Assessment of University Students for the Risk Factors and Diabetes Profile in University of Peshawar

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Abstract

Background: Among the non-communicable diseases diabetes is life-threatening condition whose long-time complication causes heart attack, blindness, stroke and kidney failure. The objective was to determine the knowledge, attitude and practice regarding diabetes among the final year students of home economics, university of Peshawar.

Methods: This was a descriptive cross-sectional study carried out among final year university students of home economics, university of Peshawar from June to December 2019. Non-probability convenient sampling technique was used for the study. After taking written consent from individual participants a predesigned questionnaire was filled. Data was collected and analyzed by using SPSS version 16.

Results: This study included a total of 120 female students of graduate and master level. Among these students 33 (27.5%) were undergraduate and 87 (72.5%) were master level students. It was found that 39 (32.5%) female students were either self-diabetics or one or more close blood related family member were suffering from diabetes. A significantly high proportion 59 (49.2%) and 15 (12.5%) female students were either overweight or obese respectively. About 59 (49.2%) students were with unsatisfactory diabetes practice score, 73 (60.8%) students never checked for sugar and 7 (5.8%) students were found with other chronic diseases status. Interestingly only 28 (23.3%) students know about diabetes and acquired knowledge about diabetes from nutritionists.

Conclusion: The increased frequency of obesity & overweight, unsatisfactory diabetes score, unhealthy behavior and suboptimal attitude of female university students provided a threat of potential increase of diabetes among females in future.

Keywords: Diabetes, knowledge, attitude, practice, university, BMI

Introduction

Diabetes is a type of non-communicable disease that results due to insulin deficiency, responsible for metabolism of glucose (1) and characterized by increased level of glucose in blood. (2) During the last decade, the frequency of diabetes among adults increased remarkably. (3) The prevalence of diabetes among adults was 285 million at 2010, and with an increasing rate the value of diabetes among adults will reach to 439 million in 2030. (4) There are two main types of DM. The first type of diabetes, called insulin-dependent DM, results from a lack of insulin secretion by beta cells of the pancreas. The second type DM 2 in which insulin
production is normal, but the receptor of insulin cannot capture insulin due to many physiological changes in receptors. DM is a silent killer; many victims become aware they have DM only when they manifest complications. (5) There are many risk factors of diabetes mellitus 2. The unhealthy lifestyle and obesity are the predisposing factors of diabetes among adults. Genetics also play an important role in acquiring diabetes. (6) The recent trends of unhealthy lifestyle among university students such as the use of junk foods, drug addiction, smoking and obesity have left the students at the risk of developing diabetes. (7) Many studies reported diabetes cases among university students. (8,9) The present study has been designed to assess the knowledge, attitude and practices of university students regarding diabetes and to provide information about the possible risk frequency diabetes in future based on the collected information.

Methodology:
This was a descriptive cross-sectional study carried out among final year university students of home economics, university of Peshawar from the duration of June to December 2019. Non-probability convenient sampling technique was used for the study. After taking written consent from individual participants a predesigned questionnaire was filled. The questionnaire consists of questions regarding demography, attitude toward diabetes, practice, control measures and knowledge level of students toward diabetes. Data was collected and analyzed by using SPSS version 16.

Results:
This study included a total of 120 female students of graduate and master level. Among these students 33 (27.5%) were undergraduate and 87 (72.5%) were master level students. A total of 10 (8.33%) female students were married and 110 (91.6%) were unmarried. A total 84 (70%) students were belonging to middle socio-economic class (Table 1). The Majority of female students 104 (86.7%) were belonging to the city of Peshawar (Table 2). It was found that 81 (67.5%) students were non-diabetics and have no close blood relative suffering from diabetes, however 39 (32.5%) female students were either self-diabetics or one or more closer family member were suffering from diabetes.

Table 1. Socio-demographic profile of study participants

| Marital status | Education level | Socioeconomic status | Frequency | Percent age % |
|----------------|----------------|----------------------|-----------|---------------|
| Married        | BS             | Low                  | 0         | 0             |
|                |                | Middle               | 0         | 0             |
|                |                | Satisfactory         | 1         | 0.83          |
| Master         | Low            | 1                    | 0.83      |
|                | Middle         | 5                    | 4.2       |
|                | Satisfactory   | 3                    | 2.5       |
| Sub Total      |                | 10                   | 8.33      |
| Unmarried      | BS             | Low                  | 3         | 2.5           |
|                | Middle         | 9                    | 7.5       |
|                | Satisfactory   | 20                   | 16.7      |
| Master         | Low            | 8                    | 6.66      |
|                | Middle         | 10                   | 8.33      |
|                | Satisfactory   | 60                   | 50        |
| Sub Total      |                | 110                  | 91.6      |
| Total          |                | 120                  | 100       |

Table 2. Frequency distribution of study participants with respect to region

| Address       | Frequency | Percentage (%) |
|---------------|-----------|----------------|
| Bannu         | 002       | 1.7            |
| Charsadda     | 006       | 5.0            |
| Chitral       | 002       | 1.7            |
| DI Khan       | 002       | 1.7            |
| Hazara        | 002       | 1.7            |
| Karak         | 001       | 0.8            |
| Mardan        | 001       | 0.8            |
| Peshawar      | 104       | 86.7           |

The study provided that 9 (7.5%) female students have family members using insulin for treatment (Table 3). A significantly high proportion 59 (49.2%) and 15 (12.5%) female students were either overweight or obese respectively (Figure 1). Out of 120 female university students participated in the study 59 (49.2%) were with unsatisfactory diabetics practice score, 73 (60.8%) students never checked for sugar and 7 (5.8%) students were found with other chronic diseases status (Table 4). Interestingly majority 28 (23.3%) students know about diabetes and acquired knowledge about diabetes from nutritionists either directly or in TV program (Table 5).
Table 3. Diabetes status of study participants and blood relations

| Diabetic patients in blood relation | Type of treatment | Diagnostic mode | Duration of diabetes in months | Frequency | Percentage % |
|------------------------------------|-------------------|-----------------|--------------------------------|-----------|--------------|
| NO                                 | NA                | NA              | NA                             | 81        | 67.5         |
| Yes                                | Insulin           | Incidental      | ≤5                             | 1         | 0.833        |
|                                    |                   |                 | 5-12                           | 3         | 2.5          |
|                                    |                   | Symptomatic     | ≤5                             | 2         | 1.66         |
|                                    |                   |                 | 5-12                           | 3         | 2.5          |
|                                    | Non-Insulin       | Incidental      | ≤5                             | 1         | 0.833        |
|                                    |                   |                 | 5-12                           | 11        | 9.16         |
|                                    |                   | Symptomatic     | ≤5                             | 3         | 2.5          |
|                                    |                   |                 | 5-12                           | 15        | 12.5         |
| Sub total                          |                   |                 |                                | 39        | 32.5         |
| Total                              |                   |                 |                                | 120       | 100          |

Figure 1. BMI of study participants

Table 4. Practice and attitude of study participants regarding diabetes

| Practice & Attitude toward diabetes | Description         | Frequency | Percentage (%) |
|------------------------------------|---------------------|-----------|----------------|
| Diabetes practice score (Practice level) | Score level         |           |                |
|                                     | Good                | 33        | 27.5           |
|                                     | Satisfactory        | 28        | 23.3           |
|                                     | Un-Satisfactory     | 59        | 49.2           |
| Self-control of diseases            | Control Status      |           |                |
|                                     | Always in good control | 23      | 19.2           |
|                                     | Never Checked       | 73        | 60.8           |
|                                     | Randomly Control    | 24        | 20.0           |

Clinical test arrangement

| Test detail | Test detail |
|-------------|-------------|
| Not tested yet | 56 | 46.7 |
| Yes | 64 | 53.3 |

Other chronic diseases

| Description | Descriptions |
|-------------|--------------|
| No | 113 | 94.2 |
| Yes | 7 | 5.8 |

Table 5. Source & Knowledge of awareness & its follow-up (N=120)

| Source | Frequency | Percentage (%) |
|--------|-----------|----------------|
| Doctor | 17        | 14.2           |
| Electronic & Print Media | 14 | 11.7 |
| Family Doctor | 04 | 3.3 |
| Friend & Family | 14 | 11.7 |
| Health Educator | 18 | 15.0 |
| Nurses | 08 | 6.7 |
| Nutritionist | 28 | 23.3 |
| Social Media | 17 | 14.2 |

Discussion:

This study was carried out among university female students in order to determine the risk factor and diabetes profile among the young educated females who will be future family builders and potential risk group of diabetes having their abundant access to junk food and others unhealthy life-style. Inspite of many...
The increased frequency of obesity & overweight, unsatisfactory diabetes score, unhealthy behavior and suboptimal attitude of female university students found in this study provided a potential threat of diabetes among female in future. However the nutritionist intervention can be beneficial for sensitizing female toward diabetes and its complication.

**Conclusion:**
The frequency of diabetes was found high among university students and increasing with the passage of time. The increased frequency of obesity & overweight, unsatisfactory diabetes score, unhealthy behavior and suboptimal attitude of female university students found in this study provided a potential threat of diabetes among female in future. However the nutritionist intervention can be beneficial for

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