Knowledge and Practices Regarding Naturally Reversing Type 2 Diabetic Among Patients Attending to Layla Qassim Health Care Center in Erbil City

Kareem Fattah Aziz*

Abstract

Background and objective: The recent studies reviewed, with the evidence that the type 2 diabetic potentially reversible and related to life style changes. The Objectives included identifying patient's knowledge and practices regarding the naturally reversing of type 2 diabetes, to identify an association between variables and overall knowledge and practices of them regarding naturally reversing of Type 2 diabetes, and to identify the effect of knowledge on practices regarding diabetic type 2 reserving.

Methods: It was a descriptive study design conducted in Layla Qasim health Center in Erbil of Kurdistan Region / Iraq. A non-probability (purposive) sampling technique used for selecting sample size that included 500 diabetes type 2 patients who attending to Layla Quism Health Care Center. The questionnaire including four parts (part one socio-demographic characteristics for sample study, part two included items related to patient's knowledge about revising type 2 diabetic, part three included statements related to practices about reversing type 2 diabetic. The data were collected by interview technique directly with patients. This study begun in 1/1/2020 to 1/4/2021.

Results: There was a high acceptance rate among participants regarding their knowledge and practices for type 2 diabetes reversable,there was no significant association between variables and their knowledge , practices except significant association between age and Q5, Q7and association between practices and Q7,Q8.

Conclusions: The findings of the study indicated that there was a high acceptance rate for most items about knowledge and practices to the naturally reversing of type 2 diabetic, the study revealed that there was an effect of knowledge upon practices about type 2 diabetic reversing

Keywords: knowledge, practices, diabetes type2, Layla Qassim health center.

*College of Nursing, Hawler Medical University, Erbil, Kurdistan, Iraq .

Introduction

In 1997, the World Health Organization (WHO) estimated the global prevalence of diabetes to be more than 135 million and by the year 2025 there will be a 120% increase in the number of patients affected. It is estimated that 50% of persons with diabetes in the USA are undiagnosed[1]. Despite advances in pharmacotherapy and diabetes treatment devices and the emphasis placed on treatment adherence over the last decade, National Health and Nutrition Examination Survey (NHANES) data showed that 43-45% of patients with diabetes did not achieve glycemic targets of HbA1C <7%. Almost one million people die because of diabetes each year; two thirds of these are in developing countries[2]. DM was the leading cause of chronic complications including micro vascular and macro vascular[3]. It also accounts for approximately 82,000 lower extremity amputations annually in USA.[4] The recent studies will be reviewed, with the evidence that the type 2 diabetic potentially reversible and related to life style, exercise and dietary system[5]. Poor diet, lack of exercise, smoking, emotional state, stress or excessive drinking can all have a great influence on the development of disease.

Many diseases such as heart disease, stroke and some cancers are classified as "degenerative diseases". This term indicates a condition where cells in specific organs or organ systems begin to fail to continue the functions required for health. Diabetes is one of these diseases [6].That these diseases Continue to flourish in modern society is a serious problem since the underlying causes are generally known. Researchers at the University of Newcastle showed that using a low-calorie diet could reverse diabetes. It has also been shown that diabetics who had bariatric surgery and reduced their weight by 15kg showed signs of recovery. These studies as well as the experience of people in alternative health care where hundreds have experienced a complete reversal of Type Two diabetes [7]. Many experts now agree it's possible to reverse T2D so that your blood sugar levels fall back into the normal range. Some people may be able to reverse it with lifestyle changes, while others might need medical interventions[8]. The recent 2016 World Health Organization (WHO) global report on diabetes added a section on diabetes reversal and acknowledged that it can be achieved through weight loss and

calorie restriction [9].A significant number of studies indicate that diabetes reversal is achievable using bariatric surgery, while other approaches, such as low-calorie diets (LCD) or carbohydrate restriction (LC), have also shown effectiveness on reducing the diabetic type 2 naturally [10].Type 2 diabetes may now be seen as a potentially reversible state associated with longstanding nutrient overload in susceptible individuals. The b-cell dysfunction and loss of end-differentiated b-cell phenotype can be restored by substantial weight loss [11].Diabetes mellitus is a reason for an increasing public health alarm globally. Worldwide, the number of patients with diabetes probably would be double between 2000 and 2030, while community awareness regarding this disease remains Low[12].

Importance of the study: The study is important because focusing on identifying Possibility of Reversing Naturally of Type 2 Diabetes without medication, so it is a new concept and there are more articles supporting this concept we will discuss in results after the work will be finalized

Objectives: Objectives:

1. To identify socio-demographic characteristics of the sample study.

2. To identify patient's knowledge and practices regarding the naturally reversing of type 2 diabetes.

3. To identify an association between (age, address, sex, and certification, duration of diseases, occupation, and family history) and overall knowledge and practices of them regarding Naturally Reversing of Type 2 Diabetes.

4. To identify the relationship between knowledge and practices regarding naturally reversing type 2 diabetic.

To identify the effect of knowledge on practices regarding diabetic type 2 reserving.

Methods

Research design:

It is a quantitative, descriptive study design.

Setting of the study:

The study will be conducted in Layla Qasim health Center for diabetes care in Erbil City of Kurdistan Region / Iraq.

Duration of the study:

This study will be carried out from 1/1/2020 to 1/4/2021.

Sample size estimation:

A non-probability (purposive) sampling technique will be used for selecting sample

size that included 500 diabetes type 2 patients who attending to Layla Quism Health Care Center in Erbil City. and depending on online calculating for sample sizeestimation, so the value of parameters was 95% for confidence level and 5% for margin error and estimating of total population is 500 patients [13].

Tools and methods of data collection:

The questionnaire including four parts (part one socio-demographic characteristics for sample study, part two included items or questions related to patient's knowledge about revising type 2 diabetic depending on scoring system as (1 for yes ,2 for not certain and 1 for not at all) while part three included statements related to practices about reversing type 2 diabetic as (3 for done , 2 for some time done and 1 for never done). The Likert scale for scoring system will be used for preparing the questionnaire [14].

The data were collected by interview technique directly with patients so depending on following criteria:(Diabetic type 2 selected who attached diabetic more than 2 months and under the medical treatment)and used standardized questionnaire.

Reliability and validity:

Pilot study will be done for reliability of tool so 10 diabetic patients type 2 will be taken for that. The content validity will be determined through reviewing the questionnaire to 15 experts in nursing field.

Ethical considerations:

The researcher has obtained permission from the scientific Committee and ethical committee at the College of Nursing/HawlerMedical University and General Directorate of Health in Erbil /Layla Qasim Health Care Center. The researcher promised to keep the patient's information confidential, and use these data for this study only. Then explained the purposes of the study and its importance for them.

Inclusion criteria: Inclusion criteria included patients with type 2 diabetes who attending to Layla Quasim health center daily and they have diabetes type 2 more than 2 months and they are under the medical treatments.

Exclusion criteria:

Excluded diabetes type 1 and gestational diabetes.

Statistical analysis:

The data were analyzed through the SPSS software Version.23 (Statistical Package forsocial Science) application for data entry and data analysis, which include (frequency, percentage and chi-square).

Results

Table 1 Indicated that the socio-demographic of sample study as followings: majority of them were between 40-50, most of them were in urban, majority of them were male, which represented about 64.8%, most of them had a secondary level, which was about 19.8%, about the duration of the disease attach, most of them had time by years which represented about 65.0%, most of them working in public sector, which was about 29.2%. and finally, about the family history of diabetes, the majority of them had not family history of diabetic type 2, which was represented about 68.4%.

Table 1: Socio-Demographic Characteristics for Sample Study

Variables		Frequency	Percent
Age	40-50	264	52.8
	51-60	189	37.8
	61 and above	47	9.4
	Total	**500**	**100.0**
Address	Urban	339	67.8
	Suburban	121	24.2
	Rural	23	4.6
	Others	17	3.4
	Total	**500**	**100.0**
Gender	Male	324	64.8
	Female	176	35.2
	Total	**500**	**100.0**
Certification	illiterate	53	10.6
	Read and write	57	11.4
	Primary	80	16.0
	Secondary	99	19.8
	College	60	12.0
	Institute	95	19.0
	MSc	33	6.6
	PhD	23	4.6
	Total	**500**	**100.0**
Duration of disease	Months	175	35.0
	Years	325	65.0
	Total	**500**	**100.0**
Occupation	Public sector employee	146	29.2
	Private sector employee	87	17.4
	Housewife	53	10.6
	Retired	100	21.4
	Without work	114	21.4
	Total	**500**	**100.0**
Family History of Diabetes	Yes	158	31.6
	No	342	68.4
	Total	**500**	**100.0**

Table 2, Revealed that the second part of the questions included the knowledge of diabetic type 2 reversing, which was about 10 items, so the statistical analysis revealed that the mean value of questions Q2, Q4, Q5, Q6, Q7 more than the standard of study value, which about 2.3,4; this indicated that a high acceptance rate according to the standards of the study. However, shown that the middle acceptance rate according to the standards of the study for the questions Q1, Q3, Q8, Q9, Q10.

Table 2: Descriptive Statistics of participant's Knowledge about Diabetic Type 2 Reversing

Items	Mean	Std. Deviation
Q1. Do you have any idea about reversing type 2 diabetes?	1.674	0.79561
Q2. Do you accept with concept of reversing diabetes by change life styles?	**2.53**	0.73905
Q3. Do you agree that fasting may help in reversing type 2 diabetes?	1.586	0.77447
Q4. Can you mention the name of some fruits and vegetables you will depend for reversing diabetes? If yes what are they?	2.586	0.69827
Q5. Do you think that Healthy diet, exercise, blood glucose testing to control diabetes is important for reversing type 2 diabetes?	2.574	0.70819
Q6. Do you agree to choose reversing type 2 diabetes instead of medication?	2.61	0.6744
Q7. Do you hear about reversing type 2 diabetes programs and bariatric surgery?	1.546	0.7355
Q8. Do you agree that there is strong evidence and research about reversing type 2 diabetes globally?	1.454	0.58014
Q9. Do you think that if there is balance between catabolism and anabolism may help to control normal blood sugar in the body?	2.584	0.68402
Q10. Can you eat low sugar fruits as (Pomegranate, cucumber, acid and banana) and best foods like (Milk, walnut eggs, almonds, bird meat, and carrots) may help you for reversing type 2 diabetes?	1.44	0.59926

Table 3, Revealed that the third part of the questionnaire consisted of 10 items about practicing, so the statistical analysis revealed that the means value for most of the item more than the standard of study value, which about 2.3,4; that means a high acceptance rate according to the standards of the study and this shown that the high level of most answers about their practices for diabetic type 2 reversing.

Table 3: Descriptive Statistics of Practices for Diabetic Type 2 Reversing

Items	Mean	Std. Deviation
Q1. Do you eat healthy foods as berry, beans, onion, mushroom, green leaf and seeds?	2.5740	.55960
Q2. Doing brisk walking, exercises, swimming or cycling help reversing diabetes 2.	2.4600	.60757
Q3. Do you monitor your body weight in normal range for reversing diabetes type 2?	2.4960	.59556
Q4. Usually avoid sugar and sweets may help reversing diabetes2.	2.5240	.60511
Q5. Sharing the program of reversing diabetes.	1.3860	.60807
Q6. Do you practice, physical activity and aerobic exercise for reversing diabetes type 2 or fasting?	2.5900	.60550
Q7. Do you do sedentary life-styles as barriers for reversing type 2 diabetic?	2.5100	.65019
Q8. Usually, I try to apply fitness program in centers to control diabetes.	2.4240	.79592
Q9. Avocados, Pomegranate, cucumber, acid, banana, coconut palm, mushroom and, onion.	2.6680	.59874
Q10. I can choose reversing diabetes style to control diabetic type 2 as (walking, swimming, cycling, fasting, and running).	2.5780	.70492

Table 4, indicated that there was a significant association between Age group and Q5, Q7 in the study sample, where the significance value was less than the alpha value 0.05., the result was accepted the alternative hypothesis, which is that the variables are not independent, and reject the null hypothesis, however, there was not a significant association between other variables in the study sample, where the significance value was more than the alpha value 0.05., the result was accepted the null hypothesis, which is that the variables are independent, and reject the alternative hypothesis.

Figure 1, shows the normal distribution for all items in the second part included the knowledge of diabetic type 2 reversing.

Table 4: Chi-Square Tests of Socio-Demographic Characteristics and All Items in The Second Part

|		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Age	Value	7.744	7.828	2.840	1.289	10.818	2.85	9.531	5.131	5.311	4.731
	P.Value	.101	0.098	.585	0.863	.029	.583	.049	.274	.257	.316
Address	Value	8.208	4.057	9.098	2.977	1.516	1.743	6.581	5.152	2.985	4.099
	P.Value	.223	.669	.168	.812	.958	.942	.361	.524	.811	.663
Gender	Value	396	4.443	.377	.552	5.119	3.677	1.296	3.800	.162	2.103
	P.Value	.820	.108	.828	.759	.077	.159	.523	.150	.922	.349
Certification	Value	8.140	15.38	9.326	14.00	16.792	17.33	12.22	18.74	8.844	15.28
	P.Value	.882	.353	.810	.450	.267	.239	.588	.175	.841	.359
Duration of disease	Value	1.486	2.202	3.632	4.478	1.017	5.949	1.889	1.289	1.950	1.090
	P.Value	.476	.333	.163	.107	.602	.051	.389	.525	.377	.580
Occupation	Value	12.040	6.233	12.27	5.224	2.800	2.145	6.768	3.402	14.24	1.856
	P.Value	.149	.621	.139	.733	.946	.976	.562	.907	.076	.985
Family history of diabetes	Value	4.679	6.356	2.434	2.111	4.383	.910	4.842	1.965	1.132	2.340
	P.Value	.096	.042	.296	.348	.112	.634	.089	.374	.568	.310
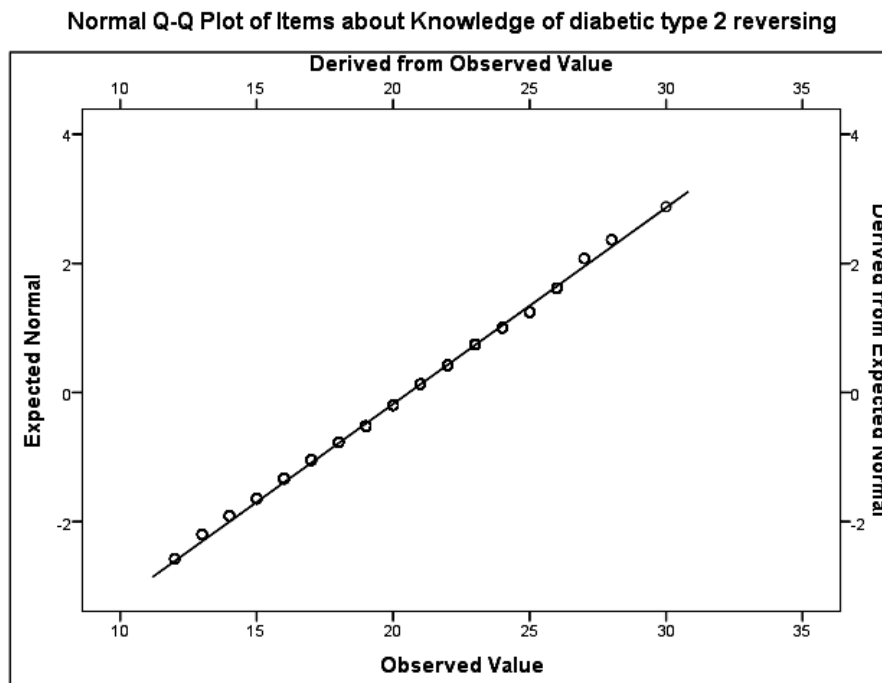
Figure 1: Normal Distribution for the Second Part Items

Table 5, Indicated that there was a significant association between the address and Q8, gender and Q2, Q7, certification and Q10, and Occupation and Q2 in the study sample, where the significance value was less than the alpha value 0.05., the result was accepted the alternative hypothesis, which is that the variables are not independent, and reject the null hypothesis, while there was not a significant association between other variables and items in the study sample, where the significance value was more than the alpha value 0.05., the result was accepted the null hypothesis, which is that the variables are independent.

Figure 2, shows the normal distribution for all items in the second part included the practices for diabetic type 2 reversing.

Table 5: Chi-Square Tests of Socio-Demographic Characteristics and All Items in the third Part (practices).

|		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Age	Value	1.962	5.50	4.78	2.68	3.708	3.669	3.527	2.370	8.19	3.825
	P.Value	.743	.240	.310	.613	.447	.453	.474	.668	.085	.430
Address	Value	5.83	3.35	8.92	7.00	4.529	4.822	.921	12.83	8.55	2.968
	P.Value	.442	.763	.178	.320	.606	.567	.988	.046	.200	.813
Gender	Value	.717	11.38	.707	1.68	4.196	2.893	13.78	2.652	1.077	4.845
	P.Value	.699	.003	.702	.430	.123	.235	.001	.266	.584	.089
Certification	Value	15.71	5.18	8.28	20.63	15.88	14.58	9.448	13.61	10.35	24.636
	P.Value	.331	.983	.874	.111	.320	.407	.801	.479	.736	.038
Duration of disease	Value	.710	1.07	3.14	3.568	2.897	1.922	.814	.325	3.61	1.498
	P.Value	.701	.585	.208	.168	.235	.382	.666	.850	.164	.473
Occupation	Value	6.04	16.1	13.16	2.296	7.533	7.036	14.54	9.967	6.73	13.251
	P.Value	.642	.040	.106	.971	.480	.533	.069	.267	.565	.103
Family history of diabetes	Value	1.59	1.09	3.33	2.46	2.415	.262	.299	.231	3.66	4.108
	P.Value	.450	.579	.189	.292	.299	.877	.861	.891	.160	.128
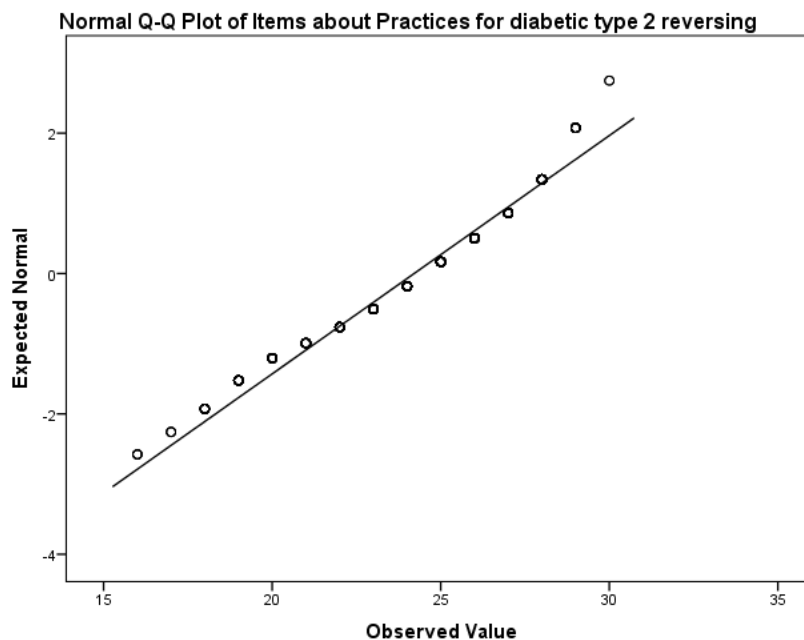
Figure 2: Normal Distribution for the third Part Items (practices)

Table 6, shown that the significance value is (.000), it is less than the approved case (0.05), and this indicated that there was a correlation between all variables of the study. The correlation average value of practices for diabetic type 2 reversing was (.9615), which indicated that the knowledge of diabetic type 2 reversing has a beneficial relationship with practices for diabetic type 2 reversing, which enhanced these answers from the average value of R square which was (.9245). Also shows the average value of F which was (628.7004) at the level of significance (.000), which indicates that there was an impact of knowledge of diabetic type 2 reversing on practices.

Table 6: Correlation and ANOVA Analyses

Independent	Dependent	R	R square	F	Sig.
Part two items	Q1	.968	.938	736.187	
	Q2	.960	.921	572.231	
	Q3	.964	.929	639.562	
	Q4	.964	.929	642.664	
	Q5	.975	.951	947.869	.000
	Q6	.964	.929	645.605	
	Q7	.956	.914	522.793	
	Q8	.944	.891	399.085	
	Q9	.966	.934	689.264	
	Q10	.954	.909	491.744	
Average		.9615	.9245	628.7004	

Discussion

The findings of the study revealed that most participants have a good rate of acceptance or agreement with knowledge and practices regarding diabetes type 2 reversing so that they may change their lifestyles and eat healthy food by this way the diabetes type 2 may be reversable without drugs this study accepted with the study done by [15] who

said that (All domains of quality of life are affected by diabetes mellitus)). This study was agreed with the study done by [16] who rivaled that (nutrition and lifestyles intervention among type2 diabetes may improve glucose control and reduction). Other findings of this study indicated that there was a significant association between knowledge about type 2 diabetes reversing and practices as change life styles this finding was similar with study done by[17] who revealed that (given the state of evidence for T2D reversal, healthcare providers need to be educated on reversal options so they can actively engage in counseling patients who may desire this approach to their disease).The other findings of the study indicated that as general there was not significant association between their variables and knowledge or practices except in some items as followings: (association between Q5 , Q7 with their age , their

address with Q8, gender with Q8). The findings of the study revealed that there was association between knowledge and practices regarding type 2 diabetes so the study is similar with the study done by [18]who said that (there was significant association between knowledge and practices about diabetes type 2 reversing.) from this study it is clear that knowledge and practices of patients or individuals prediabetics may help themselves to return to normal without drugs just by dietary system and change lifestyles these results agreed with some other study done by [19]who indicated that program is necessary for increasing knowledge and practices of patients about diabetes type 2   and these results not agreed with the study done by [20]who has written that knowledge and practices among patients were low needs program intervention for increasing their knowledge and practices.

Conclusion

The findings of the study indicated that there was a high acceptance rate for most items about knowledge and practices to the naturally reversing of type 2 diabetic, and there was a significant association between

knowledge and practices of diabetic type 2 reversing. Other findings of the study revealed that there was an effect of knowledge upon practices about type 2 diabetic reversing.

Recommendation

1. It is necessary to do more research about reversing type 2 diabetic.
2. It is better to encourage type 2 diabetic patients to change their lifestyles and depending on healthy diet more than depending on drugs.
3. Encourage individuals who have not diabetic also to be depended on healthy food and change lifestyles to avoid attach diabetic type 2 and encourage them about diet awareness.

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