

Examination Of The Education Requirements For Patients With Type 2 Diabetes, Patients' Relatives/Caregivers, and Nurses Caring For The Patients, Using Q-Methodology

Tip 2 Diyabetli Hastaların, Hasta Yakınlarının ve Bakım Veren Hemşirelerin Eğitim Gereksinimlerinin Q Metodu ile İncelenmesi

İbrahim Caner DİKİCİ¹, Suzan HAVLIOĞLU²

ABSTRACT

Purpose: This study was conducted as a descriptive study in order to examine the opinions and the education needs of the patients with type 2 diabetes, their caregivers, and nurses caring for the patients, with Q method.

Methods: The study was carried out with 30 patients, who were being treated in the Endocrinology Outpatient Clinic and internal medicine units of Şanlıurfa Training and Research Hospital, 30 family and friends of patients responsible for patient care, and 30 nurses responsible for the care and treatment of the patients, between May-September 2019, in Turkey.

Results: When the data were examined according to the importance of the educational needs, "What is diabetes?", "What is the future course of the disease?", and "How is diabetes diagnosed definitively?" for the caregivers and nurses, and there were "What is the future course of the disease?" and "How often should self-glucose monitoring be performed?" for the patients.

Conclusion: It is recommended that, by learning and implementing the Q methodology, the nurses determine the importance rankings of the patients and the caregivers and that the educations should be planned and carried out according to the needs of the patients and caregivers.

Keywords: Type 2 Diabetes, Q Methodology, Health Education.

INTRODUCTION

Type 2 Diabetes is a syndrome caused by acute metabolic and chronic degenerative complications caused by disruption of carbohydrate, protein and lipid metabolisms, that occurs as a result of structural disorders in insulin and continues with absolute or partial insulin ineffectiveness of insulin secretion of the pancreas (Satman et al. 2013; Dinççağ, 2011).

According to the International Diabetes Federation (IDF) data, the importance of diabetes is increasing. It is estimated that since 2015, 415 million people have diabetes in the world, and by 2040, one out of every 10 people will have diabetes. There is a rapid increase in Type 2 diabetes across societies with rapid changes in lifestyle (American Diabetes Association, 2010).

Type 2 Diabetes treatment includes physical activity, diabetes medical nutrition therapy, blood glucose monitoring and oral anti-diabetic/insulin treatments for individuals of all ages, particularly in relation to disease self-management education (American Diabetes Association, 2013; Funnell et al., 2007). In education, it is necessary to control metabolic

and biochemical variables, to follow a healthy and balanced exercise program, to keep blood pressure at an optimal level, to prevent the development of diabetes-related complications and to improve quality of life in order to increase the compliance of the individual to diabetes (5).

Besides the fact that patient education can be applied to all age groups, the characteristics of adult education are different. Adult education is a more active and dynamic process. One of the prominent concepts in the adult learning theory developed by Malcolm Knowles is the importance of the subject to be taught. If one of their current needs is not met at the end of the learning activity, individuals may be affected by negative points. The trainers should establish a balance between the issues that the patients deem important according to their own experience and knowledge (Çetin et al., 2016; Duman, 2006). Problems that are considered very important by one group of patients may be seen as worthless by others. The patient may be stuck with the subject he/she wants to learn and may not focus on the other topics the nurse explains. In this case, the education will not serve a purpose (İrki, 2006; Cross, 2005; Akçay, 2006) The Q methodology is one of the most popular ways of discovering attitudes from

¹ Öğr. Gör. Harran University, Faculty of Health Sciences Department of Nursing, Şanlıurfa, Turkey, ibrahimcanerdikici@gmail.com Orcid no:0000000298384502

² Dr. Öğr. Üyesi. Harran University, Health Services Vocational School, Şanlıurfa, Turkey, suzanhavlioglu@hotmail.com Orcid no:0000000155935688



personal experiences. The technique can be applied to nursing and health research (Eun- Ho, 2016). This study aims to investigate the opinions of the patients with type 2 diabetes, caregivers, and nurses about the educational needs by using the Q method.

METHOD

This study was conducted in the Şanlıurfa Training and Research Hospital between May-September 2019, in Turkey. The study included 30 patients diagnosed with Type 2 Diabetes in the Diabetes polyclinic and Internal Medicine units at least 6 months prior, 30 relatives/caregivers of patients, and 30 nurses providing care and treatment to the patients.

In order to conduct the research, written permissions were obtained from the Harran University Ethics Committee (Date: 06.06.2019, Decision no. 06) Ethics Committee and the Provincial Health Directorate. Also, the purpose of the study was explained to the participants and the study was conducted with patients, relatives, and nurses who agreed to participate voluntarily.

The data were collected using socio-demographic data collection forms prepared separately for patients (19 questions), patients' relatives (10 questions), and nurses (10 questions), and question cards consisting of 15 questions to be used for the Q Methodology (sorting the cards in order of importance) which included Type 2 Diabetes education requirements.

Q Methodology (Card Sorting)

Q-methodology, developed in 1935, is an integrated approach that determines the advantages of qualitative and quantitative research methods. It uses clarity of subjective perspectives about particular phenomena, views, or concerns, and as a means of investigating individual attitudes, views, experiences, perceptions, and emotions (Eun- Ho, 2016). The card sorting method consists of question cards, in which the topics or topics are classified with the importance, such as from the most important to the less important (Çetin et al., 2016). The card sorting method is an easy-to-implement method developed by the researchers by utilizing the Q method, in which the participants are asked to rank the question cards on the ground from most important to less important. In the card sorting technique, the participants are given the opportunity to understand, interpret, and define their special situation while they sort the question cards in order of importance. The individual analyzes and compares the importance of the problem on each card in order to make decisions during the ranking process. Since there is no right or wrong answer in the ranking of the cards, there is no judgment. Only the perception and perspective of the patients, the patients' relatives, and the nurses are reflected (Akçay, 2006).

In this study, 15 cards were used, which were designed as questions. Question cards were prepared according to the literature and by taking the opinions of experts in the field of Internal Medicine Nursing. The question cards were given to the patients, their relatives, and the nurses, and all three groups were asked to prioritize the education subjects that they found important to be learned. At the end of each interview, the questions were numbered and recorded according to the rankings. Data collection took an average of 20 minutes.

Data were analyzed using the SPSS 21 program. Frequency and percentage analyses were used to determine the descriptive characteristics and educational needs of the patients, their relatives, and nurses. In order for the data to be interpreted more easily, the education subjects included in the cards were categorized as important by the patients, relatives, and nurses as the top three and the last three.

RESULTS

Table 1 shows the descriptive characteristics of diabetic patients included in the study. The age of the patients ranged from 26 to 65 years. Of the patients, 70% were women, 93.3% were married, 53.3% were illiterate, 76.7% were unemployed, and 90% lived with their families.

The mean time since the diagnosis of diabetes was 6.63 ± 5.41 years. It was determined that the most common comorbid condition was hypertension with 26.7%, 30% used drugs regularly, and 16.7% regularly visited a doctor for follow-ups. It was found that 56.7% of the patients received information about the disease process, 33.3% of the information sources were nurses, and 46.7% found the education inadequate.

Table 2 shows the descriptive characteristics of the relatives/caregivers of the patients included in the study. The age range of the caregivers of the patients varies between 18-58, 60% are women, and 70% are married. It was found that 30% of the relatives were illiterate and 60% were unemployed. 73.3% were living with the patient and 60% were caring for the patient. 56.7% of the patients' relatives stated that they did not receive any education about diabetes and 80% of them wanted to receive an education.

The age of the nurses included in the study ranged between 22 and 33, and the mean age was 28.2 ± 3.56 . 60% were women, 50% were married, and 96.7% were university graduates. The mean work experience was 4.70 ± 3.27 and the average work experience in an internal clinic was 2.00 ± 1.31 . 73.3% of the nurses stated that they did not participate in any course or certificate program related to diabetes, 76.7% stated that they provided diabetes education to their patients, and 50% stated that the education was insufficient (Table 3).

Table 4 shows the distribution of education subjects, which were ranked in the top three and in the last three places by the patients, their caregivers, and nurses. "What is diabetes?" was ranked the most important subject by 63.3% of the caregivers and 83.3% of the nurses. Both groups



agreed on the importance of this issue. 36.7% of the patients, however, gave priority to the "What is the future course of the disease?" subject.

In the last three places, there were the subjects "How should insulin be administered in diabetes?" (36.7%) and "Are there alternative treatments for diabetes such as plants, acupuncture, and natural products?" (36.7%) for the patients, "What is the type of diet that should be considered for the disease?" (36.7%) for the caregivers, and "Do children of diabetic parents have diabetes?" (50.0%) for the nurses.

DISCUSSION

The ranking of Type 2 Diabetes education needs according to their importance is essential for the effectiveness of education. This way, the patients will be able to listen and learn more effectively for their priority issues. In this study conducted to determine the opinions of the patients, caregivers, and nurses about the importance of educational subjects, there are some differences of opinions. Similarly to these findings, studies conducted in the literature indicate that the importance of the education subjects for the patients, the patients' relatives and the nurses who undertake the care and treatment varies (Çetin et al., 2016; Akçay, 2006). (Kızıllı, 2008). In the study conducted on the learning priorities and desires of the patients, it was reported that there was a significant difference between the patients and that the patients wanted more information about their own situation and individual elucidating (Kaur et al., 2007).

While "What is diabetes?" was the most important subject for 63.3% of the patient's relatives and 83.3% of the nurses, the same subject was in the top three for 26.7% of the patients. While these issues became more important for relatives and nurses, they were less important for patients than other subjects. In a study on Type 2 diabetes patients who applied to an internal diseases outpatient clinic in Istanbul to measure the level of awareness in diabetic individuals, it was found that the awareness and knowledge about diabetes was very low when individuals' answers to the questions asked about their diseases were evaluated (Atmaca et al., 2015). This study shows that patients do not have enough information and awareness about what type of diabetes is, and nurses and relatives do not think that patients have enough information about diabetes.

It is observed that while "How is diabetes diagnosed definitively?" subject was in the top 3 for the nurses, it was of medium importance for the patients and their relatives. This result reveals that nurses give more importance to technical and theoretical issues.

In this study, for the educational needs in Type 2 Diabetes, the "What is the type of diet that should be considered for the disease?" question was in the top three for 20.0% of the patients, 20.0% of the relatives/caregivers, and 16.7% of the nurse. In a study conducted on 6441 patients from 40 hospitals in China, it was found that the nutritional knowledge level of the patients was low and the nutritional knowledge level of those receiving medical nutrition treatment was higher. In addition, blood glucose controls

were found to be better in individuals with better knowledge, attitudes, and behaviors (Li et al., 2017). In another study in China, where diabetes patients were monitored for a year, it was found that nutrition education provided to people with diabetes provided positive improvements in patients' control of blood sugar and nutritional knowledge and behavior (Wang et al., 2013). It is clear that increasing nutritional information has an important role in glycemic control by any means. For this reason, it is thought that nurses should question the nutritional habits of individuals with diabetes and give more importance to nutrition in their education programs.

In this study, the importance of the "How should insulin be administered in diabetes?" question was reported as 23.3% for patients, 13.3% for the relatives/caregivers, and 3.3% for the nurses. Aslan, (2015) found that 68.2% of the patients did not know the name of the insulin they used and 79.1% did not know the size of the needle tip (Aslan and Korkmaz, 2015). The results show that these three groups have different priorities regarding these issues.

The question "How often should self-glucose monitoring be performed?" was evaluated as in the top three by 33.3% of the patients, 43.3% of patients' relatives/caregivers and 3.3% of the nurses. Saleh, 2012 found that the frequency of blood glucose monitoring and information about the disease were related to each other (Saleh et al., 2012). Likewise, the lack of knowledge of individuals about the disease is mentioned among the factors preventing the self-monitoring of blood glucose (Ong et al., 2014). Studies show that as patients' level of knowledge about diabetes increases, so does their blood glucose measurement rate. Nurses who provide care and education to diabetic patients should give the necessary importance to this issue.

The question "When and how often should the doctor be consulted?" was evaluated as in the top three by 13.3% of the patients, 3.3% of patients' relatives/caregivers, and 16.7% of the nurses. Aslan (2015) found that 69.3% of people with diabetes went for a follow-up regularly (once a month, every 2 months, and every 3 months (Aslan, 2015). In the study of Erol, it was determined as 79%, and in the study of Ekim as 70% of. In this study, less attention to regular follow-ups may be an indication of the importance given to this issue by health professionals and the tendency of patients to leave the control to the health workers (Erol, 2009; Ekim, 2007).

The question "Are there alternative treatments for diabetes such as plants, acupuncture, and natural products?" was evaluated as in the top three by 20.0% of the patients, 10.0% of patients' relatives/caregivers, and 13.3% of the nurses. Aslan (2015) reported that 47.3% of the individuals used alternative treatment after the onset of diabetes and 19.2% of them discontinued insulin and diet (Aslan, 2015) In the study of Oksel it was found that 50.0% of diabetics were using alternative treatments and this result was 57% in the study by Yeh et al. and 42.1% in the study by Eiesenberg et al. (Oksel and Şişman, 2009). (Eisenberg et al., 1998; Yeh et al., 2002). The reason for the different findings are thought to be due to different socio-demographic characteristics.



CONCLUSION

As a result, the findings from this Q - methodology study can be generalized for larger populations. "What is diabetes?" and "What is the future course of the disease?" subjects were at the forefront as training needs for patients, relatives, and nurses.

In this direction, it is recommended that attention should be drawn to these subjects and the regular education periods be planned, other health care workers who will educate patients should be included in the sample group to conduct new research, and that the study be conducted with different sample groups. The nurses are recommended to determine the importance rankings by learning the Q method, before educating the patients and their relatives. It is also recommended that the training be planned and carried out according to the needs of patients and their relatives.

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**Table 1. Socio-Demographic and Disease-Related Characteristics of the Patients**

		n	%
Age	26-35	10	33.3
	36-50	11	36.7
	51-65	9	30.0
Gender	Male	9	30.0
	Female	21	70.0
Education	Illiterate	16	53.3
	Primary School	10	33.3
	Middle School – High School	4	13.3
	University	-	-
Marital Status	Married	28	93.3
	Single	2	6.7
Employment Status	Employed	7	23.3
	Unemployed	23	76.7
Who are you living with?	Alone at home	3	10.0
	Spouse and/or kids	27	90.0
Presence of a Chronic Disease	Present	11	43.3
	None	19	56.7
Type of Chronic Disease (if present)	Hypertension	8	26.7
	Gastritis, Reflux	1	3.3
	Hashimoto's hyroiditis	1	3.3
	Epilepsy	1	3.3
How long have you been diagnosed with Type 2 Diabetes?	5 years or less	15	50.0
	6 -20 years	15	50.0
Regularity of doctor visits for follow-ups	Always	5	16.7
	Sometimes	19	63.3
	Never	6	20.0
Regularity of drug use	Always	9	30.0
	Sometimes	18	60.0
	Never	3	10.0
Diabetes treatment	Medical Nutrition Therapy	5	16.7
	OAD	4	13.3
	Insulin	12	40.0
	OAD + insulin	9	30.0
Presence of diabetes in people the patient lives with	Present	7	23.3
	None	23	76.7
Presence of diabetes-related complications	Present	3	10.0
	None	27	90.0
Did you get information about the disease process?	Yes	17	56.7
	No	13	43.3
What is your source of information?	Nurses	10	33.3
	Doctors	2	6.7
	Television, internet	2	6.7
	Other patients	5	16.7
Do you find the information provided sufficient?	Yes	16	53.3
	No	14	46.7
Which subjects would you like to be informed about?	Nutrition	4	13.3
	Herbal Treatment	4	13.3
	Hypertension	3	10.0
	Weight Gain	2	6.7
Do you administer different treatments other than medication?	Yes	4	13.3
	No	26	86.7



Table 2. Socio-Demographic Characteristics of the Relatives/Caregivers

		n	%
Age	18-35	12	40.0
	36-58	18	60.0
Gender	Male	12	40.0
	Female	18	60.0
Education	Illiterate	9	30.0
	Primary School	12	40.0
	Middle School – High School	7	23.3
Marital Status	University	2	6.7
	Married	21	70.0
	Single	9	30.0
Employment Status	Employed	12	40.0
	Unemployed	18	60.0
Are you living with the patient?	Yes	22	73.3
	No	8	26.7
Your frequency of meeting with the patient if not living together	Once a week	7	23.3
	Once a month	1	3.3
	Yes	18	60.0
Are you doing the patient care?	No	12	40.0
	Yes	13	43.3
Have you been trained about DM?	No	17	56.7
	Yes	24	80.0
Would you like to be trained about DM?	Yes	24	80.0
	No	6	20.0

Table 3. Socio-Demographic Characteristics of the Nurses

		n	%
Age	22-27	15	50.0
	28-33	15	50.0
Gender	Male	12	40.0
	Female	18	60.0
Education	High School	1	3.3
	University	29	96.7
Marital Status	Married	15	50.0
	Single	15	50.0
Employment period (years)	1-5	19	63.3
	6-15	11	36.7
Experience in an internal medicine or endocrinology unit (years)	1-3	27	90.0
	4-6	3	10.0
	Yes	8	26.7
Did you receive training, courses, certificates about DM?	No	22	73.3
	Yes	23	76.7
Do you educate your patients about DM?	No	7	23.3
	Yes	15	50.0
Do you think the education you give is sufficient?	No	15	50.0

**Table 4. The first three places and the last three places for the Education Subjects**

	Subjects mostly in the top three (%)			Subjects mostly in the last three (%)		
	Patient	Caregiver	Nurse	Patient	Caregiver	Nurse
Education Subjects						
1.What is diabetes?	26.7	63.3	83.3	10	3.3	-
2.What is the future course of the disease?	36.7	46.7	46.7	3.3	3.3	23.3
3.How is diabetes diagnosed definitively?	13.3	26.7	56.7	6.6	13.3	10.0
4.How often should self-glucose monitoring be performed?	33.3	43.3	3.3	13.3	6.7	10.0
5.How should insulin be administered in diabetes?	23.3	13.3	3.3	36.7	23.3	20.0
6.What should be known about oral antidiabetic (OAD) treatment?	33.3	-	-	20.0	33.3	23.3
7.Are there alternative treatments for diabetes such as plants, acupuncture, and natural products?	20.0	10.0	13.3	36.7	20.0	33.3
8.What should family and friends know about the disease?	23.3	6.7	10.0	13.3	33.3	10.0
9.How can diabetes-related complications be best managed?	3.3	16.7	-	16.7	20.0	13.3
10.What measures can be taken for diabetes-triggering conditions?	13.3	16.7	3.3	16.7	13.3	6.7
11. What is the type of diet that should be considered for the disease?	20.0	20.0	16.7	16.7	30.0	6.7
12.Should the diabetic patient exercise?	6.7	6.7	13.3	13.3	36.7	10.0
13.Do children of diabetic parents have diabetes?	13.3	13.3	-	20.0	23.3	50.0
14.Does diabetes cause other diseases?	20.0	20.0	3.3	3.3	20.0	36.7
15.When and how often should the doctor be consulted?	13.3	3.3	16.7	26.7	20.0	36.7