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A Survey Of Awareness About Diabetes Among Young Women Hostellers

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Abstract :

Diabetes mellitus is a global health concern with a rising prevalence, affecting individuals of all ages and backgrounds. This cross sectional study focuses on a sample of 50 young girls, considering them as potential future mothers and caregivers, to assess their knowledge about diabetes, Understanding their awareness of risk factors, symptoms, prevention and management is crucial for health and their own well being and that to their future families. This research paper lays the groundwork for our study, emphasizing the significance of young girls knowledge about diabetes. By conducting a comprehensive investigation into their existing knowledge, this study identifies gaps and misconceptions that may hinder effective diabetes prevention and management. The methodology, findings and implications of this research will be discussed in subsequent sections, contributing to the broader discourse on diabetes education and care. Our goal is to empower young women with knowledge that will enable them to make informed decisions about their health and positively impact the will-being of future generations they may nurture as mothers and family caregivers.

Keywords : Diabetes mellitus, awareness, knowledge, young girls

INTRODUCTION

Diabetes mellitus a chronic metabolic disorder characterized by elevated blood glucose level is emerging as a global health concern of alarming proportions. The prevalence of diabetes continues to increase, with both Type1 and Type2 diabetes affecting individuals of all age groups and regions. Among the various demographic groups affected by this conditions, young girls hold a unique position as they represent not only the present but also the future of motherhood and family care. Understanding the knowledge about diabetes among young girls is extremely important because it can have a significant impact on their health and the well being of their future families.

Diabetes, if uncontrolled or improperly controlled, can lead to a number of complications, including heart disease, kidney dysfunction and nerve damage. Additionally, women with diabetes who become pregnant have an increased risk of complications during pregnancy and delivery. As young girls

transition into womanhood and eventually becoming mothers, their level of awareness and knowledge about diabetes can play an important role in reducing these risks and promoting a healthy future for themselves and their families.

The aim of this study is to assess the knowledge about diabetes among young girls, their awareness about risk factors, symptoms, prevention strategies and management approaches. By gaining insight into their existing knowledge base, we hope to identify gaps in understanding and potential misconceptions that may hinder effective diabetes prevention and management. This is necessary not only for their own well- being, but also for the future generations whom they will nurture and care for as mothers and caregivers.

Problem Statement :

The prevalence of diabetes is escalating globally, affecting individuals across diverse demographics. Among these, young girls hold a unique position as prospective mothers and family caregivers. Their knowledge about diabetes plays a pivotal role in shaping their own health and the well-being of future generations. However, there is a dearth of comprehensive studies that investigate the extent of their knowledge, awareness of risk factors, symptoms and attitudes towards diabetes prevention and management. This knowledge gap can hinder effective healthcare decision-making, potentially leading to adverse health outcomes. Addressing this issue is vital to empower young girls to make informed health choices and safeguard the health of their future families.

Objectives

- To assess the knowledge and awareness of young girls regarding the early symptoms and risk factors associated with diabetes.
- To know the attitude, perceptions and beliefs of young girls regarding diabetes prevention and management.

Methodology

Study design : This research used a cross-sectional study design to assess the knowledge and awareness about diabetes among young girls. This study has been conducted in Dayanand Women's Hostel in Kanpur, Uttar Pradesh.

Population and Sampling : The study has a diverse sample of 50 young girls aged 18-30 years from different geographical areas, including some of the samples were students and some were working. A stratified random sampling technique was used to ensure representation from different socioeconomic backgrounds.

Data Collection : A structured questionnaire will be developed by researcher, focusing on diabetes knowledge, awareness of risk factors, symptoms, prevention and management has been developed. The questionnaire was administered through personal meeting with oral interviews.

Variables : Dependent variable - level of diabetes awareness among young girls. Independent variable - socio-demographic factors, education, family history of diabetes etc.

Data Analysis : Appropriate software (SPSS) used for data analysis and established significance levels for statistical tests to ensure consistent results.

The study included questions about diabetes related awareness, symptoms, risk factors, perceptions, beliefs and knowledge about complications arising from diabetes in young girls. The awareness section is mainly targeted at questions about common factors related to diabetes, which also test knowledge about the relationship of diabetes with daily routine and diet and about the contagiousness of diabetes.

The main target of this study was to make the participants understand the importance of diabetes mellitus. It was more difficult to fill the questionnaire for those participants who had no knowledge about diabetes mellitus. The biggest challenge was that the participants were also quite concerned about the confidentiality of the questionnaire but they were assured that their identity will be kept completely confidential in this study.

Literature Review

Definition :

WHO, define Diabetes mellitus as : Diabetes is a long-term chronic disease that occurs when the pancreas does not produce enough insulin or the body is unable to effectively use the insulin it produces. Insulin is hormone that controls blood sugar. Hyperglycemia, or increased blood sugar, is a common effect of uncontrolled diabetes and causes serious damage to many of the body's system, especially nerves and blood vessels, over time.

Prevalence of disease :

According to International Diabetes Federation, Diabetes Atlas (2021), The global diabetes prevalence in 20-79 year olds in 2021 was estimated to be 10.5% (536.6 million people), rising to 12.2% (783.2 million) in 2045.

Diabetes is a severe chronic disease that arises when insulin generation is insufficient, or the generated insulin cannot be used in the body, making it a long-term metabolic disorder. Diabetes affects an estimated 537 million adults worldwide between the age of 20 to 79 (10.5% of all adults in this age range)(IDF, Atlas,10th edition).

World Health Organization survey, In India, there are estimated 77 million people above the age of 18 years are suffering from diabetes (type 2) and nearly 25 million are per-diabetics (at a higher risk of developing diabetes in near future). More than 50% of people are unaware of their diabetic status which leads to health complications if not detected and treated early.

As per Indian Council of Medical Research (ICMR) - India Diabetes (ICMR INDIAB) study published in 2023, the prevalence of diabetes is 10.0 core.

On average, 32.9% of households have at least one diabetic member, which is almost a third of all households in India. In economically prosperous states like Goa, Andhra Pradesh, Tamil Nadu and Kerala, more than 40% of households include a person with diabetes.

In India, approximately 69 million people are living with diabetes, and this number is expected to rise to 123.5 million by 2040.

At present diabetes is becoming a fastest growing disease in India having prevalence of 8.8%. In India approximately 72 million cases of diabetes were present in 2017 and this figure is expected to double by 2025.

Nature of disease :

There are mainly three types of diabetes : -

Type 1 diabetes, also known as Insulin Dependent Diabetes mellitus (IDDM), juvenile diabetes and child diabetes**.** In type 1 diabetes, insulin is not secreted or it is not used properly in the body. According to WHO, In 2017 there were 9 million people with type 1 diabetes ; the majority of them live in high-income countries. Neither its cause nor the means to prevent it are known.

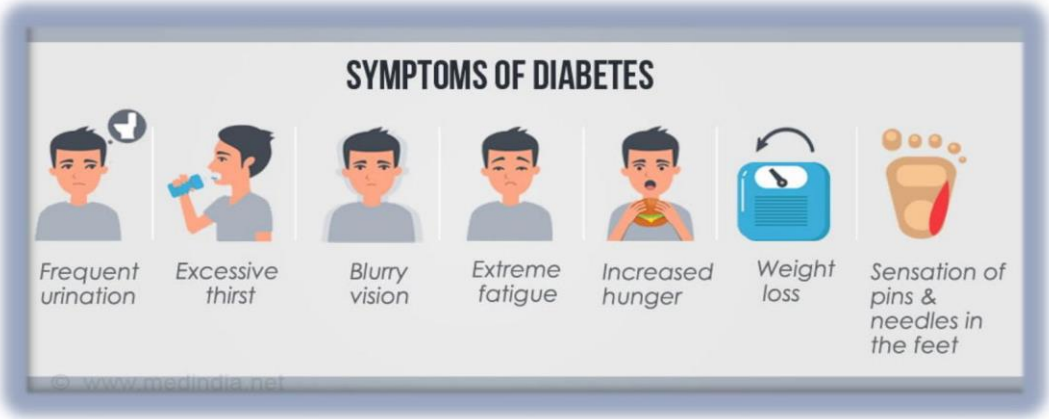
Type 2 diabetes, also known as Non-insulin Dependent diabetes mellitus (NIDDM), and adult diabetes.

In type 2 diabetes, insulin is secreted in the body but does not work properly. Type 2 diabetes is more likely to be caused by overweight, obesity, lack of exercise and genetics. According to World Health Organization survey, more than 95% of people with diabetes have type 2 diabetes.

Gestational diabetes, during pregnancy hormones inhibit insulin, due to which the functioning of insulin is disrupted. It can be controlled by changes in diet and regular exercise. Many studies have shown that gestational diabetes is related to the dietary habits of women before pregnancy.

According to IDF, most common symptoms of diabetes are:

- Excessive thirst and dry mouth
- Frequent urination
- Lack of energy, tiredness
- Slow hearing wounds
- Recurrent infections in the skin
- Blurred vision
- Tingling or numbness in hands and feet.



These symptoms may be minimal or absent in the patient's body. So patients with type 2 diabetes may live with the condition many years before being diagnosed.

Result and discussion

Distrubution by total girls education

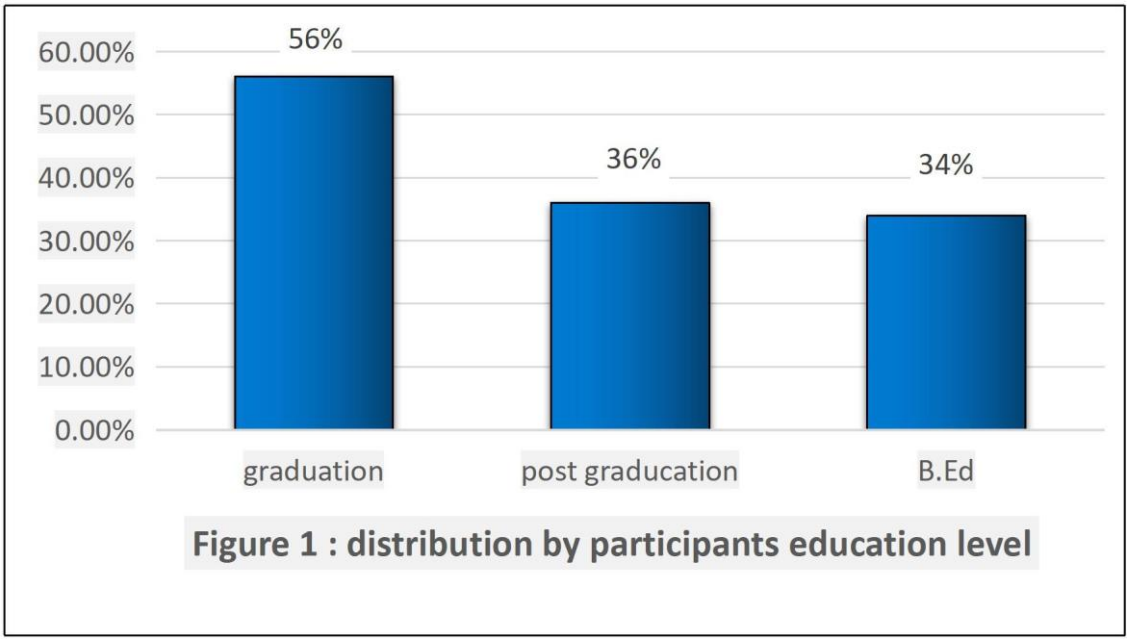
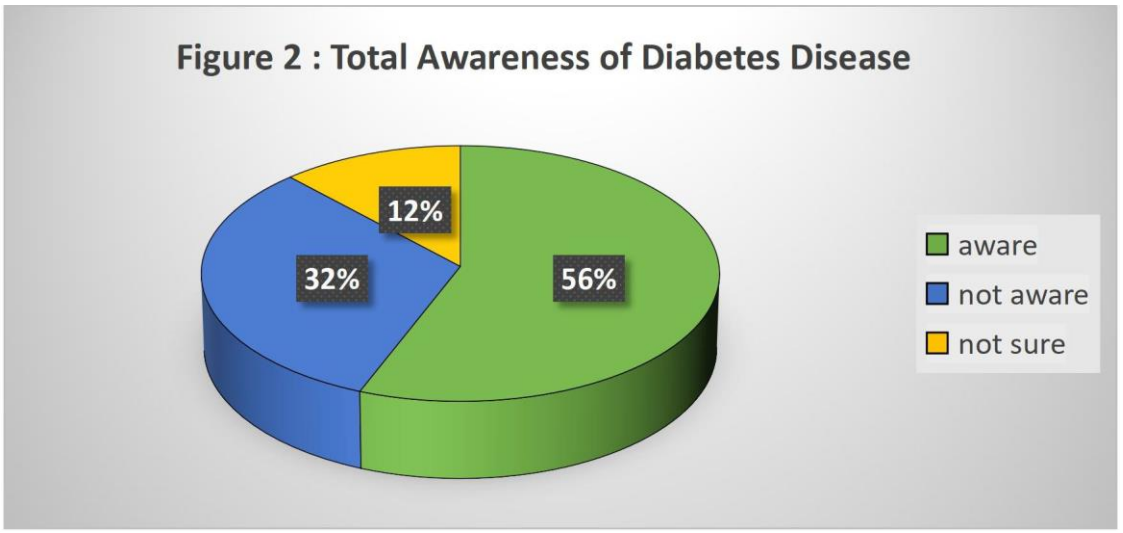


Figure 1 : distribution by participants education level

Among the respondents in this survey, 32% girls were studying in post-graduation, 36% girls were studying in graduation and 34% girls were studying in B.Ed. This scenario may have an impact on the

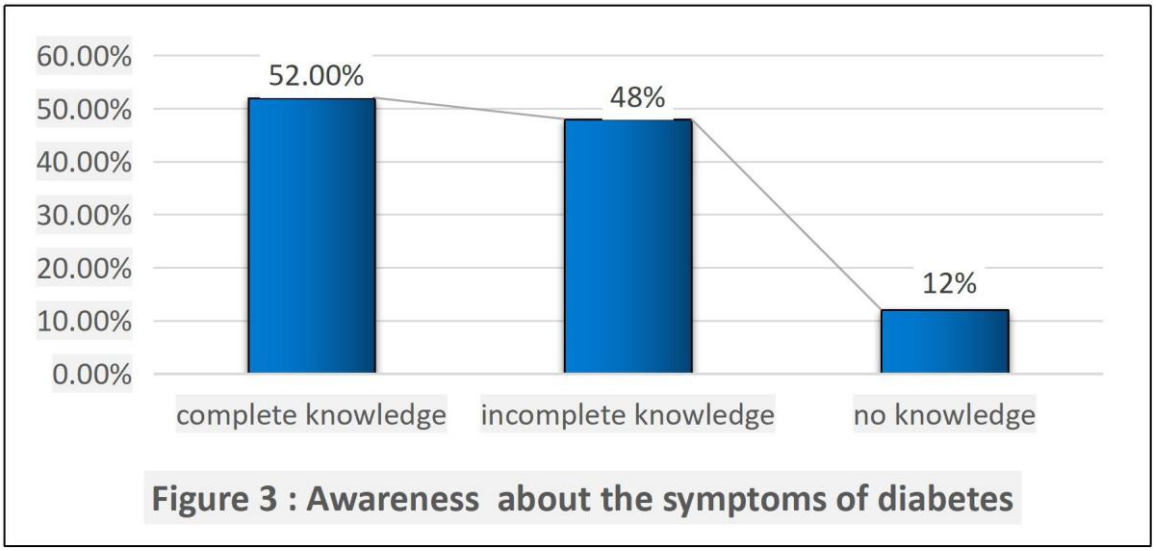
interpretation of the results.

Overall Awareness of Diabetes among girls



Regarding overall awareness of diabetes as a serious disease, only 56% of the girls were aware of the diabetes condition and the remaining 44% girls were unaware or not sure of the existence of the condition or were not having proper information.

Knowledge about symptoms of Diabetes



Only 52% girls know properly about the symptoms of diabetes. There were 48% respondents who knew only 1-2 or few symptoms of diabetes, and there were 12% respondents who did not know anything about the symptoms of diabetes.

Distribution of participants based on family diabetes background

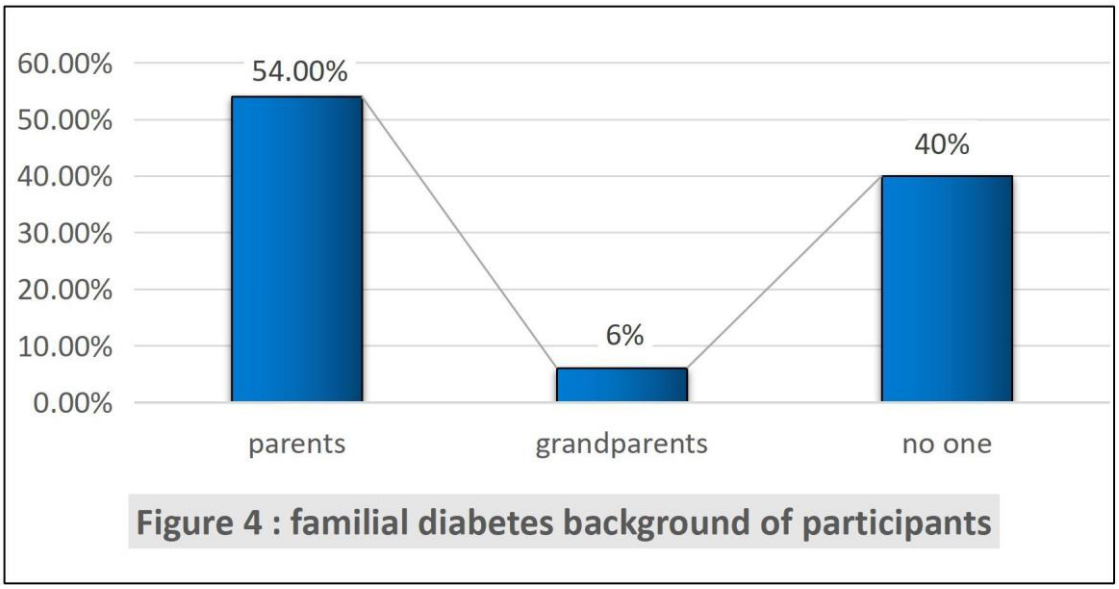


Figure 4 : familial diabetes background of participants

60% respondents had someone in their family with diabetes, including 54% whose parents had diabetes. While 6% of respondents had grandparents with diabetes.

Awareness about diabetes affects the eyes, heart and kidney health

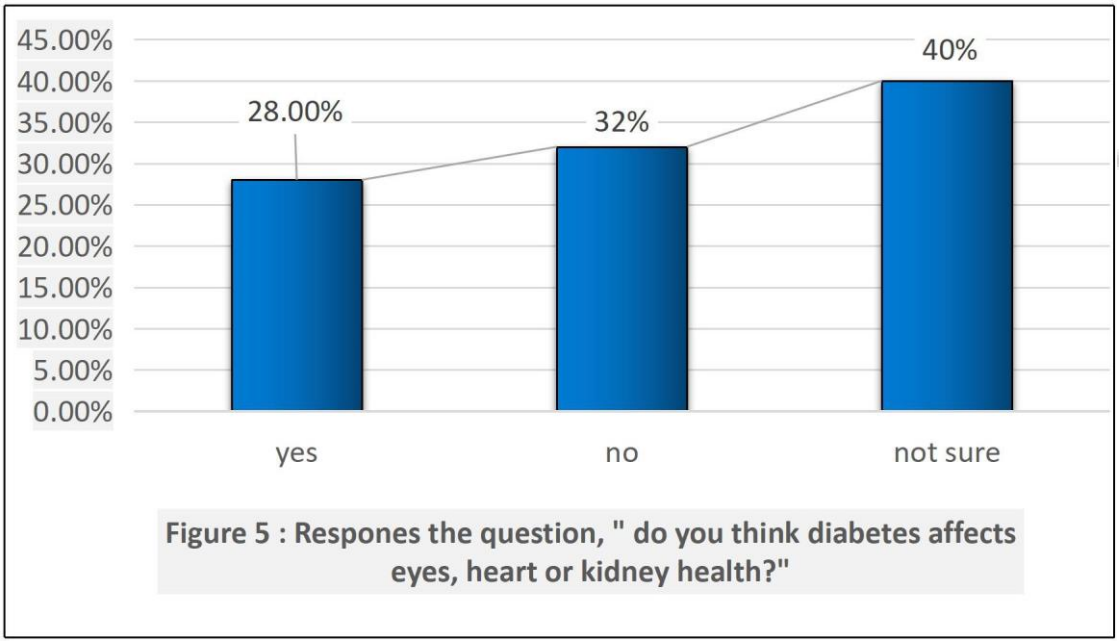


Figure 5 : Respones the question, " do you think diabetes affects eyes, heart or kidney health?"

Only 28% of know that diabetes adversely affects the health of eyes (blurry vision), heart (high cholesterol) and kidney (frequent urination) and affects their functions.
32% participants think that diabetes does not affect the health of eyes, heart and kidneys. 40% respondents had no knowledge about it.

Awareness about the Type of Diabetes

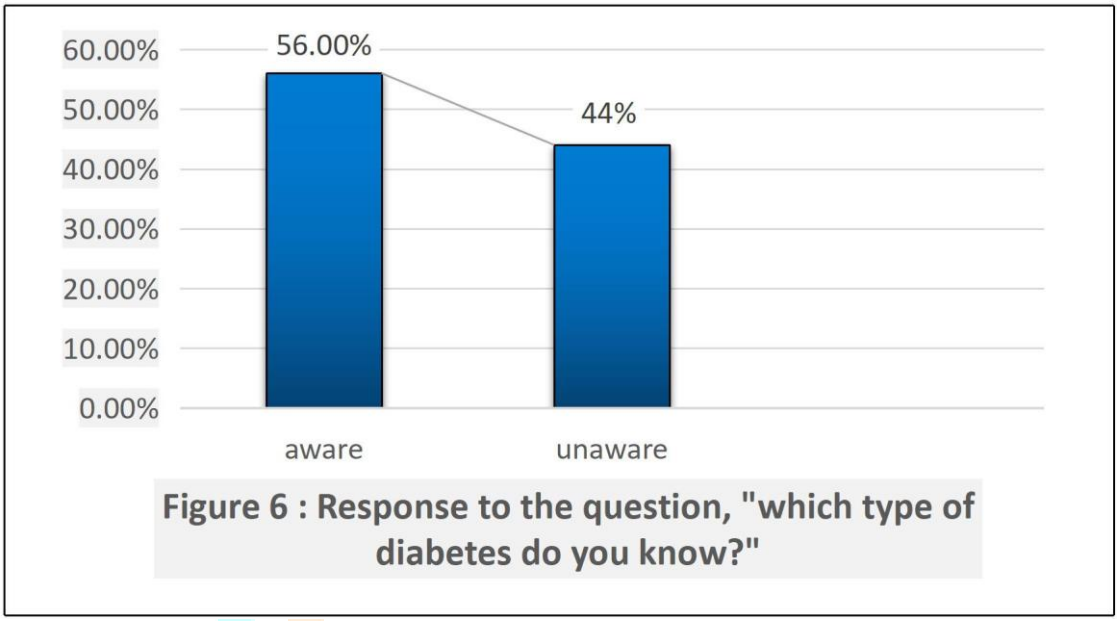


Figure 6 : Response to the question, "which type of diabetes do you know?"

Only 56% of the girls had knowledge about the type of diabetes while 44% of the participants had no knowledge about any type of diabetes.

- Only 44% of the girls who knew about type 1 and type 2 diabetes.
- Only 10% of the girls know about type 1, type 2 and gestational diabetes mellitus.
- Only 2% of the respondents included those who only knew about type 1 diabetes.

Awareness about the knowledge of Insulin

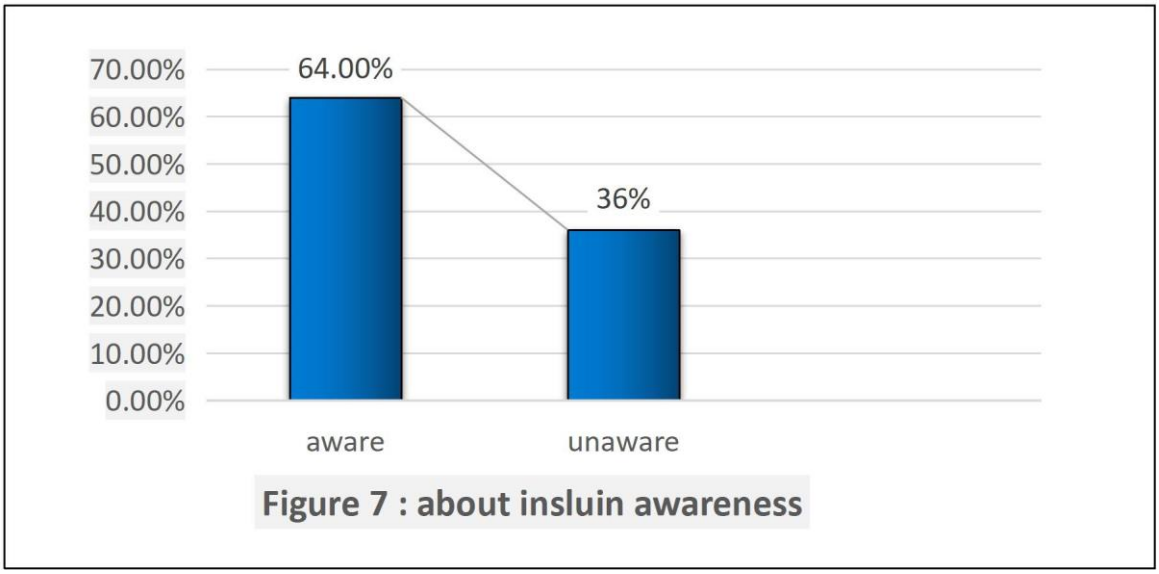


Figure 7 : about insluin awareness

The study found that Only, 64% girls knew about insulin but only 42% girls had complete knowledge of what insulin is and what was its function in our body.
28% of the girls had no knowledge about insulin. The surprising thing is that some of these girls were completely unaware of this word. Insulin was a completely new word for them.

Awareness about the Hypoglycemia (low blood sugar)

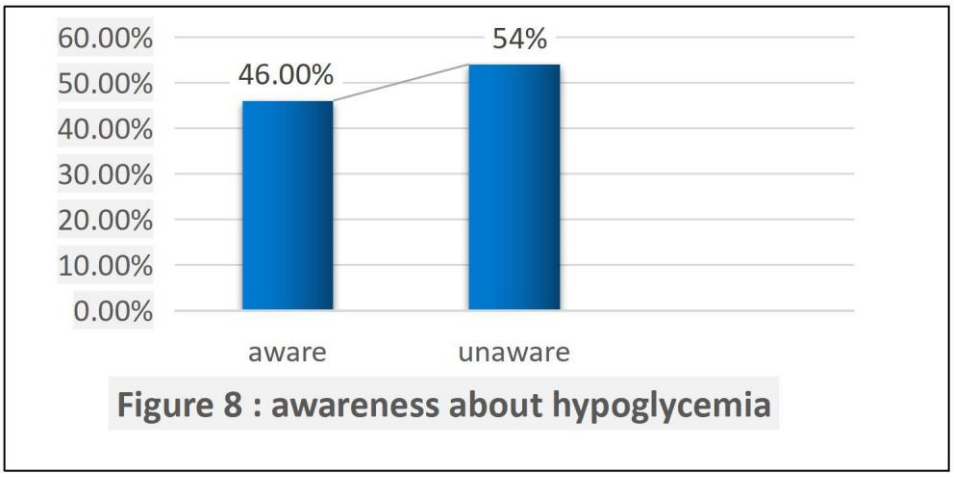


Figure 8 : awareness about hypoglycemia

Only 46% girls knew about hypoglycemia (low blood sugar). in which most of the respondents did not know much about the symptoms of hypoglycemia.

Knowledge about hypoglycemia diet

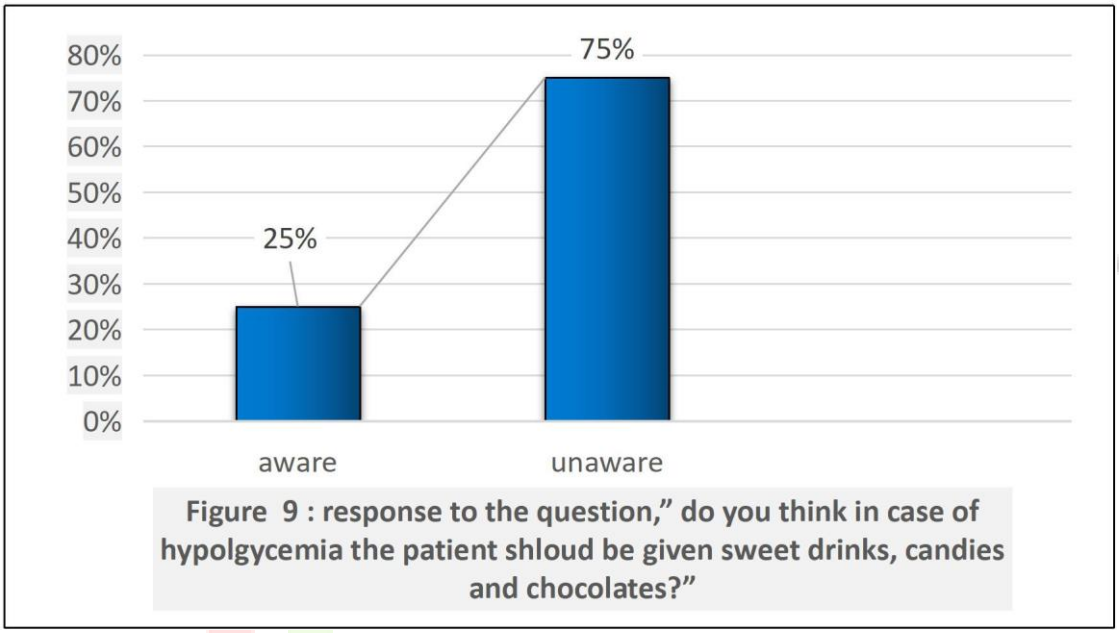


Figure 9 : response to the question," do you think in case of hypolgycemia the patient shloud be given sweet drinks, candies and chocolates?"

Only 25% of the girls knew that in case of hypoglycemia the patient should be given sweet drinks, candies and foods like chocolate.

Awareness about the Glycemic Index of food items

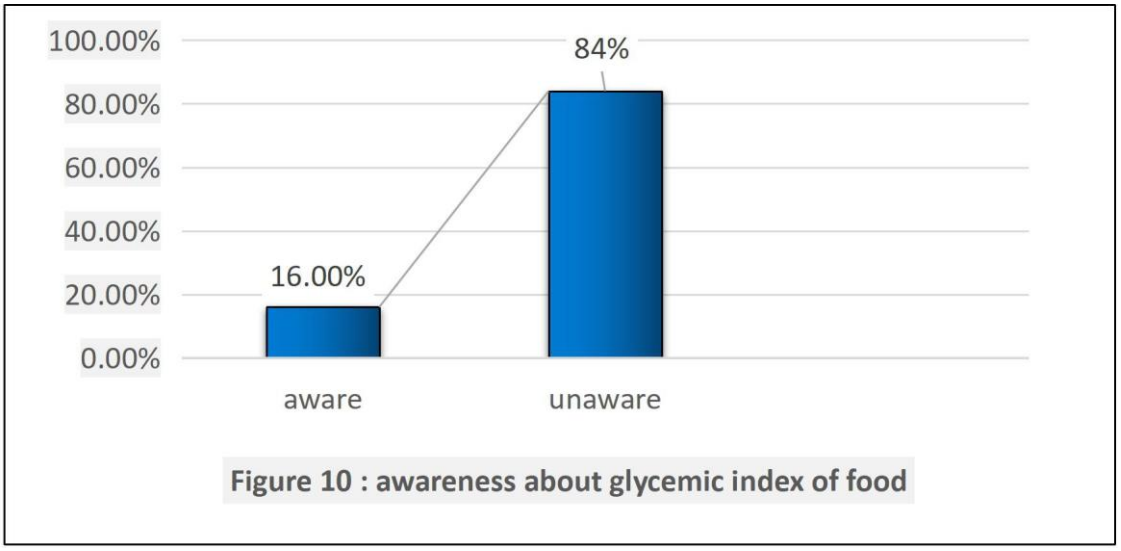


Figure 10 : awareness about glycemic index of food

According to survey, only 16% girls knew about glycemic index of food items, 84% did not know anything about it, some respondents had never even heard its name.

Knowledge about sugar-free products consumed by diabetic patients

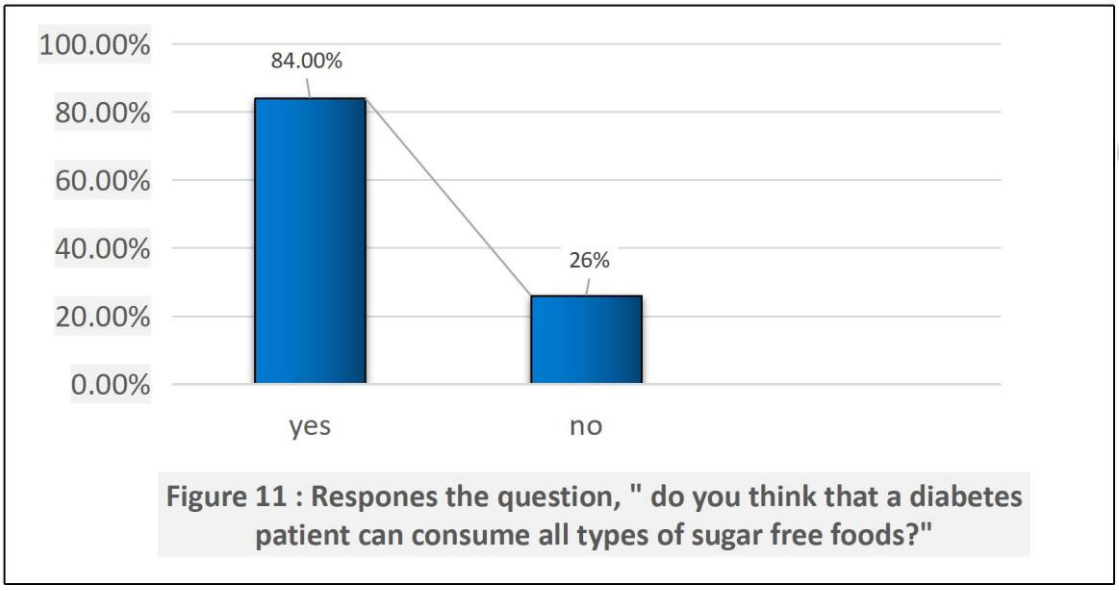


Figure 11 : Respones the question, " do you think that a diabetes patient can consume all types of sugar free foods?"

According to the study, 74% of the respondents have the misconception that diabetic patients can consume all type of sugar free products.

Awareness about diabetes control

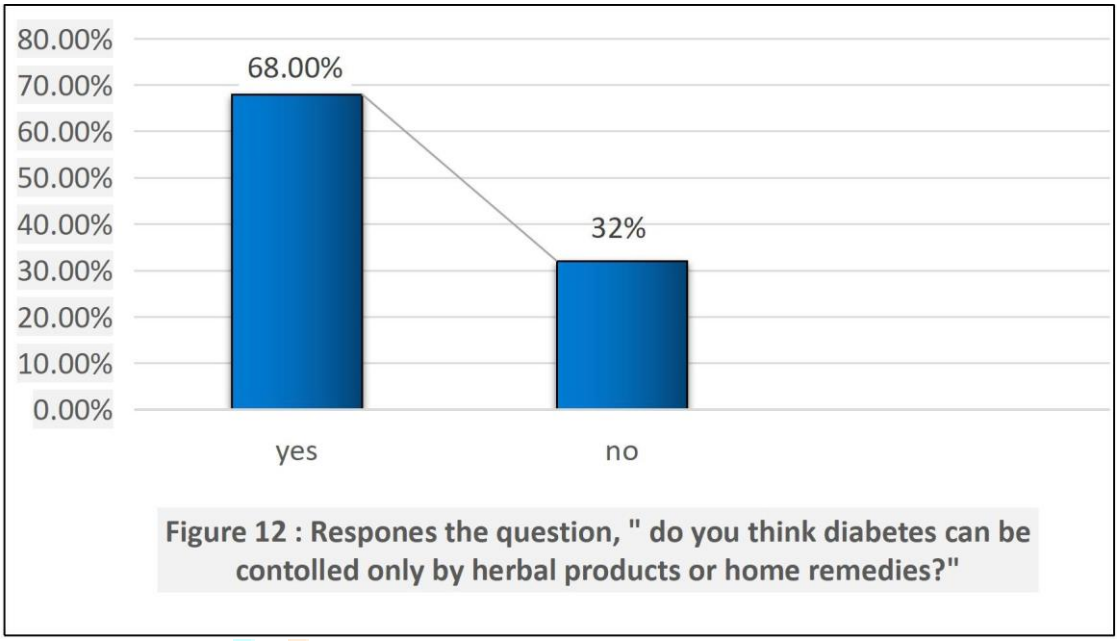


Figure 12 : Respones the question, " do you think diabetes can be contolled only by herbal products or home remedies?"

68% of the girls think that diabetes can be controlled by consuming simple home remedies and herbal products.

Knowledge about the diabetes patients diet

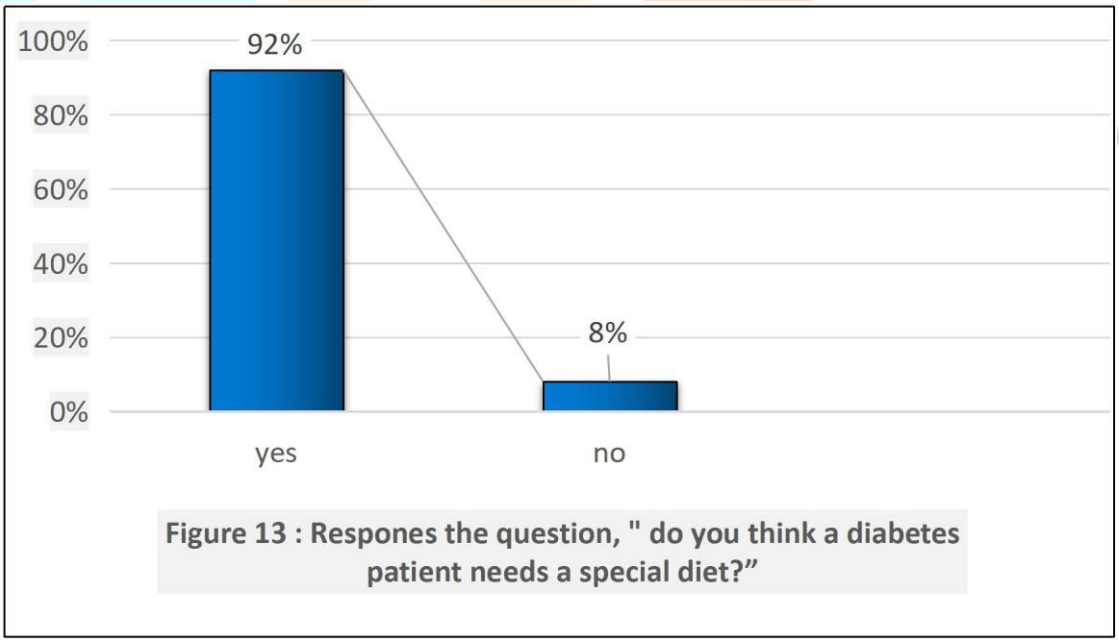


Figure 13 : Respones the question, " do you think a diabetes patient needs a special diet?"

92% respondents think that a diabetic patient needs to take a special diet while 8% of the respondents do not think that.

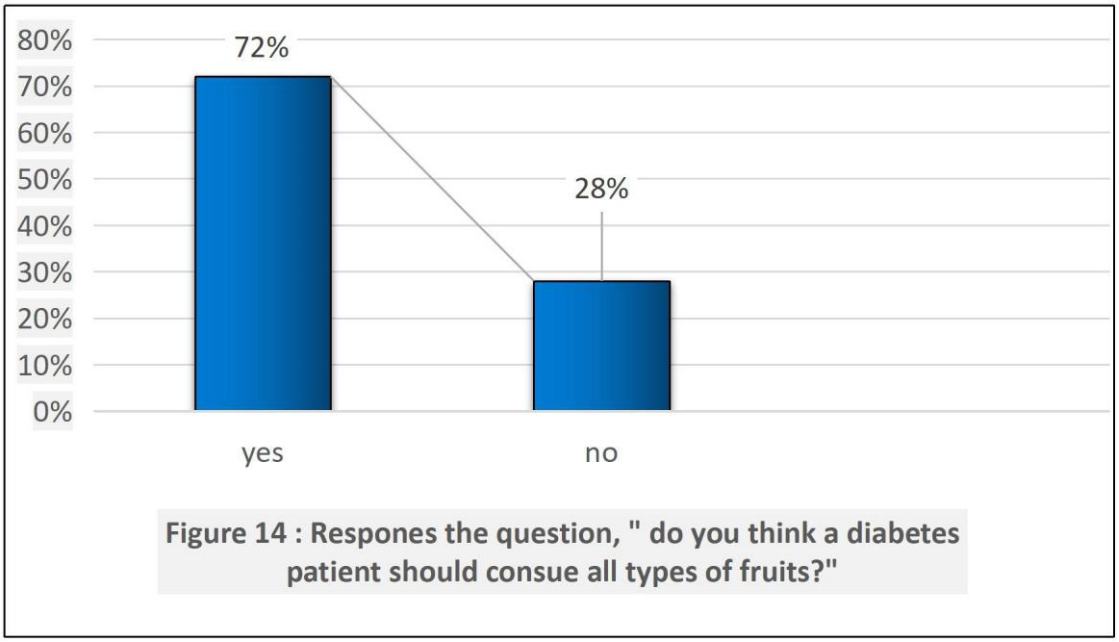


Figure 14 : Respones the question, " do you think a diabetes patient should consue all types of fruits?"

72% of the respondents think that diabetic patients should consume all types of fruits while 28% of the respondents think that a diabetic patient should not consume fruits at all.

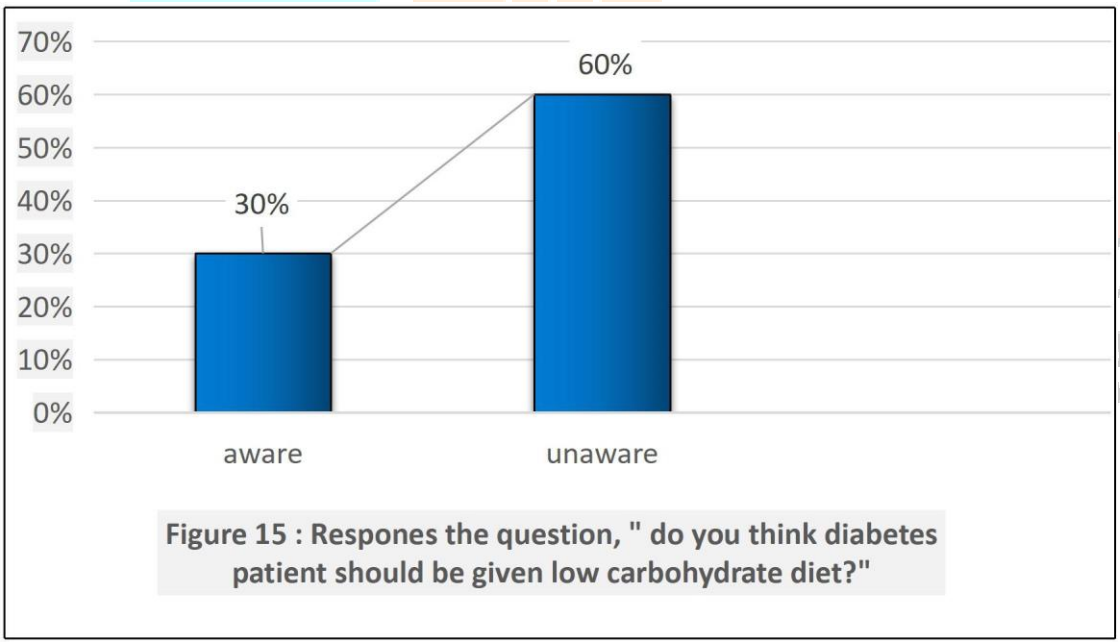


Figure 15 : Respones the question, " do you think diabetes patient should be given low carbohydrate diet?"

Only 30% of the girls knew that diabetic patients were given a low-carbohydrate diet, while 60% of the respondents had either little or no knowledge about it.

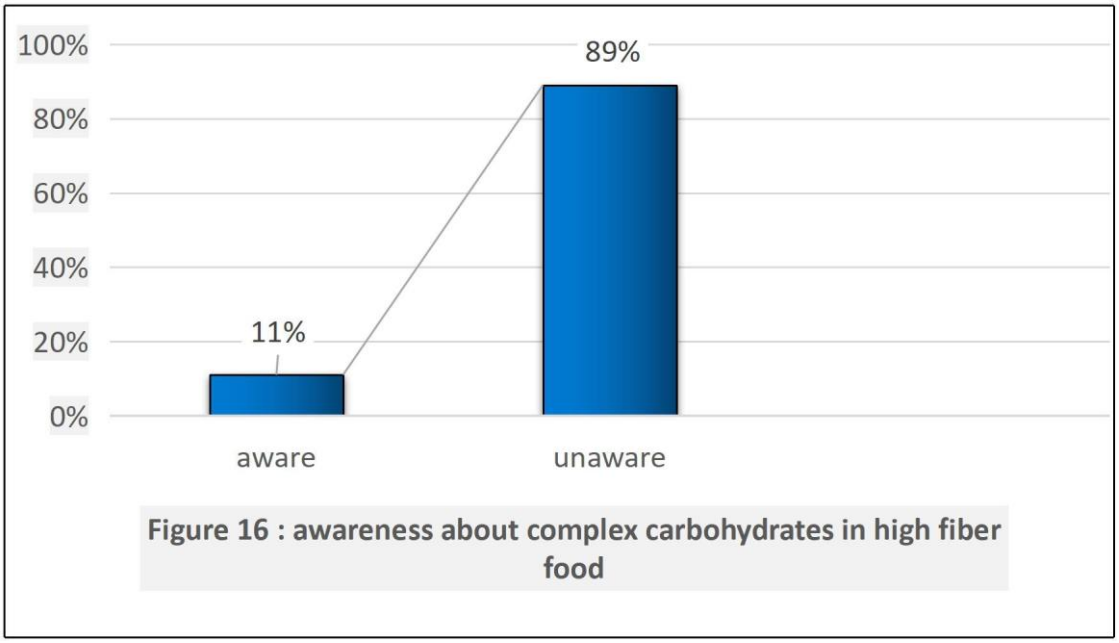


Figure 16 : awareness about complex carbohydrates in high fiber food

Only 11% of the girls were aware that complex carbohydrate in high fiber was beneficial in reducing blood sugar.

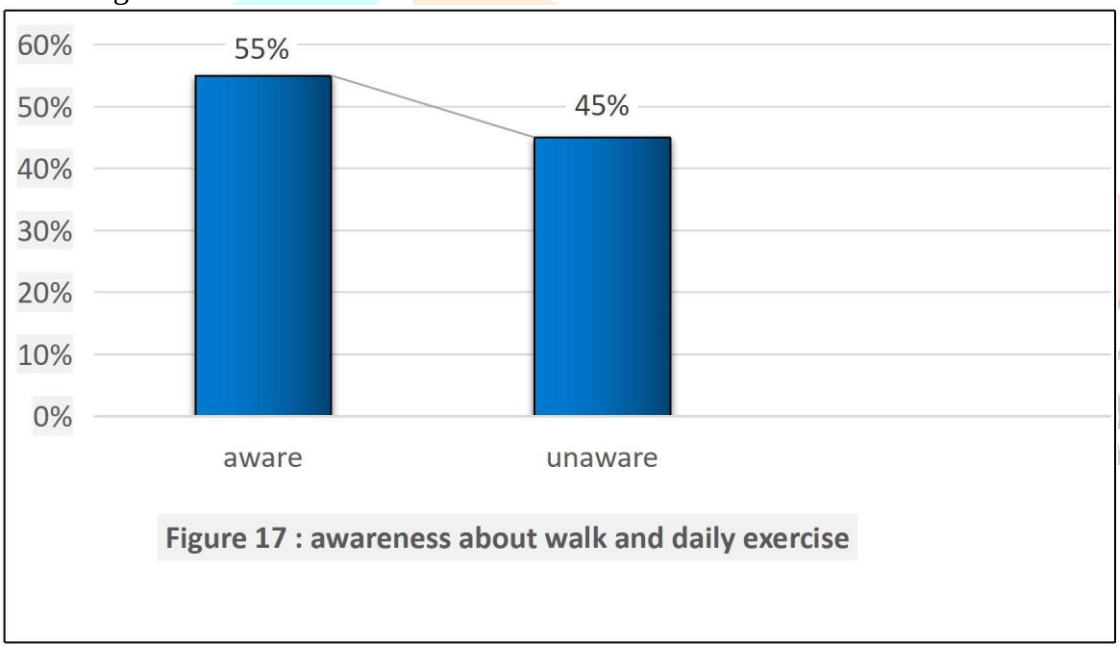


Figure 17 : awareness about walk and daily exercise

65% of respondents were aware that walk or any short of exercise were must a diabetic patient.

Knowledge about diabetes patients medication routine

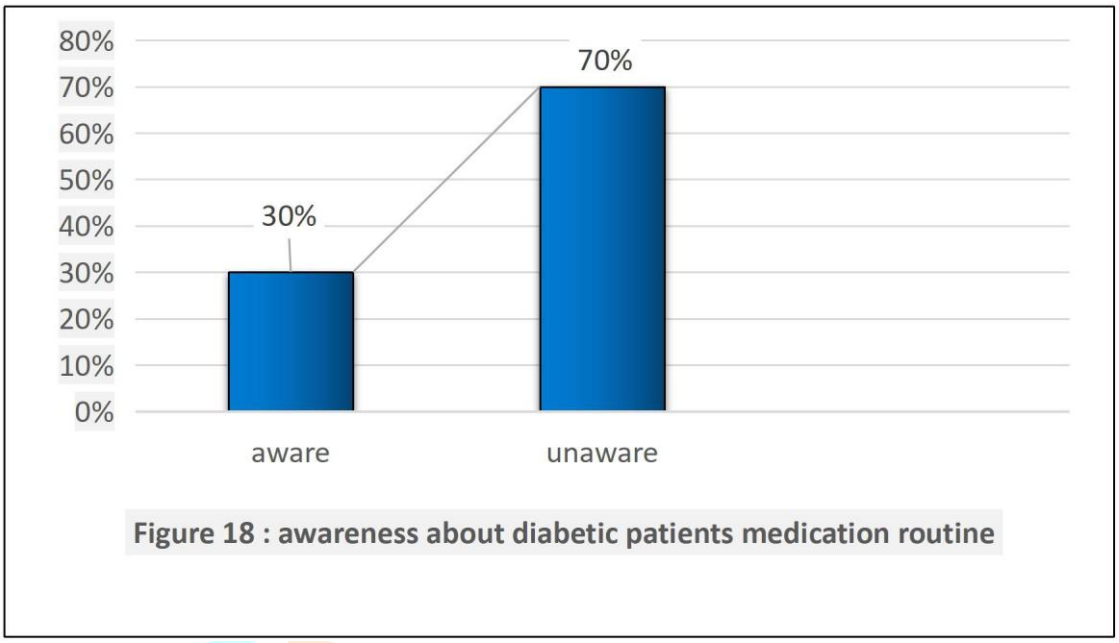


Figure 18 : awareness about diabetic patients medication routine

Only 30% of the respondents knew that a diabetic patient's medicines need to be changed with time While 60% were unaware about it.

Awareness about mental health of diabetic patient

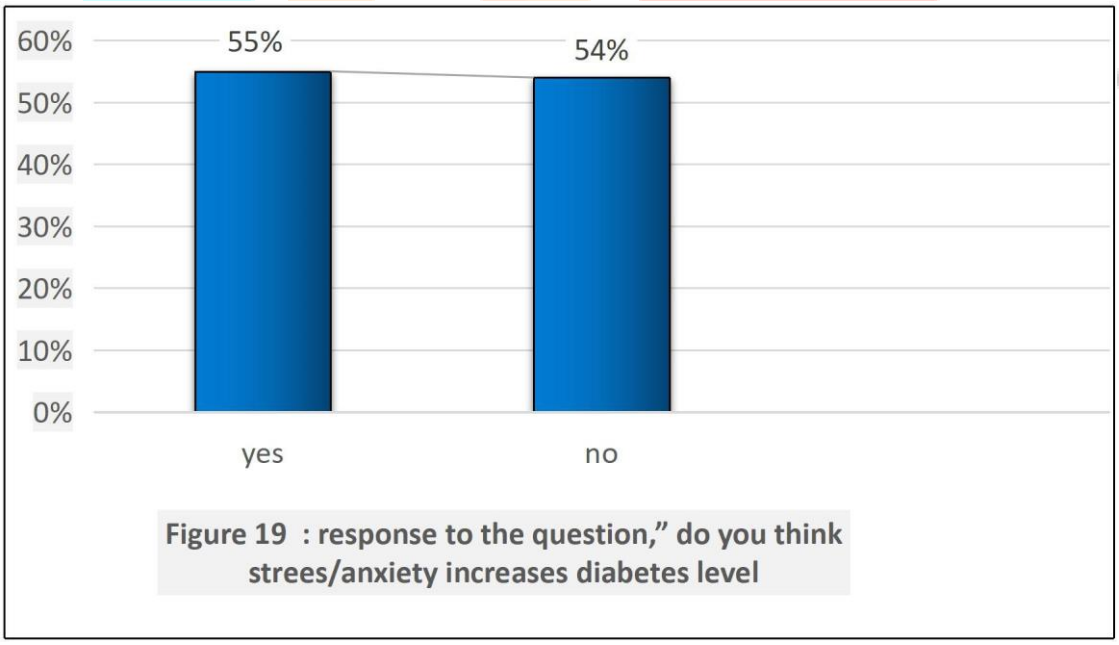


Figure 19 : response to the question," do you think strees/anxiety increases diabetes level

Only 55% of girls knew that excessive stress and anxiety to high blood sugar level. Therefore, diabetic patients should be kept away from stress, depression and anxiety.

Awareness about regular routine checkup of diabetes

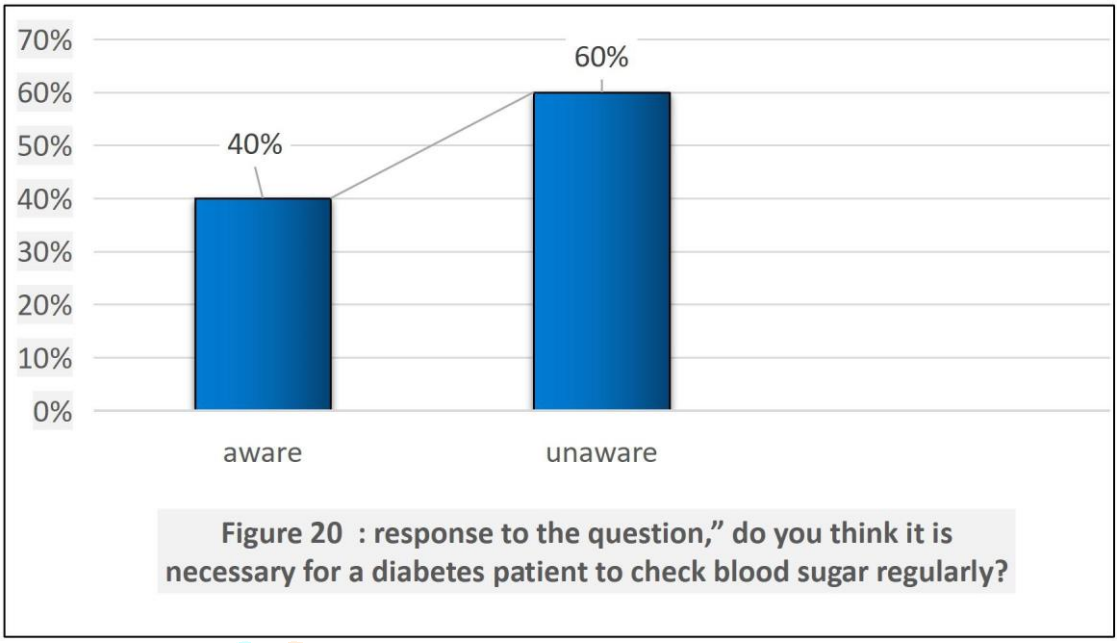


Figure 20 : response to the question," do you think it is necessary for a diabetes patient to check blood sugar regularly?

Only 40% of respondents knew that regular testing of blood sugar is necessary for a diabetic patient while the remaining 60% did not know about it.

Awareness towards trying to gain knowledge about diabetes

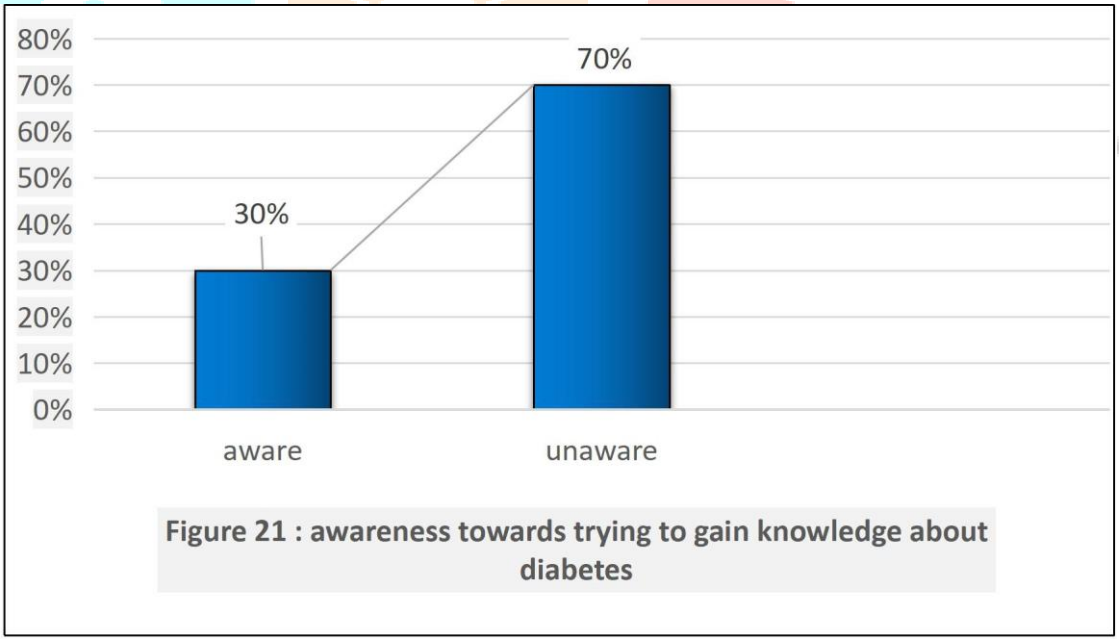


Figure 21 : awareness towards trying to gain knowledge about diabetes

There were 70% respondents never made any effort to get information about diabetes through any medium.

The lack of comprehensive knowledge about diabetes management is a noteworthy concern. It is crucial to address this gap as effective management is key in preventing complications and ensuring the well-being of individuals living with diabetes.

Target educational interventions are essential to enhance the knowledge of young girls in these critical areas. Empowering them with accurate information about diabetes prevention and management can contribute to reducing the incidence of the disease and its associated complications. Moreover, as these girls eventually assume the roles of mothers and family caregivers, their awareness regarding diabetes decisions can positively impact the health to their families and future generation.

Conclusion :

This study focuses on assessing the knowledge about diabetes among a sample of 50 young girls, we have gained valuable insights about awareness, understanding and potential gaps in their knowledge. The importance of this research lies in recognizing the important role these young girls play as future mothers and family caregivers, making their knowledge about diabetes a matter of utmost significance.

Our findings show that a baseline level of awareness about diabetes exists among the study group, but is in great need of improvement. Many participants demonstrated an understanding of the factors and common symptoms of diabetes. But many girls were unaware of diabetes management was in some cases lacking or misinterpreted.

This study emphasizes the need for target educational initiatives and interventions that can empower young girls with accurate information about diabetes. By enhancing their understanding of risk factors and reinforcing the significance of life style choices, we can potentially reduce the incidence of diabetes and its associated complications in the future.

In conclusion, this this study has shed light on the knowledge landscape about diabetes among young girls. While the sample size was limited to 50 participants, the findings underscore the importance of enhancing their awareness and understanding of diabetes. By doing so, we can contribute to a healthier and more informed future for these young women and the families they will care for. This research serves as stepping stone for further educational and development of targeted educational programs to bridge the knowledge gaps identified in this study.

Moreover, as these young girls transition into motherhood and family care roles, their knowledge can significantly impact the health and well-being of their families. Therefore, investing in there diabetes education is an investment in the health of future generations.

Recommendations :

Educational Initiatives: Implement targeted educational programs for young girls to enhance their knowledge about diabetes, focusing on prevention strategies and effective management.

School Curriculum Integration: Include diabetes awareness and prevention modules in school curricula to ensure that young girls receive essential information during their formative years.

Community Workshops: Organize community workshops and seminars to engage young girls in discussions about diabetes, its risks, and the importance of a healthy lifestyle.

Healthcare Provider Involvement: Encourage healthcare providers to play an active role in educating young girls during routine check-ups and screenings.

Parental Involvement: Promote parental involvement in educating their daughters about diabetes and the importance of maintaining a healthy lifestyle.

Collaboration with Diabetes Associations: Collaborate with diabetes associations and organizations to access resources and expertise in diabetes education.

Long-term Follow-up: Establish long-term follow-up studies to track improvements in knowledge and assess the impact of educational initiatives on diabetes prevention and management.

By implementing these recommendations, we can empower young girls with the knowledge needed for the prevention and cure of diabetes so as to contribute to a healthier future for themselves and their families.

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