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EXPERIENCE REPORT

Conversation map: an educational strategy in the care of elderly people with diabetes mellitus

Mapa de conversação: estratégia educativa no cuidado ao idoso com diabetes mellitus

Mapa de conversación: estrategia educativa de cuidado al anciano con diabetes mellitus

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ABSTRACT

Objective: To report the experience of using diabetes conversation maps as an educational strategy for diabetic elderly people. **Method:** Experience report, conducted from July to December 2016 in a specialized outpatient clinic for diabetics, in Fortaleza, Ceará, Brazil. A total of 72 users participated, between diabetics and those accompanying them. **Results:** The participants talked about issues that were not addressed in personal consultations, and could see themselves through the stories of others, thus realizing they were not alone and that others also experienced the same difficulties as them. Through empathy and the accounts of others, participants built knowledge and practices for their own daily lives. **Final Considerations:** The conversation map enables professionals to empower patients with diabetes, promoting self-care and ensuring better control over the disease, in order to prevent or delay the onset of related complications.
Descriptors: Diabetes Mellitus; Health Education; Patient Acceptance of Health Care; Health of the Elderly; Nursing.

RESUMO

Objetivo: Relatar a experiência da utilização de mapas de conversação em diabetes como estratégia educativa ao idoso diabético. **Método:** Relato de experiência, desenvolvido de julho a dezembro de 2016, realizado em ambulatório especializado no atendimento de diabéticos, em Fortaleza, Ceará, Brasil. Participaram 72 usuários, entre diabéticos e acompanhantes. **Resultados:** Os participantes discorreram sobre assuntos que não são relatados nas consultas individuais, pois o participante se vê por meio do relato do outro e, quando se expressa, percebe que não está sozinho, outros também passam pelas mesmas dificuldades. Mediante a empatia e a fala do outro, o participante constrói saberes e práticas para o próprio cotidiano. **Considerações Finais:** O mapa de conversação permite ao profissional realizar o empoderamento do paciente com diabetes, promovendo o autocuidado e garantindo melhor controle da doença, de forma a prevenir ou retardar o surgimento de complicações relacionadas.
Descritores: Diabetes Mellitus; Educação em Saúde; Aceitação pelo Paciente de Cuidados de Saúde; Saúde do Idoso; Enfermagem.

RESUMEN

Objetivo: Relatar la experiencia de utilización de mapas de conversación sobre diabetes como estrategia educativa para el anciano diabético. **Método:** Relato de experiencia desarrollado de julio a diciembre de 2016, realizado en servicio ambulatorio de atención de diabéticos, en Fortaleza, Ceará, Brasil. Participaron 72 pacientes, entre diabéticos y acompañantes. **Resultados:** Los participantes conversaron sobre temas no informados en las consultas individuales, pues el participante se observa en el relato del otro y, cuando se expresa, percibe que no está solo; otros también pasan por las mismas dificultades. Mediante la empatía y el discurso del otro, el participante construye saberes y prácticas para su propio día a día. **Consideraciones Finales:** El mapa de conversación permite que el profesional realice el empoderamiento del paciente con diabetes, promoviendo el autocuidado y garantizando mejor el control de la enfermedad, de modo tal de prevenir o retardar el surgimiento de complicaciones relacionadas.
Descriptores: Diabetes Mellitus; Educación en Salud; Aceptación de la Atención en Salud; Salud del Anciano; Enfermería.

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INTRODUCTION

Population aging has brought with it an increased number of chronic noncommunicable diseases, including diabetes mellitus (DM), since these conditions tend to manifest more significantly among elderly people. Chronic noncommunicable diseases can give rise to an incapacitating process that affects the functionality of older people, i.e., hinder or prevent carrying out daily activities in an independent way. Although not fatal, these conditions generally tend to undermine considerably the quality of life of elderly people[1].

Among people from 65 to 79 years old, DM affects 94.2 million worldwide, with projections of 200.5 million in 2040. Brazil ranks fourth in the world in terms of the number of people living with DM, with 14.3 million individuals between 20 and 79 years of age. Every year, the number of people with DM grows, which leads to lifestyle changes as a result of treatment and/or complications of the disease[2].

The increased prevalence of DM is due to factors such as population growth and aging, the urbanization process, globalization of unhealthy habits, the growing pervasiveness of obesity and sedentary lifestyles, as well as longer survival of DM patients. In addition, costs associated with DM include intensified use of health services, loss of functional productivity and disability. As a result, DM imposes a heavy burden on individuals, families and health systems, and constitutes a significant obstacle to sustainable economic development[3].

The prevalence of type 2 diabetes mellitus (DM2) increases with age, especially in individuals over 65 years old. Elderly people are prone to exactly the same diabetes-related complications as young people, with one important difference: the risk of cardiac and vascular complications is much greater since age is an aggravating factor. This factor justifies the need for special care for this population. Furthermore, diabetic as opposed to non-diabetic older people are more likely to be polymedicated and to experience functional loss, cognitive problems, depression, falls and fractures, urinary incontinence and chronic pain[4].

In view of all the physiological changes inherent in the aging process that can interfere with the self-care of elderly people with diabetes mellitus, health education represents a health promotion strategy, insofar as it seeks to empower older people with DM to examine their condition, encouraging self-care and developing a sense of co-responsibility for their health. Educational support, through health technologies, can have a positive impact on the behavior of people with diabetes.

Health technologies are divided into soft, soft-hard, and hard. Soft technologies are those related to reception, subjectivity, and empathy between professionals and patients, which strengthens relationships and promotes trust; soft-hard technologies involve the application of knowledge and the use of educational instruments such as posters, pamphlets, information booklets and conversation maps, which serve as teaching-learning facilitators; hard technologies refer to equipment, tests, drugs and digital technology, among others[5].

The diabetes conversation map is an educational strategy created by the International Diabetes Federation, developed on the basis of playful, interactive illustrations, containing metaphors on the chronic condition of diabetes and the daily situations experienced by health services users. It can serve as a medium for sharing personal experiences and encompasses feelings, support networks and healthy lifestyle practices[6].

Conversation maps combine various educational theories and have proven to be an internationally effective diabetes education technology for self-care management. This prompts the question: Can the use of diabetes conversation maps improve knowledge, self-care activities, training and glycemic control in elderly people? These diabetes education programs have the potential to result in better health outcomes for people and should reduce hospital stays and complications related to diabetes[7].

OBJECTIVE

Within this context, the objective of the present study is to report the experience of using diabetes conversation maps as an educational strategy for older diabetic adults.

METHOD

This was a descriptive qualitative, experience report study conducted in an outpatient clinic specialized in caring for diabetics, in Fortaleza, Ceará, Brazil, in the period from July to December 2016.

The patients were selected in advance at two distinct moments: first, the patients' medical records were reviewed the day before the consultation with the endocrinologist, to assess the patients' care needs. It also sought to identify those with diagnoses dating ten years ago or longer, risk factors for developing complications and/or glycemic control, outside of the goals recommended by the Brazilian Diabetes Society. The second moment was a screening on the day of the consultation, through which patients with a certain degree of decompensation or presence of complications were sought.

After the selection, the patients were invited to participate in the group, along with their respective caregivers. The sample was comprised of 72 health services users: 53 who suffered from type 2 diabetes mellitus and were 60 years of age or older, plus 19 caregivers of these patients. Patients who did not meet the established criteria were excluded.

The educational activities occurred before the medical consultation, in a private, air-conditioned, quiet room. The frequency of the activities was weekly, over a 12-week period, with each session lasting approximately 60 minutes. Each group had at least three to ten users. The workshop facilitators were nurses, nutritionists and physical therapists from a multidisciplinary residency program in hospital health care, focused on diabetes care, in addition to their respective preceptors from the endocrinology service. As a soft-hard teaching-learning technology, a conversation map specifically for individuals with diabetes was used. The educational workshops were recorded in a minute book of the health service, containing the facilitator of the activity, number of participants, topic addressed and the most prevalent questions from users, as well as the date and duration of the activity.

With respect to the agenda, the participants and facilitators introduced themselves. Then, the map was presented and the participants were asked what drew their attention the most. It is important to note that the facilitator, i.e., the person who carried out the educational activity, guided the session with questions that would foment discussion and cause everyone to participate and avoided focusing on explanations of the content, which helped create a non-threatening environment so that everyone could learn from each other. The results were analyzed according to the literature and presented in a descriptive way.

The study respected the formal requirements contained in national and international standards that regulate studies involving human subjects, as is the case with experience report studies.

RESULTS

The groups started off with the facilitators introducing themselves, after which the participants were invited to introduce themselves, giving their name, where they were from, length of time of diagnosis of diabetes and whether they used insulin. The participants and facilitators were seated in a conversational circle, where conversation maps where placed in the center, so that everyone could see and discuss them. First off, the facilitator asked the patients which elements of the map drew their attention.

The maps that were used were based on the following topics: How the body and diabetes work; Healthy eating and physical activity; Achieving goals with insulin; Understanding the many diabetes control factors; and Diabetes and foot care. The issues were selected according to the profile of the users who would see the endocrinologist that day, i.e., depending on the assessment of their main needs.

Map 1 - How the body and diabetes work

In terms of the map "How the body and diabetes work", it covered the basic principles of health education for diabetics, i.e., the metabolic function of people with and without diabetes, risk factors and long-term complications, myths and truths about DM, glycemic self-monitoring and the emotions that diabetic people experience. The map compared the body of a healthy individual to that of a diabetic using a factory as a model, to help users understand the concept.

The participants observed figures, commented on the metaphor used in the illustrations to simulate the human body, and tried to decipher what the image transmitted. Some information was shared due to contact with television, social networks and the Internet. The educational activities sought to associate technical-scientific knowledge with the reality lived by the participants, breaking with the traditional information transmission model.

During the discussion, there were many questions about the pathophysiology of DM2, the main complications, how to avoid complications and especially, the difficulties in making lifestyle changes. The participants conversed together about these issues, sharing experiences and comforting one another. When necessary, the facilitator intervened and provided answers.

Map 2 - Healthy eating and physical activity

The "healthy eating and physical activity" map was represented by a fair with various types of food that diabetics might find in their daily routine. This map sparked discussion of topics such as quantity, quality and opinions about the foods, nutritional components, meal planning and other healthy eating strategies. The importance of physical activity and being active was also discussed.

During the sharing of stories and experiences in the group, a major lack of knowledge was noted in regard to which foods diabetic patients may eat, and the quantities and quality of these foods. With respect to physical activity, the individuals were more knowledgeable in this area, which made the group dynamic, participatory and increased the sharing of experiences. It also served as an incentive for sedentary patients to start and/or resume physical exercise and to learn more on the subject.

Map 3 - Achieving goals with insulin

The "Achieving goals with insulin" map addressed the use of insulin as a treatment for DM, symbolized by a city square, in which patients found various aspects related to their therapies.

It explored the psychological aspects that patients faced when they started insulin treatment, and answered common questions related to this theme. With the help of graphs, the onset of action of insulin was addressed, as well as their different formats: bottles, insulin pens and continuous infusion systems. Another topic covered was the storage of insulin at home and how to transport it, insulin application sites and the importance of rotation to prevent lipodystrophies.

Myths and truths regarding insulin therapy were also discussed. This was a particularly interesting time, since it was possible to address various issues, many of which were considered old wives' tales. It was evident that there is little information about this type of treatment, which gives rise to myths, such as the sensation of "punishment" that the application of insulin represents in the eyes of many. The health professional sought to debunk these commonly held ideas.

Map 4 - Understanding the many diabetes control factors

The map "Understanding the many diabetes control factors" depicted the problems related to chronic macrovascular and microvascular complications through the illustration of a volcano erupting on an island, which was called the "island of complications". The risk factors for these complications were compared to triggers of the volcanic eruption.

Below the island of complications, there was a boat that navigated among modifiable and non-modifiable risk factors. Based on this, the facilitator generated a discussion about how lifestyle changes can prevent complications. The map also emphasized the importance of doing periodic tests, such as fasting glycemia, glycated hemoglobin (HbA1c), triglycerides and cholesterol, to monitor and track these complications. In order to facilitate the educational activities, posters with reference values were used.

In the end, the boat arrived at its destination: another island, desired by all, where the modifiable risk factors were controlled, together with proper diet and physical exercise, and the use of the prescribed medications.

Through the use of this conversation map, group sessions were constructed in relation to daily life. The participants showed interest in the topic and discussed the risk factors for the development of complications. They often talked about issues that were not addressed in personal consultations, and could see themselves through the stories of others, thus realizing they were not alone and that others also experienced the same difficulties as them. Through empathy and the accounts of others, participants built knowledge and practices for their own daily lives.

Map 5 - Diabetes and foot care

The "Diabetes and foot care" map addressed the following themes: observing your feet; cleaning and taking care of your feet; protecting your feet; and in the doctor's office or foot clinic. This map enabled diabetics to learn how to care for their feet in daily situations.

On the topic "Observing your feet", the mediator discussed with the group the right way to observe one's feet, helping identify warning signs, such as calluses, dehydrated skin and reduced sensitivity. In the presence of these signs, the participants were shown how to reinforce home foot care and when to seek medical care. During the discussion of the theme, participants who had already engaged in these practices shared their experiences.

On the topic, "Cleaning and taking care of your feet", there were discussions and sharing of experiences related to preventive actions and how to take care of their feet. The participants were given tips on foot hygiene and hydration, as well as toenail care. When the mediator covered the subject of "Protecting your feet", the importance of foot protection measures was emphasized, through the use of appropriate footwear and sunscreen. The next stop on the map was the topic "In the doctor's office or foot clinic", which emphasized the need for follow-up by qualified and specialized professionals and annual screening for morphological, sensory and circulatory changes in diabetics.

During the use of the map, it was noted that most of the individuals were unfamiliar with the practices presented and shared, even though they had already experienced risk situations at some point in time, such as the use of inadequate footwear, formation of calluses and their development into injuries.

DISCUSSION

Some of the objectives of continued education programs for diabetic elderly people are to facilitate adherence to treatment, reduce complications arising from the disease and improve quality of life. Corroborating this perspective, some studies found there was improved adherence to treatment and better disease control through using the "diabetes conversation map" educational technology.

An experimental study conducted in Australia found there was a statistically significant improvement in glycated hemoglobin through the education done with the maps, when compared to conventional educational approaches. The results also indicated improvements in relation to the knowledge, self-care activities and training of users[7].

A controlled clinical test conducted in Greece, in 2015, where conversation maps were used with groups of DM2 patients (n = 193), sought to assess the effectiveness of conversation maps by comparing them with individual education, through an evaluation of glycated hemoglobin levels, body mass index (BMI) and lipid profile. The study also detected a significant decrease in HbA1c levels by the end of the meetings and a larger number of patients with HbA1c < 7 during follow-up among participants from the intervention group. There was no evidence in terms of changes in BMI in the six months following the study. However, there was a decrease in BMI at the end of the intervention group. Only in relation to HDL there was a significant variation between the two groups. In the intervention group, there was a considerable reduction in triglyceride and LDL levels, whereas HDL levels decreased after six months in the control group[8].

In another randomized study conducted in China, it was also possible to demonstrate the importance of conversation maps in DM control. There were two groups in the study: an intervention group with diabetes education sessions with conversation maps that lasted one hour each, over a four-week period; and a control group which received conventional education based on the same time parameters. Forty-six diabetics participated in this study, and were assessed three and six months after the intervention. It was possible to note that the intervention group, in relation to the control group, achieved significant improvements in the diabetes anxiety scale and a higher score in relation to knowledge about the pathology. HbA1c, after three months of interventions, was significantly lower in the intervention group, compared to the control group[9].

Educational activities carried out with elderly people and family members, through conversation maps, resulted in greater integration of the multidisciplinary team with participants and provided a dynamic and empathetic environment for sharing experiences, clarification of issues and behavioral changes in daily activities to control diabetes.

Aging leads to less independence among individuals with DM. Since most elderly patients with chronic diseases live in adverse socioeconomic conditions, they require complex care from health teams in order to optimize their care. It is up to professionals to involve the caregivers and family members responsible for these elderly people and encourage them to participate in the consultations and educational activities, such as the conversation map, which transmits knowledge and the importance of their role in the lives of these individuals[10].

Elderly DM patients need to receive a different type of care. Among the main care objectives for older people with diabetes is encouraging them to maintain their independence and strengthen the empowerment process for self-care and adherence to treatment. To achieve this, users must understand the disease, the potential complications and its proper management, as well as the importance of pharmaceutical treatment for better metabolic control.

Group activities and interactive discussion enable flexibility for discussing more relevant topics, demonstrating a potential

field for therapy and learning; thus, there is integration of the knowledge of patients, students and teachers[3]. During the workshops that were held, good interaction was noted between users and facilitators, which generated a harmonious and trusting environment, and contributed to the acquisition of knowledge and responsibility in relation to self-care.

Limitations of the study

Among the restrictions was the time for implementation of the maps, since the workshops were held before the medical consultations, which often created a climate of anxiety among users.

Contributions to the area of nursing and public health

Conversation maps enable professionals to empower patients with diabetes, and thereby promote self-care and ensure better control over the disease, in order to prevent or delay the onset of related complications. The validation of this instrument by the International Diabetes Federation makes this group educational strategy an evidence-based practice, whose effectiveness has been proven in other studies.

FINAL CONSIDERATIONS

The use of diabetes conversation maps made it possible to observe how users view their disease. It showed that they were more interested in the advice of fellow participants than the conventional words from professionals. The experience of using the map was also enriching for the multidisciplinary team, since it enabled sociocultural learning among the patients involved, drawing them closer to each other.

Themes from the daily lives of diabetics were addressed, such as the pathophysiology of the disease, complications, nutrition, exercise, foot care and psychological problems. Ultimately, it created an environment free from preconceptions and stigmas, which favored the participation of those suffering from the disease, and resulting in learning within the group.

Therefore, it is suggested that further studies be conducted, especially at the national level, on the implementation of conversation maps among individuals with other types of chronic noncommunicable diseases, in order to demonstrate the advantages and impact of this soft-hard technology in the promotion of health.

REFERENCES

1. Stopa SR, César CLG, Segri NJ, Goldbaum M, Guimarães VMV, Alves MCGP, et al. Self-reported diabetes in older people: comparison of prevalence and control measures. Rev Saude Publica [Internet]. 2014[cited 2017 Jan 03];48(4):554-662. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4181106/
2. International Diabetes Federation. IDF. Diabetes Atlas[Internet]. Brussels, Belgium: International Diabetes Federation. 17a. ed. 2015[cited 2017 Jan 03]. Available from: https://www.idf.org/e-library/epidemiology-research/diabetes-atlas/13-diabetes-atlas-seventh-edition.html
3. Sociedade Brasileira de Diabetes. SBD. Diretrizes da Sociedade Brasileira de Diabetes: 2015-2016. [Internet]. São Paulo: AC Farmacêutica. 2016[cited 2017 Jan 03]. Available from: http://www.diabetes.org.br/profissionais/images/pdf/DIRETRIZES-SBD-2015-2016.pdf
4. Mello APA, Belo LAO, Pontes AEB, Pagotto V, Nakatani AYK, Martins KA. Estudo de base populacional sobre excesso de peso e diabetes *mellitus* em idosos na região metropolitana de Goiânia, Goiás. Geriatr Gerontol Aging[Internet]. 2016[cited 2017 Feb 03];10(3):151-7. Available from: http://ggaging.com/details/374/pt-BR/population-based-study-of-overweight-and-diabetes-mellitus-in-elderly-in-the-metropolitan-area-of-goiania–goias
5. Fernandes MTO, Silva LB, Soares SM. Utilização de tecnologias no trabalho com grupos de diabéticos e hipertensos na Saúde da Família. Ciênc Saúde Colet [Internet]. 2011 [cited 2017 Feb 03];16(Suppl 1):1331-40. Available from: http://www.scielo.br/pdf/csc/v16s1/a67v16s1.pdf
6. Salinero-Fort MA, Pau ECS, Arrieta-Blanco FJ, Abanades-Herranz JC, Martín-Madrazo C, Rodés-Soldevila B, et al. Effectiveness of PRECEDE model for health education on changes and level of control of HbA1c, blood pressure, lipids, and body mass index in patients with type 2 diabetes mellitus. BMC Public Health[Internet]. 2011 [cited 2017 Jan 25];11:267. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3098792/
7. Kewming S, D'Amore A, Mitchell EKL. Conversation Maps and Diabetes Education Groups: An Evaluation at an Australian Rural Health Service. Diabetes Spectr[Internet]. 2016 [cited 2017 Jan 25];29(1):32-6. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4755459/
8. Merakou K, Knithaki A, Karageorgos G, Theodoridis D, Barbouni A. Group patient education: effectiveness of a brief intervention in people with type 2 diabetes mellitus in primary health care in Greece: a clinically controlled trial. Health Educ Res[Internet]. 2015 [cited 2017 Jan 26];30(2):223-32. Available from: https://academic.oup.com/her/article-lookup/doi/10.1093/her/cyv001
9. Li F, Yao P, Hsue C, Xu J, Lou Q. Impact of "Conversation Maps" on diabetes distress and self-efficacy of Chinese adult patients with type 2 diabetes: a pilot study. Patient Prefer Adherence[Internet]. 2016 [cited 2017 Jan 26];10:901-8. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4889097/
10. Costa NP, Polaro SHI, Vahl EAC, Gonçalves LHT. Storytelling: a care technology in continuing education for active ageing. Rev Bras Enferm [Internet]. 2016[cited 2017 Feb 05];69(6):1132-39. Available from: http://www.scielo.br/pdf/reben/v69n6/en_0034-7167-reben-69-06-1132.pdf