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Examining the Impact of Illness Perception and KAP (Knowledge, Attitude, Practice) on Eating Behavior and Diabetic Self-Management among Type II Diabetic Patients

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Abstract

Current study focuses on impact of Illness Perception and KAP (Knowledge, Attitude, and Practice) on Eating Behavior and Diabetic Self-Management among Type II Diabetic Patients. Major objectives of the study are to assess the illness perception on eating behavior of Type II diabetic patients and to assess the illness perception on self-management of Type II diabetic patients. Moreover, to examined the impact of KAP (Knowledge, Attitude, Practice) on eating behavior of Type II diabetic patients as well as to examined the impact on KAP (Knowledge, Attitude, Practice) on self-management of Type II diabetic patients. Due to the Covid-19 Pandemic online survey was conducted and a purposive sampling technique used to approach diabetic type II patients from different hospitals, another snowball sampling technique used for data collection as well. The sample size has calculated by using G power analysis. This study comprised of total 200 participants. For statistical analysis SPSS software is used and regression analysis is run for hypothesis testing. Major findings of the study indicated that knowledge attitude and practice has (6%) positive and direct impact on eating behavior of Type II diabetic patients and illness perception also has (11%) positive and direct impact on eating behavior of Type II diabetic patients. It is

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also find from the major finding that KAP has (31%) positive and direct impact on self- management of Type II diabetic patients" and illness perception also has (10%) positive and direct impact on self-management of Type II diabetic patients". Finally it is concluded that there is need to improve the KAP and self- management of Type II diabetic patients and some future recommendations are also given for new studies.

Keywords: Illness Perception, KAP, Eating Behavior Diabetic Self-Management, Type II Diabetic Patients

Introduction

Diabetes mellitus is a chronic disease and one of the greatest threats to human health (WHO, 2020). Globally, in 2011 there were almost 336 million individuals who had diabetes ranging in age from 20-79 years. It is anticipated that by 2025, this figure is raised by 72 percent to 552 million, and almost 80 percent of the diabetic cases will occur in poorly developed countries (International Diabetic Federation (IDF), 2011, 2014). According to the latest international diabetic federation survey, in 2011, there were 336 million diabetic individuals worldwide. In 2012 the number increases to 371 million people with the highest leading risk country, china (92.3 million), India 63 million, and the United States (24.1 million). Moreover, Pakistan is ranked on 7^{th} in diabetes prevalence list (IDF, 2015) diabetes is the major health concern as well.

Type II Diabetes is the most common type of diabetes (Allison, 2019). Usually it is recognized as insulin resistance. In type II diabetes, insulin is essential for the body to use glucose for energy. But the body is unable to reproduce enough insulin, or the cell is ignoring it (IDF, 2019). Type II diabetes has been diagnosed in millions of individuals around the world, and

many more remain undiagnosed. If the condition is left undiagnosed or poorly controlled, people with diabetes are at a higher risk of developing cardiovascular disorders such as heart attack and stroke (Pasinetti, 2011).

In addition, Knowledge is an essential element regarding the treatment of any disease .Education level of people enhanced the awareness about diabetes type II risk factors, practices and management (Badran & Laher, 2012). Moreover, an individual can obtain knowledge about diabetes from education, observation, experiences, perception, and self-actions that are important to decide and adopt an optimistic attitude to seeking treatment and help one's better response to personal or social needs (Sausa, 2003). In health education KAP model is used as a rational model. KAP model is based on notions that growing personal awareness can cause changes in behavior (WHO, 2012). In addition, theory and model of knowledge, attitude and practice of are widely used for health education (Walker & Eckman, 2008; Gordon, Jaccard, Dittus, 1996).

In context of diabetic patients, they have different collection of attitude regarding the diabetic self-management. It is also concluded that the attitude towards diabetes refers to any preconceived views about diabetes and its management. All three components have a significant association with the feelings/emotions of patients about aspects of diabetes and diabetes treatment, and the willingness to act in particular on diabetes and its management and practice reflects a relationship among knowledge and attitude as well (Eagly, 2007).

Moreover, illness perception organized by Illness expectations are essential determinants of self-care habits and results in people with medical conditions that coordinate cognitive images and assumptions that people have

about a disease. Illness perceptions are often related to satisfaction and the potential use of health care. In some studies, the researcher elaborates on the perception of illness was established as an essential factor influencing individual self-care habits like physical, emotional, spiritual, psychological distress, and other health outcomes among individuals living with type II diabetes mellitus (Sherry et al.2011).

It is concluded in past studies that the role of diet in type II diabetes is very important and disease is almost confined to rich people who consumed excessive amounts of fats, flour/grains, and sugar (Seidell, 1998; Booth et al. 2013). A positive correlation between high intake of sugars and diabetes of type II production has been documented by several studies (Khati, 2004). There is also need to check the impact of Illness Perception and KAP (Knowledge, Attitude, Practice) on Eating Behavior and Diabetic Self-Management among Type II Diabetic Patients. Moreover, it is also observed the significant effects of the diet on weight management and type II diabetes and acknowledging the beneficial effects of this diet (Schroder, 2007). In patients with type II diabetes, vegetarian and vegan diets tend to enhance weight loss and metabolic control. It is attributed to a higher intake of low fiber-rich glycemic index food; the usually lower saturated fatty acid content of these diets is associated with improved plasma lipids (Barnard et al., 2009).

It is essential for the treatment and self-management of type 2 diabetes mellitus, which requires adherence to medical guidelines on diet and nutrition, physical activity, medication routine, weight and stress management. To follow these instructions and manage proper routine would lead to a healthy lifestyle and cope with diabetes symptoms. Knowledge and management of

diabetes among patients are still the significant challenges faced by stakeholders worldwide (Bassuk & Manson, 2005).

Moreover, Physical activity decreases the risk of developing type II diabetes by 30-50 percent, and with as little as 30 minutes of moderate exercise a day, risk reductions are seen (Gkaliagkousi, 2007). In all types of diabetes, periodic exercise increases glycaemic function. Insulin resistance in type II diabetes is the crucial cause of hypoglycemia, and physical activity is the only way to decrease insulin resistance (Goodpaster et al. 2010).

Statement of the Problem

In Pakistan, Diabetes type II is a significant public health issue. Although diabetes type II is a global problem and safe dietary habits has become a significant public health concern over the past few decades. Knowledge, attitude and practice, Illness perception, eating behavior and management of the disease is influenced by the local factors and individual characteristics. As diabetes is become more prevalent in Pakistan, like role of education would be an important key factor this stimulates the researcher to investigate the study variables. Another research indicated that people have a lack of knowledge about diabetes and risk factor, practicing low diabetic self-management (Gillani et al. 2018). Illness perception is identified as a significant factor that influences self-care practices and health outcomes (Alzubaidi H, 2015) but people of Pakistan have pessimistic attitude about diabetes (Ahmed et al., 2016). According to the survey, in 2000, the prevalence of diabetes type II in Pakistan was 5.2 million .i.e., (7.6percent), and it is anticipated in 2030 diabetics' people ratio will increase to about 15percent. The figure would be 13.8 million diabetic people who will suffer from this disease. Pakistan would be ranked in 7th of the list of diabetes

prevalence (WHO, 2004). In addition, Jaffar (2006) revealed that more than 40percent of women, while 30 percent of men aged 35-54 years suffered in overweight or obesity due to the unhealthy eating pattern. The current study would focused the educated diabetic type 2 patients to check their knowledge, attitude and practice, illness perception about diabetes, their eating pattern (healthy or unhealthy) and level of diabetic self-management. KAP influenced the individual health related behavior, illness perception about diabetes, and eating behavior has a recognizing effect on self-management. In past studies and literature many of the studies focused on relationship between Illness Perception and KAP (Knowledge, Attitude, Practice) on Eating Behavior and Diabetic Self-Management among Type II Diabetic Patients but there are few studies which have examined the impact so there is need to examined this issue with the help of quantitative method and tested though variables as well as statistical analysis.

Research Questions

- What is the impact of KAP (Knowledge, Attitude, and Practice) on eating behavior of Type II diabetic patients?
- What is the impact of illness perception on self-management of Type II diabetic patients?
- What is the impact of KAP (Knowledge, Attitude, and Practice) on self-management of Type II diabetic patients?
- What is the impact of illness perception on self-management of Type II diabetic patients?

Research Objectives

- To assess the impact of KAP (Knowledge, Attitude, Practice) on eating behavior of Type II diabetic patients.
- To assess the illness perception on self-management of Type II diabetic patients.
- To examined the impact of KAP (Knowledge, Attitude, and Practice) on self-management of Type II diabetic patients.
- To examined the impact of illness perception on self-management of Type II diabetic patients.

Research Hypotheses

- There is positive and direct impact of (Knowledge, Attitude, Practice) on eating behavior of Type II diabetic patients.
- There is positive and direct impact of illness perception on self-management of Type II diabetic patients.
- There is positive and direct impact of KAP (Knowledge, Attitude, and Practice) on self-management of Type II diabetic patients.
- There is positive and direct impact of self-management on self-management of Type II diabetic patients.

Significance of the Study

Type II diabetes mellitus (T2DM) is one of the world's most incommunicable diseases. Pakistan currently ranked 6th in terms of diabetes cases globally, with the prevalence of diabetes mellitus type II is 6.9 percent. Pakistan is forecast to become the fourth leading country in the number of patients with T2DM in 2020. The goal of this research is to explore the relationships between the variables of knowledge, attitude, and practice of

diabetes, perception of disease, eating behavior, and self-management of diabetes, and how they affect the management and outcomes of diabetes among adult patients with type II diabetes. This study has focused on the perception of diabetic patients, male and female—role of education in their diabetic-related knowledge, attitude and ill perception towards eating behavior and diabetic management. The findings of the study will help People to adopt adequate steps like early diagnosis of the disease, prognosis, and proper care will minimize diabetes mellitus. Similarly, regular exercise, consuming balanced diet, reduces weight, and devotion to a prescription medication treatment will achieve optimal glycemic control. In the treatment of diabetes, awareness about the condition and regarding complications can plays an essential role.

Literature Review

The current study aimed to examine how factors affected in relationship of diabetes knowledge, attitude & practice; diabetic illness perception, eating behavior, and diabetic self-management affect diabetic management and outcomes among type II diabetic patients. The study of Allisson (2019) concentrated on physical activities related to knowledge and attitude to diabetes type II in elders. A significant association was seen among physically active and age over 70 years, having useful information on diabetes type II and having an optimistic attitude towards diabetes type II and self- care. In addition, Anna Karla et al., (2019) investigate diabetes and self-care's knowledge and attitude using a cross-sectional design. The results have reinforced the requirement of media talks, educational actions that incorporate socio-economic, psychological well-being for diabetic individuals. Moreover, Kumara & Siriwardena (2016) analyzed the knowledge, attitude, and physical

activities of the diabetic type II patients and results demonstrate that most of the patients didn't have proper knowledge about physical exercise, even though the poor knowledge majority of the participants had sufficient daily activities in their everyday activities. Aldous et al., (2019) concluded that participants' scores were significantly correlated with knowledge and attitude and results revealed that over half of the respondent of the study never tested their blood glucose level on an annual basis.

Past studies of (Mikhael et al., 2018; Boonsatean, Dychawy Rosner, Carlsson & Ostman, 2018; Abubakari et al., 2016) conclude that demographic variables and clinical characteristics were related to diabetic illness perception as well as illness perception is affected by the surrounding atmosphere in which patients assemble information to developed perception regarding illness (Mcandrew et al., 2014). In addition, Gillani et al. (2018) also finalized that awareness of risk factors, management, and diabetes care is low in Pakistan's general population. At the national level, tailored public education efforts should be promoted to improve the prevention and treatment of diabetes.

Zafar, J et al. (2016) conducted a cross sectional study to examine the diabetes prevalence and its correlation in urban population of Pakistan. Study revealed that age, family history, obesity and hypertension were major independent risk factor in the prevalence of diabetes.

Amir et al., (2018) conducted the survey study to estimate the prevalence of diabetic type II in Pakistan across demographic groups and all regions. Sample of the study was 18856. Prevalence of pre-diabetes was 10.9% and 16.98 % were Diabetic type II. The prevalence was high in age from above 50. Ratio of obese was 35.9%, females were 17.80% and family history ratio was 31.2% and 17.6% were those who did not get any formal education.

Moreover, this study aimed to examine awareness, attitude, and self-care practices related to diabetes in an urban population in Pakistan, Ahmed et al. (2016). The findings indicate that most participants had a pessimistic attitude about diabetes and very little information. There is a need for improved education related to diabetes and positive attitudes towards reducing complications related to diabetes. It is shown that the Pakistani population is almost absolutely unprepared to fight against a rise in the prevalence of type II diabetes.

Mangi et al. (2018) researchers attempt to evaluate the awareness, attitude, and practice of diabetic people. They conducted a descriptive cross-sectional study among outpatients of four tertiary care hospitals in Sindh with a KAP questionnaire. The sample was collected using a random technique and the study period was six months. A total of 2500 questionnaires were distributed and returned in 2025, with an 81% response rate. 1865(29.09 percent) were patients aged 30 plus. 1235(60.9 percent) were male and 790(39.1 percent) women, as per gender distribution. In addition to this, type I was 171(8.4 percent), and type II diabetics were 1854(91.5 percent). The low literacy rate among diabetic patients in Sindh, Pakistan, is the key contributing factor to the low KAP ranking.

Ansari et al. (2015) aimed to identify the type 2 diabetes epidemic in Pakistan and focus specifically on Pakistan's middle-aged population. Type 2 diabetes is a significant public health issue in Pakistan. There is an overweight or obese middle-aged population in that region, a lack of physical activity, unhealthy food, and eating habits that expose this population to a high risk of type II diabetes. In this report, a range of variables has been described as the leading cause of low health care system rankings, such as inadequate utilization

of primary health care facilities, lack of physical accessibility to the health system, insufficient diabetes management health system, gender inequality, and health care system inequity.

Hassan et al., (2018) researched to examine complications in Pakistani diabetic patients. Researchers were conducted a cross-sectional descriptive study using a paper-based questionnaire from December 2015 to March 2016. In diabetic patients with a high frequency of risk factors accompanying them, complications seem to be increased. It would be of considerable advantage to impart sufficient information and avoid strategies to minimize co-morbidities.

The literature of the current study highlights the significant increase in diabetes type II in Pakistan. The literature showed that lack of knowledge due to low literacy rate, obesity due to inappropriate eating pattern especially influenced on diabetes. Many researchers conducted researches or survey in Pakistan but limited data which explore the influences of diabetic II self-management. Moreover, all these studies just examined the relationship but no one focused on impact so this is one biggest gap and ignored area so there is need to check the impact of Illness Perception and KAP (Knowledge, Attitude, Practice) on Eating Behavior and Diabetic Self-Management among Type II Diabetic Patients

Methodology of the study

This currents study is quantitative in nature so the proposed study is cross sectional research design for using of examine the impact of Knowledge, Attitude and Practice (KAP), Diabetic Illness perception, Eating behavior, and Diabetic Self -Management among Diabetic Type II Patients. Due to the Covid-19 Pandemic online survey was conducted, A Purposive sampling

technique used to approach diabetic type II patients from different hospitals, another snowball sampling technique used to collect data. The sample size has calculated by using G power analysis (Faul et al., 2009). This study comprised of total 200 participants. In the current study, subsequent instruments are used for data collection. For testing of Knowledge, Attitude & Practice Scale (KAP) This scale was developed by Herat (2017). It has three dimensions; first, eight items represent the knowledge about diabetes and related questions about diagnosis, prevention, risk factor, and complication of diabetes. Three different categories were made for the answer; No, yes, and don't know. Out of 26, the overall knowledge score was determined, and the score range was 0--13, 14--18 and 19--26. Herat organized the scale's responses as having on the continuum of low, moderate, and good. The reliability of the sub-scale is 0.81.

The second dimension of the scale was attitude. It was used to assess the diabetic patients' attitude towards their illness, seven questions were regarding to treatment. Responses of the individuals were evaluated with nominal continuum of; 1= yes, 2= No and 3= don't know. The participants were getting more than four marks on the scale of the attitude out of 7, were classified as having a positive attitude towards seeking diabetes treatment. The reliability of the sub-scale is 0.75. The third dimension of the scale was practice. Practices towards diabetes were assessed using four questions. On this scale, the individuals' responses were evaluated with categorical responses; yes, no, and don't know. In this dimension, the client's answers were classified into the domain of .i.e, practicing, and none practicing regarding treatment and management. The reliability of the scale is 0.79. the second independent variable is

Diabetic Illness Perception Questionnaire. This questionnaire was developed by Kamatani et al. (2013). This questionnaire was used to collect the responses about the perception of their diabetics. It has consisted of 28 items, and the scale's reliability was 0.81, and it was 11 point scale range from 0-10. Zero indicates strongly disagree, while ten means strongly agree with the statement. This scale has seven factors; feeling of getting into trouble, inferiority, restricted, miserable, importance, and orderly life. And Eating behavior Scale (HUEBS) Camill (2020), this scale has 21 items and two dimensions; healthy eating behavior and unhealthy eating behavior. The reliability of these dimensions was α = .81 for healthy eating and α = .82 for unhealthy eating. Diabetic Self-Management Questionnaire.

DSMQ consists of sixteen items and further divided into five dimensions. It was a four-point Likert scale (3-0) 3 refer the; it applies to me very much, and 0 refers to the does not apply to me. The tool explains the patients; dietary control (**α**= 0.79), medication adherence (**α=0.75)**, blood glucose monitoring (**α** =0.83**)**, physical activities (**α=0.74)**, and physician contact (**α=0.72)**. All these dimensions were formulated from the patients' point of view (Schmit et al., 2013). Before data entry and coding, all the instruments were checked for the accuracy of the researcher's written information. Following the instruction and data coding was done, all data was entered into a spreadsheet for statistical purposes. All data were imported to SPSS was to stay away from data entry errors and any potential misstep.

Hypothesis Testing

H1: There is positive and direct impact of KAP on eating behavior of Type II diabetic patients?

Model	Unstandardized Coefficients		Standardized Coefficients	t	R^2	Sig.
	B	Std. Error	Beta			
(Constant)	26.373	1.257		2.986		.000
KAP	.066	.021	.219	3.165	.048	**.002**

a. Dependent Variable: EB

Above table shows the test results of regression analysis on *"There is positive and direct impact of KAP on eating behavior of Type II diabetic patients"* Major results show that (*b*= .066; t=3.165 p=.002) mean that knowledge attitude and practice has (6%) positive and direct impact on eating behavior of Type II diabetic patients". Moreover, in above table the values of (r=.219; p=.000) also shows that the relationship is positive and significant between "KAP and "eating behavior". So it is clearly stated that the first hypothesis of the study is approved on the bases of statistical test results.

H2: There is positive and direct impact of illness perception on self-management of Type II diabetic patients?

Model	Unstandardized Coefficients		Standardized Coefficients	t	R^2	Sig.
	B	Std. Error	Beta			
(Constant)	31.429	1.886		16.661		.000
PPD	.110	.011	.047	8.657	.051	**.000**

a. Dependent Variable: EB

Above table shows the test results of regression analysis on *"There is positive and direct impact of illness perception on eating behavior of Type II diabetic patients"* Major results show that (*b*= .110; t=8.657 p=.000) mean that illness perception has (11%) positive and direct impact on eating behavior of Type II diabetic patients". Moreover, in above table the values of (r=.047; p=.000) also shows that the relationship is positive and significant between "illness perception and "eating behavior". So it is clearly stated that the second hypothesis of the study is approved on the bases of statistical test results.

H3: There is positive and direct impact of KAP on self-management of Type II diabetic patients?

Model	Unstandardized Coefficients		Standardized Coefficients	t	R^2	Sig.
	B	Std. Error	Beta			
(Constant)	52.122	1.993		26.958		.000
PPD	.315	.032	.572	9.798	.328	**.000**

a. Dependent Variable: SM

Above table shows the test results of regression analysis on *"There is positive and direct impact of KAP on self-management of Type II diabetic patients"* Major results show that (*b*= .315; t=9.798; p=.000) mean that KAP has (31%) positive and direct impact on self- management of Type II diabetic patients". Moreover, in above table the values of (r=.572; p=.000) also shows that the relationship is positive and significant between "KAP and "self- management". So it is clearly stated that the third hypothesis of the study is approved on the bases of statistical test results.

H4: There is positive and direct impact of illness perception on self-management of Type II diabetic patients?

Model	Unstandardized Coefficients		Standardized Coefficients	t	R^2	Sig.
	B	Std. Error	Beta			
(Constant)	17.114	3.229		5.301		.000
PPD	.102	.019	.351	5.268	.123	**.000**

a. Dependent Variable: SM

Above table shows the test results of regression analysis on *"There is positive and direct impact of illness perception on self-management of Type II diabetic patients"* Major results show that (*b*= .102; t=5.268; p=.000) mean that illness perception has (10%) positive and direct impact on self-management of Type II diabetic patients". Moreover, in above table the values of (r=.351; p=.000) also shows that the relationship is positive and significant between "illness perception and "self-management". So it is clearly stated that the fourth hypothesis of the study is approved on the bases of statistical test results.

Discussion

The study's purpose was to examine the impact of Knowledge, attitude, and practices of diabetic type II patients, illness perception about diabetes, eating behavior of diabetic type II patients, and diabetic self-management. This study's results are discussed and contrasted with the results of other research studies that have been published.

H1: There is positive and direct impact of KAP on eating behavior of Type II diabetic patients?

The current study's first hypothesis was to examine the impact of knowledge, attitude, and practice on eating behavior and diabetic self-management of type II diabetic patients so the test result of regression analysis shows that knowledge attitude and practice has (6%) positive and direct impact on eating behavior of Type II diabetic patients". Several studies were found there is significant and positive impact of KAP on self-management (Mikhael et al. 2018, Gillani et al., 2018, Hassan et al., 2018); however, there is a limited study on diabetic type II patients' eating behavior (Al- Ghamdi et al. 2018, Chevence et al. 2015).

H2: There is positive and direct impact of illness perception on eating behavior of Type II diabetic patients?

The current study's second hypothesis was to examine the impact of illness perception on eating behavior of type II diabetic patients so the test result of regression analysis shows that illness perception has (11%) positive and direct impact on eating behavior of Type II diabetic patients". Past studies showed that illness perception has significant impact on eating behavior (Monnier et al., 2004; Savoca & Miller ,2001; Péres, Franco & Santos ,2006). Moreover, in Samuel-Hodge et.,(2004) also concluded that illness perception is bigger and significant factor which have direct impact on eating behavior of Type II diabetic patients.

H3: There is positive and direct impact of KAP (Knowledge, Attitude, and Practice) on self-management of Type II diabetic patients?

The current study's third hypothesis was to examine the impact of KAP on self-management of type II diabetic patients so the test result of regression analysis shows that KAP has (31%) positive and direct impact on self-management of

Type II diabetic patients, past literature indicated that KAP has significant impact on self-management of type II diabetic patients (Glasgow, Hampson, Strycker & Ruggiero, 1997). Moreover, Virtanen et al., (2000) also concluded that KAP are strong factors which have influence on self- management and self-care of type II diabetic patients. In addition, test results also show that relationship is positive and significant between "KAP and "self- management. Anna Karla (2019) concluded the results that diabetic people have to need to participate in care and diabetic self-management programs (Masood et al. 2016; Mangi et al., 2018).).

H4: There is positive and direct impact of illness perception on self-management of Type II diabetic patients.

The current study's fourth hypothesis was to examine the impact of illness perception on self-management of type II diabetic patients so the test result of regression analysis shows illness perception has (10%) positive and direct impact on self-management of Type II diabetic patients". Moreover, relationship is positive and significant between "illness perception and "self-management". Past studies shows that This result is consistent with previous studies that found that self-management activities among people living with type II diabetes were significantly affected by the illness of perception about diabetes. Research evidences the link between illness perception and self-care practices (Broadbent et al., 2017). Broadbent et al., (2008) have discovered that the perception of diabetes in patients affected their commitment to medications, nutrition, and exercise. Similarly, illness perception predicts self-management behaviors of people with diabetes. In the current study, educated participants were recruited to have an optimistic attitude towards their diabetic self-management. As illness perception is affected by the surrounding

atmosphere, patients assemble information to develop a perception regarding illness (Mcandrew et al., 2014).

Conclusion

The present study set up a significant impact of knowledge, attitude, practice, illness perception, eating behavior, and diabetic self-management among type II diabetic patients. In the present study, educated diabetic patients know about diabetes type II symptoms and risk factors. Diabetic type II patients have an optimistic attitude towards diabetes and eating behavior. But diabetic self-management is poor. KAP and Illness perception is significantly influenced diabetic self-management of diabetic type II patients. Similarly, KAP and Illness perception is significantly affected the eating behavior of diabetic type II patients Furthermore, diabetic patients are failed to manage their diabetes self-care because of inconsistent inappropriate practices. In addition, the present effort further informs the differences between diabetic type II male and female participants. Results demonstrate that males have more knowledge about diabetes type II and have an optimistic attitude compared to females. At the same time, females have healthy eating behavior and put their efforts to manage their diabetes. The research gives proof of concept and exciting new understanding about the KAP, illness perception, eating behavior, and diabetic self-management of diabetic type II patients. The present study's findings could add to improving the understanding among physicians and counselors arrange preventive interventions and awareness programs to help patients to diabetic self-management.

Suggestions for the future

- The present research provides essential data to the therapists and students working on Knowledge, attitude and practice, illness perception about diabetes, eating behavior of diabetic patients, and diabetic self-management of type II diabetic patients.
- There is a requirement for creating interventions program and educational projects for individuals to enhance diabetic self-management significantly. Media campaigns can increase the awareness of diabetes, dietary food for diabetic patients, and self-management techniques.
- Besides, it is crucial, and there is a need for studies to understand what kind of support and follow up received by diabetic patients from medical staff and health care providers.
- As the study sample had diabetes type II patients, the researcher would come up with a diverse sample group.
- The studied variables can also utilize to test the causal hypothesis.
- The present research provides an essential task to the therapists of removing misbelieves and ignorance to manage their diabetes.

Implications of the study

As diabetes type II is dramatically increasing among the middle-aged population. The study incorporated the individuals to focus on the awareness and management interventions programs. The study will provide insight into healthy eating as a preventive measure to manage diabetes. The above findings contribute to our comprehension of the relationship between

knowledge, attitude, and practice, illness perception about diabetes, eating behavior, and diabetic self-management of diabetic type II patients. The present research provides essential data to therapists and students. This research has developed an interface between nursing science and practice.

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