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Diabetic patients' compliance to the recommended treatment: A qualitative study in Greece

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Abstract

Aims: This study aims at investigating which factors are related to the diabetic patients' compliance to their hygiene, dietary and pharmaceutical treatment, which are able to influence the disease' progress.
Methodology: The sample consisted of 15 diabetic patients recruited at a private doctor's office in a suburb of Athens, Greece. Data collection was done using participant-completed diaries, in which they described their perceptions.
Qualitative analysis was performed. A list of categories and subclasses was created which were grouped and became the essential categories included in the final list. Then the diaries were re-read, but this time alongside the final list. In this way the degree to which the categories covered the diaries' content was checked, and adjustments were made when necessary.
Results: Passivity, un-readiness, weakness to accept the disease, ignorance about the illness and its complications, poor doctor-patient relations, insufficient family supporting environment, insufficient variety of tasty foods, chronic exhaustion, and complexity of illness are shown to be detrimental for the patients' progress. Health education can help diabetic patients address issues such as diet or exercise, and to recommend a healthy dietary programme which regulates glucose levels and avoids complications.

Keywords: diabetic patients, compliance, dietary programme

Introduction

Almost 21 millions cases of diabetes exist in the USA and that corresponds roughly to 7% of the country's population (De Wit, 2009). Worldwide, the repercussions of diabetes increase continuously (Mahmud & Mazza, 2010), while according to the World Medical Association (2002) by 2030 more than 300 million people will present with type-II diabetes. Six percent of the general population of Greece are diabetic. Incidence of diabetes is occurring more rapidly in the western world, which illustrates its correlation with the modern way of life (Greek Endocrinology Society, 2010).

Treatment of diabetes is exceptionally complex, including various changes in behaviour, diet, exercise, control of blood glucose and daily use of medication (Feldman et al, 2009). It is generally accepted that a patient submitted to a more complex treatment is less likely to conform to it (Lutfey and Wishner, 1999).

The high frequency of complications in diabetic patients shows the necessity for compliance to the treatment. Compliance has been described as the degree in which the patients' voluntary behaviour corresponds with the clinical directives of health professionals. According to this definition, patients are individuals that aim for an active and voluntary role in the determination and achievement of their own treatment (Rand &Weeks 1998).

However, in order for compliance to treatment to increase, it is important to determine the patients' ability to obtain and maintain the treatment objectives after the initial health education program (Kavanagh et al, 1993).

Various psychosocial variables have been examined in order to determine their influence in the compliance of diabetes patients to their treatment. Factors such as personality, family behaviour, convictions about health, demographic characteristics and social support, appear to be strongly related (Morowatisharifabad et al 2010; Jansink et al, 2010).

Medication constitutes a cost for many chronic patients, which is connected with the probability to use smaller quantities of prescribed medication, or no medicine at all (Steinman et al, 2000; Piette et al, 2005).

Various mental conditions, such as depression, influence the compliance to doctors' directives, but also with whether the patients bare the cost of medications (Ciechanowski et al, 2000; Ciechanowski et al 2003).

Moreover, depression is associated with decreased compliance to the exercise programme, with diet and with taking certain medicines, as well as with self-control of glucose (Gonzalez et al 2008; Wagner, 2008; Gonzalez et al 2010).

Other factors which contribute to non-compliance to the health education of diabetes include the complexity of the health directives, the patients' emotional well-being, the patients' perceptions about the medicine, about its side effects and how it affects activities of daily life (Rubin 2005; Rubin et al, 2009).

Compliance to diet is difficult to achieve because it often requires long-term changes in consumption habits and food preparation methods (Sjöblom et al, 2008). Such changes can be particularly difficult for older adults because their income is low and they cannot bear the financial cost of new dietary behaviours which require more expensive food substitutes. Moreover, the dietary habits that are developed during life may lead to resistance to dietary changes (Tjia et al, 2008; Feldman et al, 2009).

Doctors' good collaboration and communication may lead to patients' compliance to the health education and, consequently, to better therapeutic results. The communication between the two sides is particularly important in order to individualize the diabetes treatment, particularly for the elderly. The patients' confidence in their doctor is particularly important when deciding whether they will conform to the treatment and will receive the medications, even if the medications are expensive (Safran 1998; Stewart, 1999).

The wife's patience greatly helps the male diabetic patient to follow the appropriate therapeutic programme. Preparing suitable foods, checking that the exercise was carried out and that the husband followed the treatment is often checked only by family members (Watanabe et al 2010; Delamater et al, 2008).

A particularly important fact is the effect that adolescents have on their friends regarding whether or not to conform to the treatment (Bearman and La Greca 2002; Wysocki and Greco, 2006; Olmsted et al, 2008).

The contribution of friends in the metabolic control as well as in the emotional support is very important for patients with diabetes (Kakleas et al 2009; Barnard et al, 2010).

Diabetes is a chronic disease which patients must learn to live with, and to adapt their personal and

social life (Wagner et al, 2000; Sapountzi- Krpepia, 2004). This study aims at investigating which factors are related to the diabetics' compliance to their hygiene, dietary and pharmaceutical treatment, which are able to influence the progress of the disease.

Methodology

Sample and data collection

The participants were recruited at a private doctor's office in a suburb of Athens, Greece. They were 9 men and 6 women, with a mean age of 63 years (range 28–73). The data collection method was patient-completed diaries. Diaries allow freedom of expression and the recording of information at the present time or immediately after the fact or the experience (Ross, Rideout, Curson, 1994). Patients kept diaries where they wrote their thoughts and emotions regarding their compliance to their treatment, their hygiene, exercise and dietary habits for a period of two consecutive weeks.

Roughly one month before the study, potential participants were informed by one of the researchers working in the doctor's office about the nature and the objectives of the study and the fact that they would have to complete diaries for two consecutive weeks. They were informed that the diaries and all personal information would remain anonymous, that they would be able to withdraw from the study at any time, and that for any query they have they may contact the researchers.

Diaries were given to 25 individuals who gave their consent to participate in the study; 15 returned completed diaries to the researchers. The patients were encouraged to write freely in the diaries about their everyday routine. More precisely they were asked to report what they eat during the day, if they follow their medication regimen correctly, and if they exercise. Moreover, they were asked to describe their feelings when they deviated from their programme and to report which person played an important role in supporting their compliance to their treatment. There was no restriction in the number of pages.

Data Analysis

Qualitative analysis was performed in order to categorize the words of the text in certain categories according to their theoretical importance (Burns and Grove, 2001). First, the content of the dairies was typed in Microsoft Word. Then, the diaries were read and notes were kept recording anything that was related to the research questions. The transcripts were read several times and then codes were determined accordingly.Afterwards, a list of classifications was made, which contained categories and subclasses according to the codes.

These categories and subclasses were grouped in order to decrease their number, incorporating some of them into similar more general categories. The categories and subclasses became the essential categories included in the final list. Then the diaries were re-read, but this time alongside the final list. In this way the degree to which the categories covered the diaries' content was checked, and adjustments were made when necessary.

Results

Reasons for non-compliance to the recommended treatment

The major reason for non-conformity to treatment is "meeting with friends". The participants cannot resist the temptations and they do not want to find themselves in the unpleasant situation to have to justify their diet.

One patient wrote:

"*On weekends I visit friends at their houses where they offer me sweets. I do not like to decline because of my disease*."

The reasons that employed participants gave for their non-compliance to treatment were the type of employment and work schedule, which impeded their efforts to deal with their diet.

One of them wrote:

"*I work daily from morning until evening and I do not have time to deal with my diet*."

The pressure that the patients feel because of their chronic problem, and the exhaustion caused by their daily attention to the diet, was mentioned in the diaries.

One patient wrote:

"I have been suffering from diabetes for 10 years, I am tired".

Good food, which is considered one of life's pleasures, appears often to be a reason for which the patients do not follow their diet.

Another participant wrote:

"I cannot say that I conform to my treatment because I like food and don't want to be deprived of different flavours".

The reasons for which participants do not follow the doctors' directives on a daily basis with regard to their hygiene-dietary treatment are summarized in Table 1.

The patients' feelings when they do not conform to the dietary treatment vary from complete indifference

to guilt. This can psychologically overload the diabetic and prompt them to abandon their continuous efforts.
One patient declared:
"*Some times when I escape a lot from my diet I am sad and I feel guilty*."

Table 1. Reasons for non-compliance to dietary treatment
Variety of flavours
Work schedule
Scorn of medical directives
Good living and eating
Long-lasting tiredness and pressure
Friends / Company
Indifference about personal health
Greed
Jealousy

Another one mentioned:
"*I don't really care about doctors' orders and I don't feel bad about that.*"
A third one stated:
"*I like eating everything and I feel satisfied*."
Table 2 summarizes the patients' feelings created by their incompliance to the dietary programme.

Table 2. Patients' feelings when they don't conform with the dietary treatment
Anxiety/Guilt
Satisfaction
Dissatisfaction
Sadness
Tiredness/exhaustion
Indifference

Most participants' comments about the actions they take in order to conform to the recommended treatment converge in the opinion that there is no possibility to do anything by themselves for personal/family reasons or because they are used to a certain way of life. The above problems serve as obstacles in their daily efforts for compliance.

Only if these are removed they will be in the position to give the necessary attention to their treatment programme. One patient wrote:
"*I believe that if I had a better family life I could also try for the best*."
Another mentioned:
"*I consider that I am not psychologically ready to follow the doctors' directives*."
A third one pointed out:
"*I feel weak but I don't care about it.*"
Most patients' answers show that the relatives, especially the spouse, the children and the siblings, are the individuals that could help them conform to treatment. Participants consider that a healthy family environment is able to contribute to their positive psychology, so that they would be in a position to endure the daily discipline of the healthy-dietary treatment.

Table 3. Patients actions in order to conform to the recommended treatment programme
Personal efforts
Resolution of personal/family problems
No actions by themselves because of weakness
No actions by themselves because of un-readiness
No actions by themselves because of indifference

One patient declared:
"Nobody else can help me, only myself and my own determination".
Another participant mentioned:
"My personal doctor is the person who encourages me every time I meet him".
A third patient wrote:
"I am very tired. Nobody can help me".

Table 4. Persons that the participants believe could help them to conform to their healthy-dietary treatment
Family
Themselves
Their doctor
No one

Discussion

Factors that are related to diabetic patients' incompliance to the dietary and pharmaceutical treatment

Despite the fact that the literature reports that diabetic patients do not adhere to their pharmaceutical treatment because of economic inability, the participants of this study stated their complete compliance to their pharmaceutical treatment despite the cost (Shafrir et al, 2008; Steitman, 2001). More precisely, the fear of complications from not conforming to their pharmaceutical treatment sufficiently motivates them, while non-conformity to their dietary treatment does not.

The social life of diabetic patients is one of the most important problems (Mirsa et al, 2005; Mellissa-Chalikiopoulou, 2006). The most prevalent reasons for the diabetic patients dietary non-compliance are the feelings of shame, and feeling tired of the need to explain their condition to others and feeling deprived of foods that others enjoy in front of them.

The fast rhythms of daily life, the work schedules in combination with long distances between residence and workplace, are negative factors which hinder the compliance of employed patients. Chronic patients declare that they do not bear the pressure over the years and progressively escape from their treatment more often, a fact that is also mentioned in the literature (Rubin, 2005).

An interesting finding of this study, that is characteristic of the Greek society and which is rarely presented in reports, is the importance that patients attribute to good living and to tasty food. According to the participants, this includes having a variety of healthy food choices without restrictions (Savoca and Miller, 2001).

Diabetic patients' feelings caused by incompliance to their treatment

Sadness or sorrow is often mentioned by diabetics (Power et al, 2005; Gonzalez, 2008; Hoffman et al, 2009). However, in this particular study the patients do not mention only sadness; they also mention feelings of anxiety and guilt which are counterproductive.

Participants often mention feeling tired and exhausted because of their condition's chronic nature. In some cases, exhaustion leads to participants' dissatisfaction about their condition. Their dissatisfaction causes indifference towards the doctors' orders and finally to abandonment of efforts to conform to treatment regimens.

Diabetic patients' influences for compliance

The patients' texts illustrate that family may influence their efforts and pressures them to conform (Cole and Chesla, 2006). In the case of male participants, the wife plays the most important role in influencing their compliance since she is the one who prepares the food and who will encourage the patient to be satisfied with the appropriate quantity and type of food. On the other hand, the husbands' patience towards the wife's diabetes helps her conform. Encouragement and constructive communication between the spouses create an environment which helps deal with the disease.

Doctors may help diabetic patients to conform to their treatment, and their influence is important because patients trust them (Piette et al, 2005; Ratsep et al, 2007). On the contrary, some participants mentioned their scorn of the medical directives, especially to the dietary directives, writing that they do not pay the appropriate attention to these particular directives which are often confusing.

An encouraging and interesting perspective provided by the participants is that their compliance may be influenced by their personal will and self-knowledge. Diabetic patients appear to know very well that the person who can help them the most is themselves. Unfortunately, knowing their abilities is not enough; they also need to be ready to make good use of them, since most of the participants procrastinate. The above fact indicates that these types of patients need psychological and social support.

Actions that the diabetic patient can take in order to conform

Patients wrote in the diaries that their personal efforts are what can lead them to higher compliance to the recommended treatment; however, they pointed out that there is no possibility to do anything by themselves. The reasons for this perception are attributed, in the literature and in this study as well, to personal problems in their everyday routine that concern family, economical, working and other topics (Edge et al, 2009).

Conclusions

Several of the diabetics in this study attributed their non-compliance to weakness, un-readiness, and indifference. Specifically they mentioned the difficulties that emanate from the chronic exhaustion of a difficult daily routine and from their relation with the doctor.

Proper diabetic health education is able to help the patients with issues such as diet or exercise and to recommend a dietary program of glucose regulation, helping to avoid complications (Naidoo and Wlills, 2000). According to the widespread "health belief model" the patients adopt healthy behaviours (pharmaceutical and healthy-dietary), only if they believe that they are frail and prone to present with the particular complications of diabetes.

Instead of using the "health belief model", perhaps the use of a different health model in patients' education such as the internationally named "empowerment model" should be considered.

The above tool aims to give them the power to increase their ability to correctly select what is beneficial for them, and also influences their environment, changing it from neutral or hostile to supporting. This model constitutes a very useful manual for health professionals because it provides the diabetic patient with the knowledge and information that will give them the ability to regain their self-control and to conform completely to their medicinal and dietary regimens (Forbes and While, 2009). The health professional, despite the role of the expert in this model, acquires the role of facilitator-mediator (Browning and Thomas, 2005).

One known model of health promotion could also be useful and constructive in combination with the previous model. The "health action model" supports that the diabetic patients' compliance to the recommended education presupposes their intention to change (Kiger, 2004).

There are many factors that facilitate the process and play an important role in the patients' health. According to the particular model of education, these factors include the socio-economic environment, the environments of family and friends, the working and free-time environments, the knowledge of diabetes, as well as the patients' mental abilities. These are the issues where appropriate institutions should intervene in order to successfully organize a program of health promotion (Rees et al, 2010).

Passivity, un-readiness, weakness caused by chronic disease, ignorance of their disease and its complications, bad doctor-patient relations, insufficient family support, modern conditions of life, having a variety of tasty goods, chronic exhaustion, and the complexity of the condition were all indicated as challenges to patients' health. These are all issues which should be addressed in any new health promotion/intervention.

Further health education via such an intervention is necessary in order to carry out the decisive role of the health provider in the treatment of diabetes via the primary health care system.

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