while 79.6 % believed it did not, The sugar checking costs was less than 50 rupees for 32.1% , below 100 rupees for 62.1 % and below 200 rupees for 5%

DISCUSSION

The importance of patient education to improve diabetic control is obvious . Most frequently reported barriers are considered to be lack of knowledge, diet plan, plan of care and helplessness and frustration from lack of glycemic control and continued disease progression despite adherence6.Review of literature showed three such papers done in our region 3,7,8. These papers considered few perspective of knowledge as compare to our questionnaire.

It seems that the knowledge our diabetic population is

of diverse nature. Majority of our patients had a poor glycemic control as the mean of last checked sugar was 212mg /dl, Less than 50% i.e 46% patients knew that diabetes means increased blood sugar level, which means half the diabetic population had no idea what is diabetes.

As to the most suggestive sign of sugar, the study population had diverse opinion On one fourth i.e 27% had no idea about the signs of sugar. While the rest of one fourths had following opinion 24% considered weight loss, 23.8% considered excessive urine and 21% thought that non healing of the wound was the most suggestive sign.

When inquiring about the ideal fasting blood sugar about 56% (i.e 34% for 100 and 22% for 120mg/dl) knew the right answer. It may appear as a fair understanding but one third i.e 38% patients had no idea about what should fasting sugar be. Same was true for random sugars 32% had no idea about the correct value of random sugars . Only 24 percent knew that the random sugars should be below 180mg/dl.It means that a fair population is not even aware of the desired blood sugar levels. Which means these patients will not be precautious about there high levels. We also asked patients according to them what could cause diabetes, approximately 45% thought its genetic, while 43% believed it can happen due mental stress,35% thought it was because of excessive sugar intake and 27 % thought it's because of overweight. A similar study done in India, showed 22% believed that excessive sugar intake causes diabetes.(8) while the one done in Karachi, showed the most common cause was stress.(9)So it looks like that the patient have a diverse understanding of the cause of disease.

Majority of patients were using only oral hypoglycemic medications (about 68%) .However we did not inquire about why they were not using insulin, whether it was not offered or required or they resisted the use. Nearly half the patients (42%) had their sugars checked at frequency of once per month and 20% once in three months. These figures were bit higher as compare to the study done Naeema Badruddin et el, where 9% were checking their sugars once a month. However the level of exercise was almost similar 76% in our study versus 67% in the study by Naeema Bedridden et el did not do exercise[4].

There were three positive points, one that 81% patient were regular clinic visitors indicating good compliance. The other was that 51% patients knew that uncontrolled diabetes can damage heart or kidneys and 41% thought that damage will be done but not exactly which organ will be involved . this shows that a fair number of patients seem to understand the harmfulness of the disease. Such information may act as a driving force to achieve a better control.

The third good thing was the fact that in spite of a great influence of homeopathic treatment versus allopathic treatment in our country, only 10% were using homeopathic meds One alarming thing was that 81% patients were satisfied with the treatment while the overall variable showed that the sugars were not optimally controlled. This means that lack of knowledge will lead to not achieving the optimum level of diabetic care .

CONCLUSION

We conclude that the gap between KAP is diverse. Lack of proper concepts regarding the disease, desired level of sugars, possible complications could be a big hinder in achieving good diabetic control. Thus by addressing the specific deficiencies in the knowledge and practices of patients, a better outcome may be achievable.

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