

Patient satisfaction in a home-based capillary blood glucose self-monitoring educational program**Satisfação do paciente em um programa educativo para automonitorização da glicemia capilar no domicílio**

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ABSTRACT

The aim of this cross-sectional study was to assess the satisfaction of patients with diabetes mellitus (DM) after being provided with an educative program for self-monitoring capillary glucose at home. The convenience sample was made of 29 patients, from two basic health units in a city in the interior of São Paulo, in 2012. Patient satisfaction regarding the diabetes education group was assessed using a questionnaire and a form containing sociodemographic variables. Results showed that most of the patients considered the educative program to be excellent/satisfactory. Regarding the information received, the patients stated it met their needs and that they would recommend the program to other people. In conclusion, investments are needed so that the educative programs provided in health services to people with DM are permanently assessed and use satisfaction as an assessment indicator.

Descriptors: Diabetes Mellitus; Patient Satisfaction; Nursing.

RESUMO

Estudo transversal que teve como objetivo avaliar a satisfação dos pacientes com diabetes mellitus após oferecimento de um programa educativo para automonitorização da glicemia capilar no domicílio. A amostra por conveniência foi constituída por 29 pacientes de duas Unidades Básicas de Saúde de uma cidade do interior paulista, em 2012. Utilizou-se um formulário contendo as variáveis sociodemográficas e um questionário para avaliar a satisfação dos pacientes em relação ao grupo de educação em diabetes. Os resultados mostraram que a maioria dos pacientes considerou o programa educativo como excelente/satisfatório. Quanto às informações recebidas, os pacientes referiram que elas atenderam às suas necessidades e que recomendariam o programa educativo a outra pessoa. Conclui-se que há necessidade de investimentos para que os programas educativos disponibilizados nos serviços de saúde às pessoas com DM sejam permanentemente avaliados e que utilizem a satisfação como um indicador de avaliação.

Descritores: Diabetes Mellitus; Satisfação do Paciente; Enfermagem.

INTRODUCTION

Healthcare managers and healthcare teams perceive the satisfaction of patients as an improvement of the care offered in rendered services⁽¹⁾. The concept of satisfaction prioritizes the patient in healthcare quality assessments. There are several different measurement models, but all of them presuppose the approach of the patient's perceptions, expectations, values and desires⁽²⁾.

The satisfaction of patients may be defined as the assessment envisioned by each individual in distinct healthcare dimensions⁽²⁾. Such construct has become a research object due to the repercussions it brings to the enhancement in the number of patients who adhere to prescribed treatments; additionally, it provides valuable information for healthcare professionals and increased attendance to the services⁽¹⁻²⁾.

International studies have shown the increased satisfaction of patients with diabetes mellitus (DM) in self-monitoring programs⁽³⁻⁴⁾. Monitored patients present higher satisfaction with the self-monitoring frequency in a six-month interval in comparison with those who are monitored at every three months⁽³⁾. The enhancement of the satisfaction level of patients with the treatment results from the diminishment of social burdens and interferences in their daily activities, thus reflecting the psychosocial impact of the therapy in their lives⁽⁴⁾.

In Brazil, following the strengthening of the social control carried out by the Unified Health System (SUS, as per its acronym in Portuguese), the first studies on patient satisfaction with healthcare services were initiated in the 1990s⁽⁵⁾.

Most studies concerning the satisfaction of patients with healthcare services focus on adherence to treatment, accessibility, infrastructure, waiting time, relationship with healthcare professionals, and problem-solving capacity^(1,6-7). In the present time, healthcare managers have permanently included the assessment of quality indicators related to the satisfaction of patients with healthcare services in service planning processes⁽⁸⁻¹¹⁾.

On the other hand, studies related to the assessment of the quality of services rendered to patients with diabetes mellitus (D) in capillary blood glucose self-monitoring programs are still very scarce⁽¹²⁻¹³⁾. Such assessment is quite relevant in the Brazilian context, as this program was quite recently implemented in the healthcare public network (2006).

In face of the above-mentioned information, the aim of the present study was to assess the satisfaction of patients with DM who were offered a home-based capillary glucose self-monitoring educational program. Satisfaction research stands out as relevant studies, as they offer feedback on the interventions carried out by healthcare teams, and thus promote improvements in the services. Results are expected to become subsidies toward the strengthening of healthcare educational groups.

METHODOLOGY

The present quantitative, descriptive, cross-sectional study was carried out in two Primary Healthcare Centers (PHC) of the West District of the Municipal Public Health Department of a city in the countryside of the state of São Paulo in 2012. These Healthcare Centers were selected because of their location at the West District and due to their connection with the university. The study sample was composed of 35 patients with DM registered in the home-based Capillary Glucose Self-Monitoring Program (AMGC, as per its acronym in Portuguese) who participated in the educational program applied in a randomized clinical study carried out in 2011. The AMGC was launched in November 2005, in compliance with Municipal Law number 10299/04, which defines protection norms to people with DM toward guaranteeing home-based AMGC's inputs. The inclusion criterion was the participation in the educational program implemented in 2011.

Of the 35 subjects who participated in the educational program, one deceased patient was excluded; two were excluded for not having a home

contact number; two were excluded for having moved to another address and city; and two were excluded for refusing to participate in the study. Hence, the final convenience sample was comprised of 28 individuals with DM.

Two instruments were employed in the data collection process: a form with sociodemographic (gender, age, educational level, family income, occupation) and clinical variables (time of diagnosis, treatment toward controlling DM, and presence of co-morbidities); and a questionnaire with qualitative variables aimed at assessing the satisfaction of patients regarding the educational group on diabetes. Among the available satisfaction assessment instruments regarding the educational programs on diabetes, the questionnaires are a highlight. These instruments enable the approach of aspects related to the treatment and understanding of emotional and social factors related to the care service toward people in chronic health conditions.

This study made use of a questionnaire elaborated by specialists of the International Diabetes Center (IDC), from Minneapolis, Minnesota, USA. The questionnaire had already been translated and adapted to Portuguese by a previous study on the satisfaction of patients with DM⁽¹⁴⁾. The questionnaire is composed of eight questions, five being closed-ended and three open-ended questions. Closed-ended questions presented a blank space for patients to justify their “yes” or “no” answers. Open-ended questions addressed the following aspects: information on diabetes learned by patients in the group; their feelings regarding the DM control prior to and after accessing the group; and recommendations of the AMGC group to other people with diabetes. The produced reports related to the open-ended questions, as well as to the justifications for the answers to the closed-ended questions, were grouped by similarity. Descriptive analysis was employed in the assessment of answers related to the satisfaction of patients, and results were expressed in absolute numbers and in percentages.

The patient recruitment process was carried out by phone. One month after the first phone contact, another phone call was made to each of the 29 subjects in order to confirm their preferred day and time for the interview and signature of the Free and Informed Consent Form. The data collection process was carried out in the second semester of 2012, and lasted for an average of 30 minutes. Descriptive statistics was employed in the data analysis process. The research proposal was approved by the Research Ethics Committee under protocol number 418.

RESULTS

Of the 29 (100%) approached patients, the majority were women, predominantly in the 50-69 year-old age group. As for educational level, the majority had not finished elementary school, and displayed more than one co-morbidity, with highlights to hypertension and dyslipidemia. Regarding the use of medications, all participants made use of insulin in their treatment. And as for the number of consultations per year, half of patients had carried out between one and four consultations per year.

Regarding the satisfaction level of patients with DM after the implementation of the educational program, the answers to each open-ended question were grouped and described. Table 1 shows the numeric distribution and percentage to the answers, according to the frequency expressed in absolute numbers and percentages.

Table 1: Numeric distribution and percentage of answers to the research questions, Ribeirão Preto, SP, 2012.

Answers	n (%)
Learning on diabetes in the home-based AMGC program	
Improved feeding control	19 (65.51)
How the disease changes patients' interpersonal relationships	9 (31%)
Knowledge of inputs	7 (24.1)
Restrictions caused by the disease	4 (13.7)
Physical exercise toward controlling the disease	3 (10.3)
How to cope with the disease	3 (10.3)
Learning on the control of diabetes and the blood glucose level	
Enhancement of previous knowledge	7 (24.1)
Incentive/Motivation	7 (24.1)
Correct control of the disease	4 (13.7)
Feeding control	4 (13.7)
Knowledge of the disease	3 (10.3)
Living with diabetes	3 (10.3)
The group did not meet the needs	2 (6.8)
Learning on feeding and physical activities	
Sufficient information	8 (27.5)
Incentive to physical exercises	8 (27.5)
Improvement of knowledge on feeding and physical activities	5 (17.2)
Incentive to food plan	3 (10.3)
Reason for recommending the AMGC group to other people	
Learning	13 (44.8)
Exchange processes with other people who experience the disease	9 (31)
Enhancement of existing knowledge	6 (20.6)
Feelings related to the control of diabetes prior to and after the AMGC program	
Enhancement of control of diabetes	9 (31)
Improved treatment and acceptance of the disease after the group experience	7 (24.1)
Group provided knowledge about the disease	7 (24.1)
The care for the disease occurred only during the group activities	3 (10.3)
Lack of improvement concerning the treatment	1 (3.4)

The results related to the satisfaction level of patients with the learning process acquired in the home-based AMGC Program showed that 19 (65.5%) participants referred to improvements in feeding control levels; nine (31%) referred to improvements of interpersonal relationships; and seven (24.1%) pointed out improvements of the knowledge on available inputs, according to the following statements:

[...] *I learned how to control the food, how not to eat too much, and to get to know the food groups [...] I learned to always have a candy at hand [...] I learned that it's not enough to control the sugar level [...] My self-esteem was improved [...] I learned with other people's examples [...] I learned how to store insulin [...] I learned about the*

technique and the timetable for insulin administration [...].

As for the control of diabetes and blood glucose, results showed that seven (24.1%) patients referred to an enhancement of their previous knowledge; seven (24.1%) indicated incentive and motivation; and four (13.7%) pointed out a correct control of the disease. The following statements illustrate the benefits perceived by patients.

[...] *my knowledge was updated, I'm now aware of these issues [...] I reeducated myself [...] I did not have any knowledge about several things they teach there [...] I received enough incentive to carry the treatment in a more effective way [...] I was encouraged to correctly proceed the treatment [...] I learned a lot; before the*

program, I did everything wrong, and kept doing it incorrectly [...].

Regarding the reasons for the recommendation of the educational program to other people, 13 (44.8%) patients referred to the achievement of new learnings, and nine (31%) pointed to the exchange processes with other people who had the same disease, in accordance with the following statements:

[...] I learned very much and they also did [...] learning that is not conveyed by the doctors [...] we exchange and share experiences on the disease with other people [...] experience exchange, education and patience [...] enhanced knowledge on the disease, in addition to the new friendships [...].

Regarding the feelings of patients in relation to the control of diabetes prior to and after their participation in the educational program, nine (31%) pointed to an enhancement of control of diabetes, and seven (24.1%) referred to the progression of the treatment and acceptance of the disease after accessing the group, according to the following statements:

[...] I already had it under control, but it enhanced after accessing the group [...] my control was improved, because my glucose was very high before, now it is under control [...] I felt that if I did not carry out the treatment I would die, then, this feeling improved a lot after I accessed the group [...] prior to the group, I did not accept the treatment, now I accept it well [...] after my participation in the group I was even more encouraged with the treatment, as I was not able to control it before [...].

As for the assessment of the educational program, the study showed that the majority (62.06%) of patients deemed it to be excellent/satisfactory. Regarding the quality of received information, all 29 (100%) patients referred that, in addition to meeting their needs, they

would also recommend it to other people with the same disease.

DISCUSSION

The data resulting from the sociodemographic characterization of participants corroborate another study aimed at assessing the satisfaction level of patients in chronic conditions⁽¹⁴⁻¹⁵⁾.

Analysis of the satisfaction of patients regarding what they learned in the AMGC Program on diabetes shows that the needs of patients are related to the way they value each aspect of the treatment, and suggests that the learning process is based on the professional-patient relationship and on the combination of information demand and supply. The results of this study showed that the participation of patients in home-based capillary blood glucose self-monitoring educational programs enabled them to take hold of the knowledge related to the inputs, self-knowledge, and maintenance of glycemic values and prevention of acute complications. We can quote, for instance, the option for better food and the steady provision of glucose in case of hypoglycemic emergencies⁽¹²⁻¹³⁾.

In face of that, home-based capillary blood glucose self-monitoring educational programs should reinforce the need for maintaining a daily record of food habits and glycemic profiles. Such behavior may lead patients with DM to reflect on the disease and allow for a more autonomous decision-making strategy to cope with it. A randomized controlled study also pointed out that such programs show efficiency only when they are followed by the clear interpretation of food plan orientations and glycemic records obtained at home⁽¹⁶⁾.

In this sense, the reports related to the nutritional therapy of patients, an essential component to the success of metabolic control, may stand out as a relevant element in educational programs aimed at the assessment of the satisfaction level of participants. The enhancement of knowledge allowing for the rational use of inputs, that is, the optimization of test strips and the

adequate use of the glucometer, also emerged as a satisfaction indicator to people with DM in the reports⁽¹⁶⁾.

The statements related to the patients' learning on blood glucose level and control suggest that the agreed alterations of diabetes control rules proposed by healthcare professionals keep patients motivated toward the adoption of behavioral changes in their lifestyle, as they start realizing that the control of their lives is on their hands. Such comprehension causes them to be more responsible and aware of their own decisions. Hence, their satisfaction level with the received care may generate a promptness to the self-care.

Regarding the DM control, 19 (65.5%) patients referred to have control of the disease, which agrees with other studies highlighting that the patient's satisfaction level is proportional to adherence to treatment and therefore to their perception of control of the disease⁽⁸⁾.

Self-care practices constitute a crucial aspect of educational programs. In this sense, the empowerment of patients as co-participants in healthcare decision-making processes has been intensely emphasized as a strategy that favors the metabolic control. When patients are well informed and take part in the decisions regarding their own treatment by means of supported self-care, anxiety symptoms decrease and adherence to treatment tends to improve⁽¹⁷⁾.

Motivation, incentive and encouragement provide patients with the possibility of coping with the disease in a more independent way; additionally, these attitudes also favor the comprehension of the complex factors related to the drug or nondrug therapy, and the acute and chronic complications of DM^(3,14). However, the above-mentioned aspects are effective only when patients realize that their needs are being satisfied by means of the sheltering and the strengthening of their bonds with care services and healthcare professionals⁽¹⁴⁾.

The analysis of the motives to recommend the educational program to other people shows that the program granted patients opportunities to express needs, perceptions and feelings, thus allowing them to match

personal experiences and health-disease processes. The satisfaction to participate in an educational group caused patients to consider that such experience can promote learning, knowledge and especially the understanding that a chronic disease, such as the diabetes, demands patience, discipline and a sharing spirit and mutual collaboration.

The satisfaction of patients with educational programs stands out as a reflexive process on self-care practices aimed at controlling the disease. The reflections produced in educational groups lead individuals to influence the group as a whole based on their personal characteristics, singular worldviews, interests, skills, desires and frustrations⁽¹²⁻¹⁴⁾. The connection between patient and professional, and between the patient and other participants in the group, stand out as fundamental elements toward the construction of new alternatives to manage the disease.

The assessment of feelings concerning the control of diabetes prior to and after the patients' participation in educational programs shows that the exchange processes occurring in a group that gathers people with similar problems and contexts generate experiences that may favor the development of a therapeutic environment, such as mutual encouragement toward accepting both the disease and proposed treatments. This condition helps patients overcome obstacles, especially due to the possibility of receiving corrective feedback and constructive suggestions from others who experience the same problems, and who share similar limitations related to the management of the disease and self-care practices⁽⁶⁾.

The results of the assessment of the educational program comply with the data obtained in a study carried out in eight hospitals located in six Mexican cities involving 1,232 patients. The research assessed the satisfaction level of patients with hypertension and diabetes and showed that over half of the patients were satisfied with the care they were receiving⁽¹⁵⁾.

Another study performed in Blumenau, Santa Catarina, aimed at assessing the correlation between the satisfaction of 341 patients with DM assisted by the Family Healthcare Program with the service and their lack of adherence to treatment showed that 81.7% of the interviewees were satisfied with the service framework and their access to consultations⁽¹⁸⁾.

The satisfaction level of patients with diabetes with healthcare services is particularly important, as the rendered care services are provided in the long-run, under a constant interaction between patients and healthcare services throughout all phases of their disease. In this sense, the satisfaction of needs and expectations of patients may maintain their collaboration in the care and management of the disease.

CONCLUSIONS

The present study reveals that the majority of patients deemed the AMGC Educational Program to be

excellent/satisfactory, and recognized its relevance to meet their needs, which led them to highly recommend it to another person. Being the first study within the Brazilian context to assess the satisfaction of patients of an AMGC program, the achieved results offer significant subsidies for future studies, aiming at comparing and deepening this issue. Taking established inputs and protocols into account, the results can also point out valuable strategies toward structuring self-monitoring educational programs.

On the other hand, in order to achieve a broader comprehension of this phenomenon, healthcare professionals should also be involved in the research, and this was one of the limitations of this study.

Bearing in mind the results of this research, we recommend that future investments in educational programs made available at healthcare services to people with DM be permanently assessed and make use of the patient's satisfaction level as a significant indicator.

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