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Awareness of Effect Diabetes Type 1 on Quality of Life in school child Through Educational

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ABSTRACT

Background: Type 1 diabetes in children is a condition in which your child's body no longer produces an important hormone (insulin). Your child needs insulin to survive, so you'll have to replace the missing insulin. Type 1 diabetes in children used to be known as juvenile diabetes or insulin-dependent diabetes. The diagnosis of type 1 diabetes in children can be overwhelming at first, suddenly. Type 1 diabetes in children requires consistent care. Diabetes mellitus is a greatly predominant chronic disease. Type 1 diabetes mellitus often improves through the first stage of life and may influence the goodness of healthy adolescents. Type 1 diabetes may current at any age, but great generally does, therefore, among the age of 5 years and puberty. The diagnosis is proposed by beginning in childhood or early adult life or fast onset with early demand for insulin, the reported death rate from diabetes for children under 15 years of age was 1.3/100,000/year in the U.S. Kingdom of Saudi Arabia supporting more than 33.3 million people, about 35,000 children, and adolescents suffer fromT1DM, which makes Saudi Arabia ranked the 8th in terms of numbers and 4th country in the world in terms of the incidence rate (33.5 per 100,000 people) of TIDM. Self-care supported that the daily routine of insulin, nutrition, and blood testing is preserved. **Aim of this study is** to help the child , parent and the staff knowledge of what to do and why it is, therefore, significant for the child or young person's safety and happiness to project in place to cover cases that may happen in school. **Methodology:** Cross-sectional design was adopted in the present study were collected in diabetes clinics in Descriptive study. The present study was conducted at primary and scenery school governmental & private. The sample (200) practitioners from school governmental & private they used questionnaire. **Results** our participants were noticed between age group 30 - 40 years , the majority of participants female's gender was (77.50%) , The awareness role of the Health Authority in the Kingdom for this disease is very weak, the majority of our participants were noticed average was (55.00%) and weak knowledge (32.50%) and high was (12.50%) with a statistically significance P-value (<0.001) and Chi-square(54.250).**Conclusion:** The danger of delayed complexities of diabetes excess with accumulative exposure to high blood glucose levels and therapy that going back to circulating glucose to near-normal levels keeping versus these long-run complexities. Prospects for future treatment involved early protection or stem cell transplantation, renewal of surviving beta cells and gene therapy. **Recommendations:** Reinforcement of the knowledge was given through this research is fundamental to elevating sustained behaviour alteration in the society there is needed to increase in research on T1DM in Saudi Arabia.

INTRODUCTION

Members of the family are could be influenced by diabetes and its therapy may be caused decreased quality of life. There are in depth studies that judge the medical, social, and psychological impact of diabetes on

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children until yet not several discuss the malady and its direct impact on members of the family, and even fewer investigate the money problems in relation to diabetes and its oral complications (Noueiri and Nassif 2018). There are two forms of type 1 diabetes:

- Idiopathic type 1. This refers to rare forms of the disease with no known cause.
- Immune-mediated diabetes. An autoimmune disorder in which the body's immune system destroys. (Imagawa et al., 2000).

The biological process changes that occur as school-age youngsters with type 1 diabetes grow into adolescence necessitate frequent appraisal of their therapeutic desires. Personal variations in caloric connected with growth and involvement in sports and adolescent temper swings are all agents that families could be contemplated in administer care and giving supports self-care by these youths. Wagner et al. (2005) Must by a reconciliation act among the quantity of nutrition devoured, the practice is accepted, and insulin injected to keep up secure glucose level , it will troublesome to youngsters, also their parents the administer and support from the school workers thus necessary (Copenhaver and Hoffman 2017).

Diabetes could be a dangerous, advanced complex health case demanding constant administration, support, and care. Its influences about eleven,000 school-aged children and young people in Australia and also it is one amongst the greatest averages within the world. If not therapy suitable, diabetes can pose instantaneous life-threatening health dangerous and could be the idea of with a similar state of being serious like bronchial asthma attacks and hypersensitivity reaction (Phelan et al., 2017).

The long goal of diabetes care is to keep up blood glucose among or near to physiological normality and to cut back the incidence of long-term complications of disease (Tahirovic and Toromanovic 2010). Registry knowledge on patients with type 1 diabetes mellitus who undergo pancreatic islet transplantation indicate that solely eight % are freed from the necessity insulin therapy at one year (Shapiro et al. 2000).

Exercise is additionally a crucial facet of polygenic disease management. it's real benefits for a toddler with diabetes disease. Patients should be encouraged to exercise frequently. American Diabetes Association. (2003)

The management of youngsters and kids with diabetes disease create extra challenges within the variety of emotional and psychological difficulties. Stress, in itself, might dysregulate polygenic disease through psycho-physiological processes or associated changes in self-management behaviors (Khandelwal et al., 2016).

Self-care is definitive to conduct oneself for individuals who are living with and conforming to, the diabetes disease, therefore, Youngsters and adolescents that may be a chronic condition, needs several changes, like adhering to treatment. Type 1 diabetes is an associate auto-immune situation could be the body devastates the cells which produce insulin. Insulin secretion that adjusts the glucose within the body and it was conjointly allows cells to utilize that glucose to produce power. Grey et al. (2009) showed that the necessity for employees to grasp that if a baby, they'll realize it tough to focus, If the level of glucose is elevated, they'll additionally feel thirsty and the necessity to go to the toilet. The work needed to perfect of these things typically just straight forward (Kaul et al. 2013)

Community health board features to make sure each kid be given the proper therapy to permit them to become a good boy as attainable. keeping a safe childhood and young hood and It right for every child are 2 elementary documents that could be at the center of understanding that a child or young people with diabetes in school (Streisand and Monaghan. 2014).

Type 1 diabetes mellitus (T1DM) is kind of prevailing within the world, with a proportion of one in each three hundred persons and steady rising frequency of incidence of concerning third-dimensional per annum. Diabetes Prevention Trial–Type 1 Diabetes Study (Group 2002).

Comparison therewith within the advanced towns, the quantity analysis involvements on the happening, in addition, socio-demographic sides of T1DM is not enough during this paper, therefore, we have a tendency to discuss completely various sides of T1DM in Saudi Arabia depending on the printed literature presently out there (Robert et al.(2018).

Through the last thirty years, the propagation of increasing the bodyweight has tripled between individuals ranged from 6 to 19 years old. This obesity may cause high blood pressure, high cholesterolemic, and high diabetics (Levin et al. 2003).

The care of a childhood individual with Type 1 diabetes in school is a group effort. This successfully demands each one included to act their part (Gubitosi-Klug et al. 2017).

As the incidence of type 1 diabetes in children and adolescents will increase, it becomes progressively important to differentiate recently diagnosed type 1 from type 1diabetes. within the slender child, one one can confidence assume a designation of type 1 diabetes disorder. However, within the overweight adolescent, differentiating type 1 from type 2 diabetes may be difficult Silverstein (, Klingensmith 2005).

Research Problem

Kingdom of Saudi Arabia supporting more than 33.3 million people, about 35,000 children, and

adolescents suffer fromT1DM, which makes Saudi Arabia ranked the 8th in terms of numbers and 4th country in the world in terms of the incidence rate (33.5 per 100,000 people) of TIDM. Self-care supported that the daily routine of insulin, nutrition, and blood testing is preserved.

Aim of study

Aim of study to help the child, parent and the staff knowledge of what to do and why it is, therefore, significant for the child or young person's safety and happiness to project in place to cover cases that may happen in school.

Research objectives:

1. Helping your child cope with type 1 diabetes
2. Define the parents of children with diabetes that their children enjoy the same social rights as other children.
3. Awareness of the Nutritional and physical activity risk factors on type 1 Diabetes Mellitus on children

Research hypothesis

Lack of awareness in parents about the T1DM in children

METHODOLOGY

Research design:

Cross-sectional design was adopted in the present study were collected in diabetes clinics in Descriptive study

Setting:

The present study was conducted at primary and scenery school governmental & private.

Study Sampling:

The sample (200) practitioners from school governmental & private they used questionnaire

Statistical analyzed:

Data was analyzed using SPSS version 20. The names of the participants were kept confidential

Previous studies:

Saudi Arabia is the biggest country in the Asia continent that had contained about four-fifths of the Arabian Peninsula supporting and consists of more than 33.3 million individual, of whom 26% are under the age of 14 years diabetics according to Diabetes Atlas (8th edition), could be 35,000 children and adolescents.

Content Validity and reliability:

Tool well be submitted to a panel of experts in the field to test the content validity. Modification was carried out according to the panel judgment on clarity of sentences and appropriateness of content.

RESULTS

Age

In our study, showed that the majority of participants (57.5%) were within the age group 30 - 40 years, while the age group <30 year was represented 25% but the participants, where only 17.5% of participants were within the age group >40 years. The age Range was 25-48 years and the age Mean ± SD was 35.154+6.87.

Gender

The Female's gender was (77.50%) while Male were (22.50%) of participants.

Level of education

The majority of our participants were at Primary level were constitutes 38.00 %.

The most illustrative finding was that Secondary participants were constitutes 28.00 % and Intermediate education were constituted (24.0%).

Occupation

In our study, work participants constituted 66.50% of our study. While not work 33.50% of our study .

Economic level

In our study, Economic level Average participants constituted 55.00 % of our study. While low level were 37.50% but high Economic level were 7.50% .

Table (1) The distribution of Socio-demographic data in study group

	N	%
Age		
<30	50	25
30-40	115	57.5
>40	35	17.5
Range	25-48	
Mean+SD	35.154+6.87	
Gender		
Female	155	77.50
Male	45	22.50
Level of education		
Primary	76	38.00
Intermediate	48	24.00
Secondary	56	28.00
High education	20	10.00
Occupation		
Work	133	66.50
Not work	67	33.50
Economic level		
Low	75	37.50
Average	110	55.00
High	15	7.50

The testing tool included 20 objective questions about general knowledge about diabetes the 20 questions had answers limited to Yes, No or I do not know: these questions were analysed using the Chi square analysis.

The most of question addressed the general knowledge about diabetes there was low percentage answer “yes “give correct answer. While high percentage said "no" and “Don’t know” give incorrect answer the results of Chi square test, statistically significant high differences. But the question number 5 , 9 ,10 there was high percentage answer in correct answer .

Table 3 Responses to questions 1- 4 of the testing tool

Risk Factors and complications for Type 1 Diabetes

Question own in table 3 asked there are involvements to identify two danger agents for diabetes, specified a list of four items. Table 3 had contained the results for this question. The options often regularly specified on the pre-exam were obesity (60.00 %) and eating too more sugar (80 %), after that family history (50.0 %), and linked with a diabetic individual chosen least frequently (20 %).

Complications of Diabetes

The second question on the exam asked there are involvements to identify two long run complications of diabetes specified a list of two items. Table 3 had contained the results for this question. Renal failure (40.00 %) and liver diseases (30.0%) were selected often a lot then the blindness (70 %) and cancer (15%).

Treatment of Diabetes

Question 3 asked therapy of diabetes. Specified a list of two items to specific three methods it was utilized to control diabetes. Table 3 had contained the results for this question. A first, 80 % of involvements were selected nutrition and practices, 70% specified pills, and 90 % specified insulin shots. 20 % of respondents' wrong answer specified surgery as a method to therapy diabetes.

Things that lower your risk of developing diabetes

Question 4 addressed three objects that you can be done to decrease the danger of improving diabetes. Table 3 has contained the results for this question. At first 80 % eat less sugar respondents , 85% chosen practice regularly, 75 %Lose weight if you are overweight, 30 % percentage of respondents incorrectly don eat

carbohydrates. 70 % take balanced nutrition with eating from all the food groups and 20 % Stay away from an individual that has diabetes.50 % percentage of respondents incorrectly answer

Table 2: The general knowledge about diabetes

The general knowledge about diabetes		Yes		No		I do not know		Chi-square	
		N	%	N	%	N	%	X^2	P-value
1	The cause of diabetes in children differences from that of adults.	105	52.50	45	22.50	50	25.00	33.250	0.00
2	Childhood diabetes is caused by a lack of insulin supply	119	59.50	35	17.50	46	23.00	62.530	0.00
3	There many differences in the causes and treatment of disease Among adults and young people?	120	60.00	32	16.00	48	24.00	65.920	0.00
4	Increase of DM type 1 in child people	135	67.50	50	25.00	15	7.50	114.250	0.00
5	Shortness of breath and an increase in the speed of the symptoms that appear on the diabetic child	77	38.50	110	55.00	13	6.50	72.970	0.00
6	A diabetic child feels coma and anxiety	127	63.50	28	14.00	45	22.50	84.070	0.00
7	Diabetes is becoming more common because of weight gain	67	33.50	25	12.50	108	54.00	51.670	0.00
8	you know the prevalence of diabetes in Saudi Arabia	140	70.00	30	15.00	30	15.00	121.000	0.00
9	The child need to stay in the hospital if he has diabetes	51	25.50	80	40.0	69	34.50	6.430	0.04
10	A diabetic feel thirsty and hungry	45	22.50	112	56.00	43	21.50	46.270	0.00
11	You know what insulin	100	50.00	55	27.50	45	22.50	25.750	0.00
12	Increased urination times, and increased amount of diabetes symptoms in children	125	62.50	60	30.00	15	7.50	91.750	0.00
1`3	You know the most common symptoms seen on a diabetic child	122	61.00	64	32.00	14	7.00	87.640	0.00
14	Severe thirst and drinking water in large quantities are symptoms of diabetic in children	120	60.00	70	35.00	10	5.00	91.000	0.00
15	A diabetic child feels anorexia and weight loss.	118	59.00	48	24.00	34	17.00	60.760	0.00
16	Can a diabetic child grow naturally like other children	121	60.50	58	29.00	21	10.50	76.690	0.00
17	A diabetic child feels tired, sluggish and inactive	119	59.50	60	30.00	21	10.50	73.030	0.00
18	A diabetic child feels vomiting and abdominal pain	90	45.00	66	33.00	44	22.00	15.880	0.00
19	Obesity lead to diabetes in children	97	48.50	38	19.00	65	32.50	26.170	0.00
20	Is there a difference between diabetes in the urine and sugar in the blood	109	54.50	60	30.00	31	15.50	46.630	0.00

Question addressed anyone in your family or relatives been diagnosed with diabetes. Table 3 has contained the results for this question. Fathers 80 % follow by the mother 60% and Brothers 50%. I do not know 10%.

Table 3 Responses to questions 1- 4 of the testing tool

	N	%
1 Circle two (2) risk factors that increase the risk of developing type 2 diabetes:		
Overweight	120	60.00
Eating too much sugar	160	80.00
Parent or sibling has diabetes	100	50.00
Contact with someone who has diabetes	40	20.00
2 What are two harmful long-term complications of diabetes?		
Cancer	30	15.00
Kidney failure	80	40.00
Liver disease	60	30.00
Blindness	140	70.00
3 How is diabetes treated?		
Diet and exercise	160	80.00
Pills	140	70.00
Surgery	40	20.00
Insulin shots	180	90.00
4 Identify three things that you can do to lower your risk of developing diabetes.		
Eat less sugar	160	80.00
Exercise regularly	170	85.00
Lose weight if you are overweight	150	75.00
Don. eat carbohydrates	60	30.00
Eat a balanced diet with food from all the food groups	140	70.00
Stay away from people that have diabetes	40	20.00
Has anyone in your family or relatives been diagnosed with diabetes (type I or II)		
the mother	120	60.00
the father	160	80.00
Brothers / sisters lose weight if you are overweight	100	50.00
children	90	45.00
No, I do not know	20	10.00

Table 4 : Test was a yes or no question

	N	%
Have you heard of diabetes or do you know someone who has diabetes?		
Yes	130	65.00
No	70	35.00
Is there a cure for diabetes?		
Yes	150	75.00
No	50	25.00
Type 1 diabetes used to be seen only in older adults but now children are getting it as well		
Yes	140	70.00
No	60	30.00
The increase in diabetes in the Saudi Arabia is largely due to increased body weight		
Yes	160	80.00
No	40	20.00
Over 6 million Saudi children have diabetes		
Yes	90	45.00
No	110	55.00

In the additional this test was a yes or no question there was a significant increase in respondents answering correctly. But question Over 6 million Saudi children have diabetes 45% answering YES and NO 55%.

Table 5 : Awareness role of the Health Authority in the Kingdom for this disease .

Awareness role of the Health Authority in the Kingdom for this disease		
	N	%
Excellent	8	4.00
Very good	10	5.00
Not at the required level	120	60.00
Low	62	31.00

The Awareness role of the Health Authority in the Kingdom for this disease Excellent role 4% and very good 5% and Not at the required level 60% Low31.5 % .

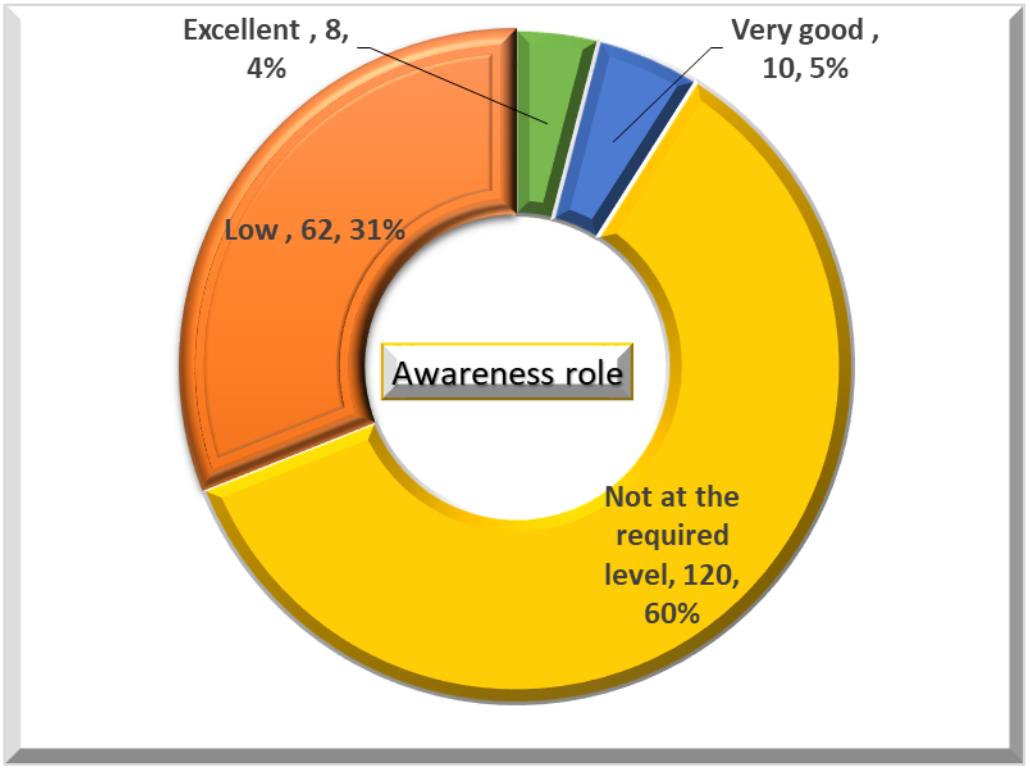

Figure 1: Awareness role of the Health Authority in the Kingdom for this disease

Table 6 : represents the knowledge

Knowledge			
		N	%
Weak		65	32.50
Average		110	55.00
High		25	12.50
Range		5-24	
Mean±SD		17.44±4.494	
Chi-square	**X^2**	54.250	
	P-value	<0.001*	

It was noticed that the study the majority of our participants were noticed average was (55.00%) and weak knowledge (32.50%) and high was (12.50%) with a statistically significance P-value (<0.001) and Chi-square(54.250) and Mean ± SD (17.44±4.494) but Range (5-24) .

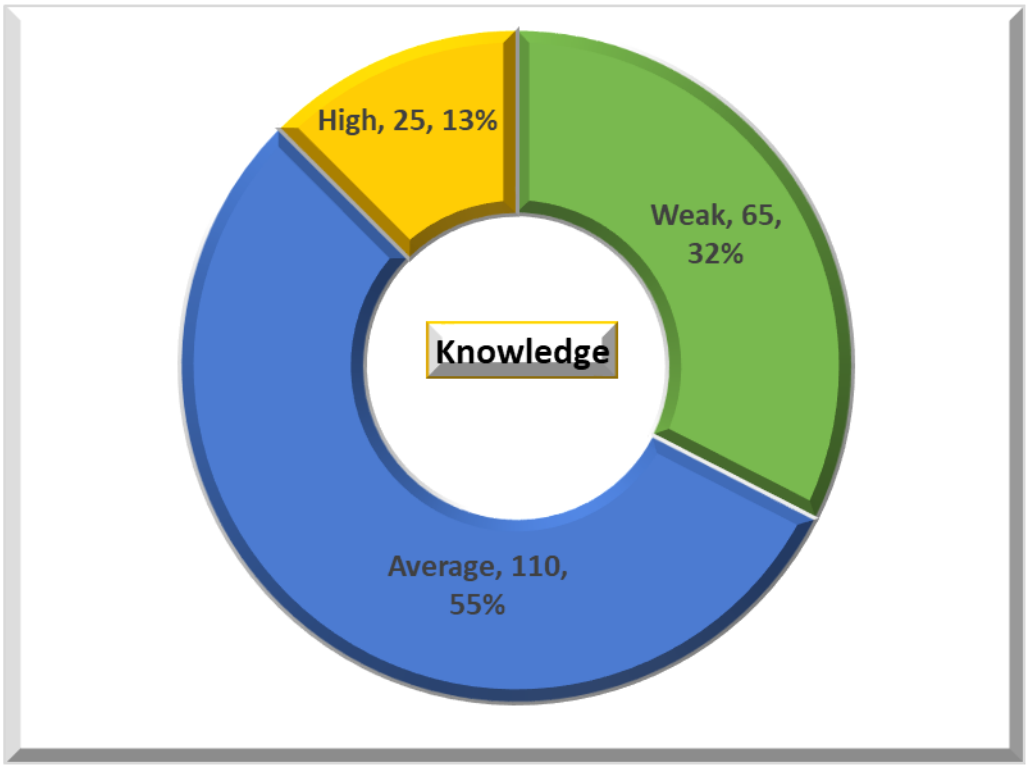

Figure 2: Bar graph represents the knowledge

It was noticed that the study the majority of our participants were noticed average was (55.00%) and weak knowledge (32.50%) and high was (12.50%) The Figure 2 shows the detailed data.

Table 7: Demographic data & Total knowledge

	N	Knowledge	F or T	ANOVA or T-test	
		Mean±SD		test value	P-value
Age					
<30	50	11.64±2.211	F	195.076	<0.001*
30-40	115	18.452±2.992			
>40	35	22.429±1.614			
Gender					
Female	155	19.045±3.613	T	12.444	<0.001*
Male	45	11.933±2.359			
Level of education					
Primary	76	12.947±2.842	F	249.739	<0.001*
Intermediate	48	17.292±1.611			
Secondary	56	21.589±1.359			
High education	20	23.30±0.470			
Occupation					
Work	133	18.180±3.433	T	3.343	<0.001*
Not work	67	15.985±5.837			
Economic level					
Low	75	12.573±2.303	F	309.383	<0.001*
Average	110	19.90±2.299			
High	15	23.800±0.414			

Age:

In our study the majority of our participants were noticed between age 30-40 y with Mean± SD (18.452±2.992) and a statistically significance (F=195.076 p<0.001)

Gender:

In our study the majority of our participants were noticed in female more than male with Mean± SD (19.045±3.613) with a statistically significance (T= 12.444, p<0.001) .

Level of education:

In our study the majority of our participants were noticed primary education standard deviation was (12.947±2.842) with a statistically significance (F= 249.739, p<0.001) the Secondary education and Intermediate less than primary with a statistically significance.

Occupation:

In our study the majority of our participants were noticed Occupation with standard deviation was (18.180±3.433) with a statistically significance (T =3.343, p<0.001).

Economic level:

In our study the majority of our participants were noticed Economic level Average with standard deviation was (19.90±2.299) with a statistically significance (F=309.383, p<0.001)

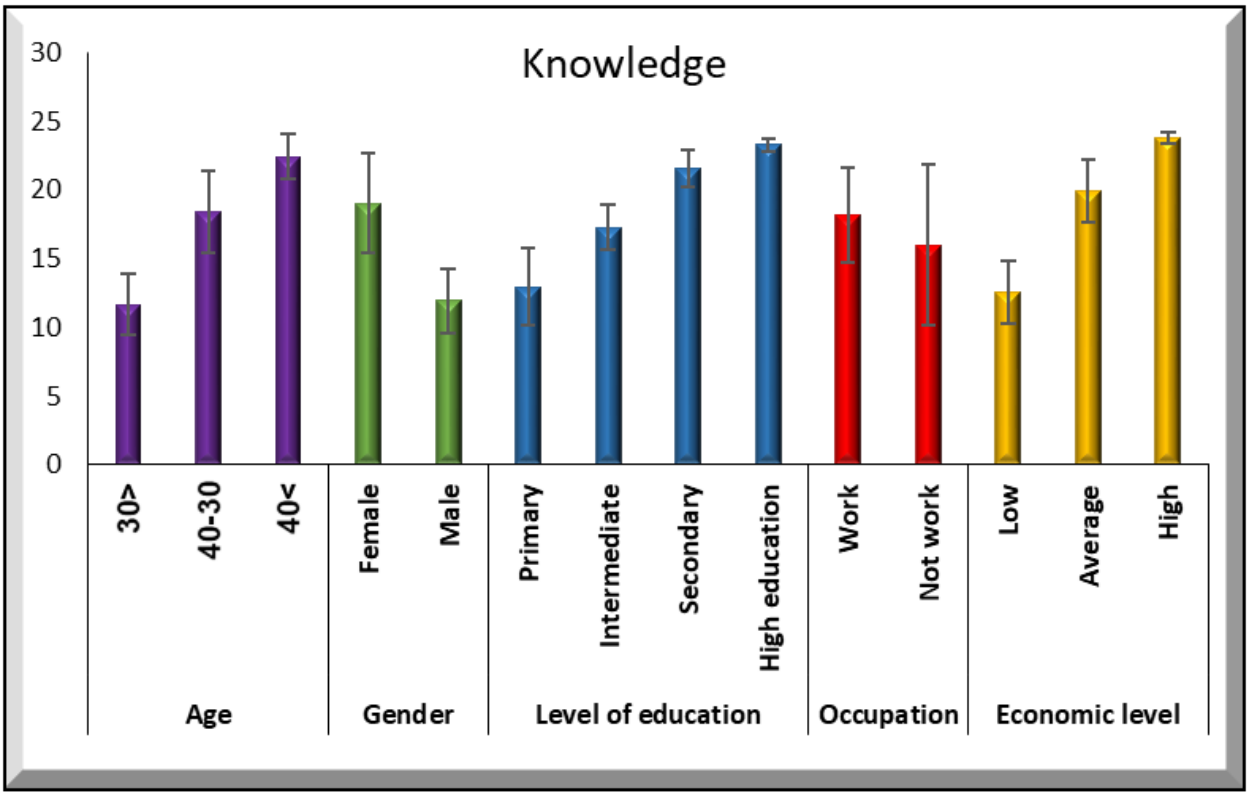

Figure 3: Bar graph represents Demographic data & knowledge

DISCUSSION

Overall, the results from the analysis indicated and decrease information in our participants Female's gender in our study was (77.50%) while Male were (22.50%). Involvement in educational programs concentrated on general knowledge about diabetes, protection, and risk factor. Moreover, for some questions the correct answer great lowering, there was consistently a net gain generally. Repetition of the examiner was perhaps useful for some participants. In general, our studies the majority of our participants were noticed between age 30 - 40 years more receptive. In our study the majority of our participants were noticed between age 30 - 40 years with a statistically significance (F=195.076 p<0.001) In our study the majority of our participants were noticed in female more than male with Mean± SD (19.045±3.613) with a statistically significance (T= 12.444, p<0.001) .In our study the majority of our participants were noticed primary education standard deviation was (12.947±2.842) with a statistically (F= 249.739, p<0.001) .In our study the majority of our participants were noticed Economic level Average with standard deviation was (19.90±2.299) with a statistically significance (F=309.383 , p<0.001) In our study the majority of our participants were noticed Occupation with standard

deviation was (18.180±3.433) with a statistically significance (T =3.343, p<0.001) .the table 7 shows the detailed data.

CONCLUSION

There is a dearth of meticulously conducted research on T1DM in Saudi Arabia. It is fortunate that there is goodness measures previously able to be used that have yet to be integrated into national-level. Considering the increasing prevalence of T1DM in Saudi Arabia, For example, all 15 specified general adolescent QOL measures situated for this include enough measures of emotional but in infants and young children Considering the increasing prevalence of T1DM in Saudi Arabia, especially , the research interventions need to be significantly improved well-being, Moreover, it is critical to develop appropriate management programs for controlling T1DM and allocating health resources appropriately for this condition. Research efforts should focus on achieving early diagnosis, preventing, and developing better treatment options to improve the quality of life and prognosis of the affected individuals (Dickinson and Parkinson 2007). Elements which could be combined into national-level scanning to promote the field of measurement systems, like the CWI. As well as, parents reported higher child QoL than did their children. but in regard to the self-report of 9–10 years old children, only the KINDL total QoL scale or the ILC are recommended (Jozefiak et al. 2008).

RECOMMENDATIONS

Strengthening of the knowledge given throughout this research is crucial to elevating sustained activity amendment within the society. giving programs aimed at identified youngsters and young adults have the possibility to be particularly helpful if healthy practices tested to cut back the chance of malady are founded soon in life. Combine such programs during school has the possibility to affect an oversized range of individuals, a group action is needed. Environmental amendment to support healthy practice, particularly at school, is definitive to affecting attitude amendment. Enough change for physical activity and healthy nutrition selections at schools important (Arnaud et al. 2008).

Parental participation within the teaching method is the second crucial step in supporting behavior amendment to lowering danger agents for chronic disease as a result of folks function extremely important role models. Community-wide involvement to the knowledge of danger agents for growing information of danger agents for chronic disease can be performed in a diversity of settings but would better be performed with some score of harmony therefore that programs carried at various locations and to varying age groups would support the same public messages to elevate health (Mustapha et al. 2014).

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