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Research Article

### AWARENESS OF DIET CONTROL AMONG TYPE 2 DIABETIC PATIENTS IN LOCAL POPULATION OF PAKISTAN

<sup>1</sup>Asma Zahoor, <sup>2</sup>Saba Mahmood, <sup>3</sup>Tahira Shaheen

<sup>1</sup>Charge Nurse, District Headquarters Hospital, Narowal,

Email ID: asmaeman606@gmail.com

<sup>2</sup>Charge Nurse, Tehsil Headquarters Hospital Pasrur District, Sialkot

Email ID: abdulrafay9689@gmail.com

<sup>3</sup>Nursing Instructor, Post Graduate College of Nursing Punjab Lahore Pakistan

Email ID: ushnamna@gmail.com

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**Abstract:**

**Introduction:** Diabetes mellitus is a complex disorder involving almost every system of the body causing a wide range of complications. **Aims:** Life style modifications along with dietary adjustments are the key features of a comprehensive diabetes management plan. The aim of the study is conducted to ascertain the level of awareness of balanced diet among type II diabetics. **Methods:** Descriptive study based on survey questionnaire for field sampling was implied to gather the information from 200 Type II diabetics taking oral hypoglycemics. Data was analyzed by SPSS 21. **Results:** The findings of the survey revealed

that most of the respondents had heard the term balanced diet early in their lives 144 (72.0%), while 56(28.0%) had not heard it before. About 192(96.0%) participants agreed to the fact that it is healthy to comply to a balanced diet plan on regular basis. Most of them 185(92.5%) knew the value to include whole grain cereals and roughage in their diet chart. About participants 149(74.5%) were aware of the natural and artificial sources of carbohydrates and 51(25.5%) of them were not aware of their origin.

**Discussion:** Although majority of the participants 144 (72.0%) have heard about balanced diet, there are still a few of them who have do not follow diet plan frequently at home [5]. According to Juma Al-Kaabi et al (2008), consuming healthy food is a key component for managing diabetes mellitus especially type II, which occurs predominantly due to insulin resistance, and preventing the serious complication. The

aim of dietary modifications is to restore quality of life, caloric management, and preventing long standing hazardous outcomes. [6]. According to a study conducted by Reveilles A A (2007) in Italy concluded that compliance to a comprehensive diet plan is not merely the tuning of dietary components but also the interpretation of the importance of balanced diet. [7]

**Conclusion:** Health education programmed focused on the nutritional support, dietary allowances and recommended caloric intake can pave the way for a long term optimized glycemic control and decelerate the involvement of systemic complications.

**Corresponding author:**

**Asma Zahoor,**

Charge Nurse, District Headquarters Hospital, Narowal,

Email ID: asmaeman606@gmail.com

QR code



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**INTRODUCTION:**

Diabetes Mellitus remains mostly undiagnosed until the patients develop some of the most inevitable early manifestations like peripheral and autonomic neuropathies etc. Patient's orientation and practices are imperative for minimizing the disease burden and its sequelae. According to the International

Diabetes Federation there are over 20 million diabetic patients currently present in Pakistan.

The American Diabetes Association recognises the integral role of dietary modifications in comprehensive diabetes management and recommends that each person should receive an individualized diet plan developed according to its physiological needs after thorough consultation with the treating physician [2].

Previous studies have proved that nutritional habits of the patients are regulated by patients' perception about the disease process.

According to the report published by WHO (2006), globally 2.3 billion adults will become overweight and more than 700 million will become obese by the end of 2015 [3]. A balanced diet makes a difference not only to manage diabetes but also help to manage the caloric intake. Therefore, every patient should be aware of the importance of nutritional therapy.

A study conducted in China (2015) by Jingran Cao et al, reiterated that only 54.10% of diabetics believe the diet to be reasonable and balance. The awareness rate was 8 in 10 patients and lacked understanding about balanced diet [4]. A baseline study conducted by in Delhi (2012) by Kishore J et al, showed that only 1.85% diabetics are following diet plan regularly at home [5]. According to Juma Al-Kaabi et al (2008), appropriate dietary practices are a basic and integral component of managing and treating complications in Type II diabetics. The goals of dietary modifications are to restore quality of life, nutritional intake and to minimize the long-term hazards of diabetes [6].

**MATERIALS AND METHODS:**

It is a descriptive survey-based study to assess the awareness of diet control among type II diabetics. The subjects were both men and women chosen randomly presenting in the out-patient department of general medicine District Headquarters Hospital Narowal. A self-structured questionnaire consisting of socio-demographic details and awareness to balanced diet was designed to record the response. A formal approval was taken from the hospital administration. A total of 200 patients were inducted through convenient sampling after informed consent. Confidentiality and privacy was maintained. Statistical data was analyzed by SPSS 21.

TABLE.1 AWARENESS OF BALANCED DIET AMONG PARTICIPANTS (N=200)

Knowledge and Awareness of Balanced Diet	Yes n(%)	No n(%)
Have you ever heard about the term balanced diet?	144(72.0%)	56(28.0%)
Do you it is important to consume balanced diet daily?	192(96.0%)	8(4.0%)
Do you know the portion of fruit/vegatable one should eat everyday?	128(64.0%)	72(36.0%)
How important fruits and vegetables are in daily diet?	194(97.0%)	6(3.0%)
How essential are fats to be consumed daily?	162(81.0%)	38(19.0%)
How essential is to consume low fat diet/products?	142(71.0%)	58(29.0%)
Do you know the names of types of fats?	130(65.0%)	70(35.0%)
Do you prefer lean meat?	110(55.0%)	90(45.0%)
Are unseasoned ground nuts good to eat?	166(83.0%)	34(17.0%)
Do you know what a starchy food is?	152(76.0%)	48(24.0%)
Is it healthy to eat starchy food?	128(64.0%)	72(36.0%)
Is your diet based on the starchy food item?	74(37.0%)	126(63.0%)
Is it essential to add cereals/whole grains/roughagein your diet?	185(92.5%)	15(7.5%)
How much sugar should be consumed in a day?	88(44.0%)	112(56.0%)
What is the proportion of carbohydrates that make up our daily requirement?	96(48.0%)	104(52.0%)
Do you know natural edible sources of carbohydrates?	51(25.5%)	149(74.5%)

### RESULTS AND DISCUSSION:

The total numbers of participants in the study were 200. The demographic data of the participants shows that among the 200 participants, 84(42.0%) belonged to the age group of 20-30 years, 36(18.0%) between 30-40 years, 40(20.0%) between 40-50 years and 60(30.0%) belong to the age of 50 years and above. More females 148(74.0%) participated than the males 52(26.0%) in this study. The highest number of participants have completed their Secondary Education 115(57.5%) followed by HigherSecondary Education 45(22.5%). There were 29(14.5%) who have completed their Bachelors and 11(5.5%) have completed their Masters Program.

Table 1 shows the response to the survey questionnaire on awareness of balanced diet. Figure 1

shows that a majority of the participants have heard about balanced diet 144 (72.0%), while 56 (28.0%) have never heard about this term before. About 192(96.0%) participants think that it is important to consumebalanced diet daily.

There were 128(64.0%) who knew how much portions of fruits and /or vegetables should be taken everyday. About 194(97.0%) participants were aware that it important to eat fruits and vegetables in daily diet.162(81.0%) of them responded that fats essential to be included in daily diet. There were 142(71.0%) participants who are aware that it essential to choose low fat products, and 58(29.0%) are not aware of it. Half of them 130(65.0%) know about the three kinds of fat. The numbers of participants who opt for lean cut of meats or remove visible fat are 110(55.0%). A

majority of the participants 166(83.0%) are aware that unsalted nuts and seeds are good to be included in their diet. About 152(76.0%) knew about starchy foods. Whereas, 128(64.0%) were not aware of its importance. About 74(37.0%) of them responded that there is no need to base the main meals around starchy foods. A majority of them 185(92.5%) were aware that it is essential to include whole grain cereals and pulses in their diet. More than half of the participants 88(44.0%) are not aware on how much of sugar should be consumed in a day. The participants who knew the daily requirements of carbohydrate were 96(48.0%). Although majority of the participants 144 (72.0%) have heard about balanced diet, there are still a few of them who have not heard and understood the importance of balanced diet. As per a study conducted in Bijapur, Karnataka (2010), it was seen that the diet was considered to play an important role by 90.68% of the respondents. Khattab MS et al (1999) conducted a study in a Saudi Arabian community, and discovered that only 40% of diabetic patients had good adherence to their diet plan [8]. In the study done by Raj P & Angadi MM (2010), 80% of the respondents reported that they were conscious about their intake but the rest were consuming high carb beverages [9]. The study results are corresponding with Jingran Cao et al, which shows that only 54.10% diabetics were aware that about the diet to be balanced and reasonable [4]. Though 97% of the participants knew the weightage of including fruits and vegetables in diet, 72 (36.0%) of them were not aware of the portions to be taken daily. Almost one third of the respondents 70(35%) were not aware of the three kinds of fat, 104(52.0%) did not know the daily requirement of carbohydrates, and 149(74.5) were not aware of the food sources of carbohydrates. These results highlight the fact that there is still a room for improvement and to initiate a mass campaign on importance of balanced diet among the diabetics to prevent life threatening complications.

### CONCLUSION:

International Diabetes Federation (2019), estimated that over 19 million people in Pakistan are suffering from diabetes and its complications. Koenigsberg MR (2004) stated that it is a time tested and proven fact that healthy diet and moderate exercise can prevent occurrence of diabetes and its complications [11]. The most crucial part of the treatment regime consists of a balanced diet. High caloric diet significantly increases the risk of contracting diabetes mellitus. Therefore it is important that the patients must be aware and possess sound knowledge regarding balanced diet and its significance. Health Education, diet and nutrition counseling sessions and life style modifications should be

incorporated into the management plans of type II diabetics to increase the effectiveness of the Interventions to sustain the wellbeing and preventing the crippling complications.

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