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Research Article

**DIABETES MELLITUS: AWARENESS AND RISK FACTORS  
AT PRIMARY CARE LEVEL CENTRES IN DISTRICT  
GUJRANWALA, PAKSITAN**<sup>1</sup> Dr. Javaria Gulzar, <sup>2</sup> Dr. Iqra Aftab, <sup>3</sup> Dr. Fatima Chatta<sup>1</sup> King Edward Medical University Lahore, Pakistan<sup>2</sup> King Edward Medical University Lahore, Pakistan<sup>3</sup> Rawalpindi Medical College Rawalpindi, Pakistan**Abstract:**

**Objective:** The aim of this research is to know about the data of growth- onset diabetes and check the danger of attitudes and the surrounding aspects among healthy people who are visiting the health care centres in district Gujranwala.

**Methodology:** This study was based on the sampling. This research was carried out in the primary health care centres in district Gujranwala, in the year of 2017. The data was collected from the three health care centres, which are (1) Basic Health Unit Bucha Chatha, (2) Rural Health Centre Sohdra, (3) Rural Health Centre Alipur Chatha. One hundred and ninety-eight participants (healthy or patients from any disease other than diabetes) whose age was more than eighteen years and living in the village of Gujranwala were included in the research. One thing was common for all the participants that they were attending the study period regularly. ADA (American Diabetic Association) rules were used for the evaluation of data. SPSS version eleven software was used for the analysis of the data.

**Results:** The data and the information about the reasons, difficulties and signs were found missing. The routine of the daily food and the way of living life were found against the prescribed rules. Twenty-seven percent participants were fat, eleven percent participants were found overweight and forty-four percent participants were found at high dangerous level. Thirty-eight percent participants were found at small danger level to acquire the growth- onset diabetes. Qualification, living in non-rural areas and male gender provided good data about the high sugar level. They were found with good marks on the dangerous scale because of bad eating habits and excessive rest.

**Conclusion:** A large portion of the people coming to the care centres was found in danger to acquire the diabetes. The information about them was found missing. But male gender, qualification and living in the urban areas provided good knowledge. The participants prone to disease were required for further testing and knowledge of health about the growth- onset diabetes was in need for those zones.

**Key Words:** Data, dangerous factor, growth- onset diabetes, ADA.

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**INTRODUCTION:**

Growth- onset diabetes is considered very dangerous for people on global level. The high glucose level in blood is very common disease in Pakistan as well as ever increasing. If preventive measures against this disease are not taken, it will take the lives of so many people. We are in the middle stage of this disease. It is prediction that it will increase up to a disastrous situation if the proper treatment, early discovery and awareness programs against this disease will not be held [1].

The adopted defences methods to the ordinary healthy people provided high advantages rather than taking care of the patients of the disease. Numerous researches in the same field provided the variable dangerous aspects of growth- onset diabetes which are fatness and excessive rest condition. Suffering of this disease can be avoided with the early discovery and prevention against the dangerous aspects. The information about this disaster plays an essential role in the future promotion of the disease and its discovery [2]. The studies in the same field proved that if the awareness information is passed to the ordinary people, this opens the minds of the people against this life taking disease. A research carried out in Singapore proved that if the ordinary people are given with the information about the health they will be able to detect the disease at initial stage with the signs of the disease. Another study about imparting information to the ordinary people about the signs of the disease described lack of information, which is taking part in late discovery of the growth- onset diabetes [3].

This very research was carried out to know the awareness of the people about growth- onset diabetes who were visiting the care centres and the danger evaluation of the attitudes and the surroundings. This was a unique research in the field because previous studies were concern with the patients only but this study took the ordinary people into account. This disease is increasing in our country, so it is very important to know about preventive methods and spread those methods to the ordinary people to tackle this disease in future.

**METHODOLOGY:**

The method of this study was based on sampling of awareness and dangers evaluation of growth- onset diabetes. This research was carried out in the primary health care centres in district Gujranwala, in the year of 2017. The data was collected from the three health care centres, which are, (1) Basic Health Unit Bucha Chatha, (2) Rural Health Centre Sohdra, (3) Rural Health Centre Alipur Chatha Young people from both genders having minimum eighteen year of age, regular visitor of the care centres and were living in that village were the part of the study. The persons who did not give their willing for the study were not the part of the study.

Total number of the participants was 198 having no diabetes; visiting regularly for the study and following all the rules which were essential for the study were call for interrogation. An interview was held with them with a question answer method to check their awareness about growth- onset diabetes and ADA instructions were used to check the level of the dangers evaluation. Statistical software SPSS versin11 was used for the exact analysis of the data. A comparison was made between the data collection from the persons on the basis of their sex, qualification and living standards. The model formula was use for the analysis of the body mass index abbreviated as BMI. Body mass index of greater than twenty-five kilograms per mass square was taken as fatty by the international rules and peril scores calculations as described in table number one.

**RESULTS:**

Traits of the study sample: Fifty-four percent of the participants were living in the cities and forty-six percent participants were living in the rural areas. More than thirty-seven percent participants were male and more than sixty-eight percent participants were females. Eighty-three percent candidates were married, twelve percent were bachelors and more than four percent females were divorced or widows. Thirty-six percent participants were uneducated and sixty-four percent participants have five to sixteen years of education. More than thirty-eight percent females were housewives, more than seven percent participants were jobless and 53% people of the study were performing their duties. Sixty percent participants have monthly income of less than 10000 rupees, twenty percent participants were earning 10000 to 20000 rupees per month and seventeen percent participants had more than twenty thousand rupees' salary.

**Table-I: Diabetes risk assessment test**

| S #   | Variables  | Codes | Score          |
|---|--|-------|----------------|
| 1.  | Weight is equal to or above that listed in the weight chart      | 5.    | Yes0. No       |
| 2.  | Age under 65 years with little or no exercise during a usual day | 5.    | Yes0. No       |
| 3.  | Age between 45-64 years  | 5.    | yes 0. No      |
| 4.  | Age 65 years or older  | 9.    | Yes 0. No      |
| 5.  | Woman who has had a baby weighing more than nine pounds at birth | 1.    | yes0. No       |
| 6.  | Having sister or brother with diabetes                           | 1.    | yes0. No       |
| 7.  | Having parent with diabetes                                      | 1.    | yes0. No       |
|   |  |       | Total points = |
| Scoring below 3 no risk, 3-9 low risks and 10 or more high-risk category. |  |       |                |

**Table-II: Knowledge of diabetes mellitus by sex of respondents**

| Variables                   | Male<br>(%) n=74 | Female<br>(%) n=124 | Significance<br>(P-value) |
|-----------------------------|------------------|---------------------|---------------------------|
| Cause of diabetes mellitus  | 42 (56.7)        | 52 (41.9)           | 0.04                      |
| Sign and symptoms           |                  |                     |                           |
| Thirst                      | 34 (45.9)        | 25 (20.1)           | 0.0001                    |
| Excess Urination            | 32 (43.2)        | 35 (28.2)           | 0.03                      |
| Weight loss                 | 25 (33.7)        | 25 (20.1)           | 0.03                      |
| Complications               | 26 (35.1)        | 12 (9.6)            | 0.0001                    |
| Cardiac Renal               | 21 (28.3)        | 17 (13.7)           | 0.01                      |
| Eye                         | 31 (41.8)        | 17 (13.7)           | 0.0001                    |
| Neuropathy                  | 27 (36.4)        | 12 (9.6)            | 0.0001                    |
| Strokes                     | 31 (41.8)        | 17 (13.7)           | 0.0001                    |
| Amputation                  | 32 (43.2)        | 11 (8.8)            | 0.0001                    |
| Dietary habits & life style |                  |                     |                           |
| Whole meal consumption      |                  |                     |                           |
| Oil use                     | 59 (79.7)        | 66 (53.2)           | 0.0001                    |
| in cooking                  |                  |                     |                           |
| Exercise                    | 52 (70.2)        | 68 (54.8)           | 0.03                      |
| BMI                         |                  |                     |                           |
| Normal                      | 38 (51.3)        | 85 (68.5)           | —                         |
| Overweight                  | 27 (36.4)        | 26 (20.9)           | 0.01                      |
| Obese                       | 9 (12.1)         | 13 (10.4)           | 0.35                      |
| Waist in <35 inches         | 51 (68.9)        | 102 (82.2)          | —                         |
| Waist in >35 inches         | 23 (31)          | 22 (17.7)           | 0.03                      |
| Total No                    | 6 (8.10)         | 30 (24.1)           | —                         |
| Risk                        |                  |                     |                           |
| Low                         | 21 (28.3)        | 54 (43.5)           | 0.19                      |
| High                        | 47 (63.5)        | 40 (32.2)           | 0.0001                    |

**Table-III: Knowledge of diabetes mellitus by residence of respondents**

| Variables                  | Urban          | Village   | P-value |
|----------------------------|----------------|-----------|---------|
| Cause of diabetes mellitus | 65 (60.7)      | 29 (23)   | 0.0001  |
| Sign and Symptoms          | 43 (40.1)      | 16 (17.5) | 0.0001  |
| Thirst                     |                |           |         |
| Excess                     | 44 (41.1)      | 23 (25.2) | 0.01    |
| Urination                  |                |           |         |
| Weight loss                | 37 (34.5)      | 13 (14.2) | 0.001   |
| Complications              | 31 (28.9)      | 7 (7.6)   | 0.0001  |
| Cardiac                    |                |           |         |
| Renal                      | 31 (28.9)      | 7 (7.6)   | 0.001   |
| Eye                        | 37 (34.5)      | 11 (12)   | 0.001   |
| Neuropathy                 | 35 (32.7)      | 4 (4.3)   | 0.0001  |
| Strokes                    | 37 (34.5)      | 11 (12)   | 0.002   |
| Amputation                 | 36 (33.6)      | 7 (7.6)   | 0.0001  |
| Dietary habits             | 22 (20.5)      | 39 (42.8) | 0.79    |
| and life style             |                |           |         |
| Whole meal consumption     |                |           |         |
| Oil use in cooking         | 94 (87.5)      | 31 (34)   | 0.004   |
| Exercise                   | 70 (65.4)      | 50 (54.9) | 0.1     |
| BMI                        |                |           |         |
| Normal                     | 45 (42)        | 78 (85.7) | —       |
| Overweight                 | 44 (41.1)      | 9 (9.8)   | 0.0001  |
| Obese                      | 18 (16.8)      | 4 (4.3)   | 0.0001  |
| Waist in <35 inches        | 73 (68.2)      | 80 (87.9) | 0.0001  |
| >35 inches                 | 34 (31.7)      | 11 (12)   |         |
| Total                      | No 10 (9.3)    | 26 (28.5) | —       |
| risk                       | Low 40 (37.3)  | 35 (38.4) | 0.01    |
|                            | High 57 (53.2) | 30 (32.9) | 0.0001  |

**Table-IV: Knowledge of diabetes mellitus by education of respondents**

| Variables                  | Illiterate<br>(n=71) | >5years<br>schooling (n=127) | Significance<br>(P-value) |
|----------------------------|----------------------|------------------------------|---------------------------|
| Cause of diabetes mellitus | 19 (13%)             | 75 (95%)                     | 0.0001                    |
| Sign and symptoms 10 (14)  |                      | 49 (38.5)                    | 0.0003                    |
| Thirst                     |                      |                              |                           |
| Excess 16 (22.5)           |                      | 51 (40.1)                    | 0.01                      |
| Urination                  |                      |                              |                           |
| Weight loss 8 (11.2)       |                      | 42 (33)                      | 0.0007                    |
| Complications 5 (7)        |                      | 33 (25.9)                    | 0.001                     |
| Cardiac                    |                      |                              |                           |
| Renal 7 (9.8)              |                      | 31 (24.4)                    | 0.01                      |
| Eye 6 (8.4)                |                      | 42 (33)                      | 0.0001                    |
| Neuropathy 2 (2.8)         |                      | 37 (29.1)                    | 0.0001                    |
| Strokes 4 (5.6)            |                      | 44 (34.6)                    | 0.0001                    |
| Amputation 3 (4.2)         |                      | 40 (31.4)                    | 0.0001                    |
| Dietary habits 25 (35.2)   |                      | 36 (28.3)                    | 0.3                       |
| and life style             |                      |                              |                           |
| Whole meal consumption     |                      |                              |                           |
| Oil use in 22 (30.9)       |                      | 103 (81.1)                   | 0.0001                    |
| cooking Exercise           |                      |                              |                           |
|                            | 39 (54.9)            | 81 (63.7)                    | 0.2                       |
| BMI Normal                 |                      |                              |                           |
|                            | 59 (83)              | 64 (50.3)                    | —                         |
| Overweight 8 (11.2)        |                      | 45 (35.4)                    | 0.0001                    |
| Obese 4 (5.6)              |                      | 18 (14.1)                    | 0.009                     |
| Waist in inches            |                      |                              |                           |
| <35 61 (85.9)              |                      | 92 (72.4)                    | 0.03                      |
| >35 10 (14)                |                      | 35 (27.5)                    |                           |
| Total risk                 |                      |                              |                           |
| No 18 (25.3)               |                      | 18 (14.1)                    | —                         |
| Low 36 (50.7)              |                      | 39 (30.7)                    | 0.84                      |
| High 17 (13.7)             |                      | 70 (55.1)                    | 0.0006                    |

The average age of the participants was forty years. More than fifty-seven percent participants were less than forty year of age and remaining were more than above forty years. Thirty-eight percent people were smokers and sixty-two percent do not like this habit. The family background of this disease was found in 39% participants. The percentage of the skinny people was 27%. And eleven percent participants were found with BMI greater than 25. Forty-four percent people were found at the highest level of danger for this disease and thirty-eight were at low risk level for this disease. Table number two

describes the answer of the participants regarding their awareness level and daily life routine to know about the danger of having this disease. Table number three provides the data of the awareness of this disease on the basis of their living place. People living in the non-ruler areas were found with awareness about the disease. Table number four describes the disparity in the information of uneducated and educated participants about the said disease.

#### DISCUSSION:

This research proved that people do not have much knowledge about this disease. Therefore, the occurrence of this disease is increasing in Pakistan. People do not know about the benefits of daily food and physical activities [4]. Males have more awareness about a good and healthy life than women. Body mass index confirmed the large amount of the people was fat and overweight. Thirty four percent families have a background history of growth-onset diabetes [5]. The family history about the disease is linked with the increase occurrence of the growth-onset diabetes as confirmed by the other related studies in the same field [6]. Healthy diet and physical activities can reduce this disease. People should be made aware about the advantages of healthy food [7].

The outcome of this research proved the results of a study carried out in India that people do not have proper concept of good diet. Different outcomes were discovered by the studies carried out in different parts of the world [8]. A study which was held in Singapore confirmed that it is the duty of the health care occupational to inform the people about the dangers of this disease [9]. Another research in the same field proved that people do not have much awareness of the disease. So, it is very essential to start the awareness programs for the ordinary people [10]. Another study in the mountains area of our country proved that males are well aware about the dangers of the disease than females when different questions were asked about good diet [11]. More studies and more awareness programs are required to make people aware about the dangers of the disease.

#### CONCLUSION:

This study proved that number of non-diabetes people who were visiting the care centres were at risk to acquire this disease. Their awareness about the disease was found missing. The people of the non-rural areas were found good awareness about the disease. Health care programmes are required to reduce this dangerous disease risk in future.

#### REFERENCES:

1. Association, A.D., Standards of medical care in diabetes—2016 abridged for primary care providers. *Clinical diabetes: a publication of the American Diabetes Association*, 2016. 34(1): p. 3.
2. Collaboration, N.R.F., Worldwide trends in diabetes since 1980: a pooled analysis of 751 population-based studies with 4·4 million participants. *The Lancet*, 2016. 387(10027): p. 1513-1530.
3. Organization, W.H., *Global report on diabetes*. 2016: World Health Organization.
4. Wanner, C., et al., Empagliflozin and progression of kidney disease in type 2 diabetes. *New England Journal of Medicine*, 2016. 375(4): p. 323-334.
5. Green, J.B., et al., Effect of sitagliptin on cardiovascular outcomes in type 2 diabetes. *New England Journal of Medicine*, 2015. 373(3): p. 232-242.
6. Schauer, P.R., et al., Bariatric surgery versus intensive medical therapy for diabetes—5-year outcomes. *New England Journal of Medicine*, 2017. 376(7): p. 641-651.
7. Pfeffer, M.A., et al., Lixisenatide in patients with type 2 diabetes and acute coronary syndrome. *New England Journal of Medicine*, 2015. 373(23): p. 2247-2257.
8. Ting, D.S.W., G.C.M. Cheung, and T.Y. Wong, Diabetic retinopathy: global prevalence, major risk factors, screening practices and public health challenges: a review. *Clinical & experimental ophthalmology*, 2016. 44(4): p. 260-277.
9. Association, A.D., Standards of medical care in diabetes—2017 abridged for primary care providers. *Clinical Diabetes*, 2017. 35(1): p. 5-26.
10. Sabatine, M.S., et al., Evolocumab and clinical outcomes in patients with cardiovascular disease. *New England Journal of Medicine*, 2017. 376(18): p. 1713-1722.
11. Yusuf, S., et al., Cholesterol lowering in intermediate-risk persons without cardiovascular disease. *New England Journal of Medicine*, 2016. 374(21): p. 2021-2031.