DIABETES MELLITUS: ESTRATÉGIAS DE EDUCAÇÃO EM SAÚDE PARA O AUTOCUIDADO
DIABETES MELLITUS: HEALTH EDUCATION STRATEGIES FOR SELF-CARE
DIABETES MELLITUS: ESTRATEGIAS DE EDUCACIÓN EN SALUD PARA EL CUIDADO PERSONAL

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RESUMO

Objetivo: descrever as principais estratégias realizadas ao longo dos quatro anos da ação de extensão Agir e Educar (em) frente o Diabetes Mellitus. Método: trata-se de um estudo qualitativo, descritivo, tipo relato de experiência, desenvolvido a partir de relatórios anuais e arquivos diversos da ação de extensão Agir e Educar (em) frente o Diabetes Mellitus. Resultados: elencaram-se os resultados a partir de três categorias: Grupo Agir e Educar; Atenção individual como estratégia do cuidado e Educação em saúde nas redes sociais ou redes sociais como estratégia viável para a educação em saúde. Conclusão: nota-se que o grupo Agir e Educar (em) frente o Diabetes Mellitus desenvolveu diferentes ações educativas no intuito de proporcionar estratégias para a melhoria da qualidade de vida da pessoa com Diabetes Mellitus, a partir da ótica do conceito ampliado de saúde, que preza pela autonomia e pelo empoderamento dos indivíduos. Ressalta-se, como contribuição para a área da Saúde, a utilização das mídias sociais para se alcançar um maior número de pessoas e disseminar conhecimento.

Descritores: Enfermagem; Diabetes Mellitus; Educação em Saúde; Autocuidado; Conhecimento; Estratégias de Saúde.

ABSTRACT

Objective: to describe the main strategies carried out over the four years of the extension action Act and Educate in the Face of Diabetes Mellitus. Method: it is a qualitative, descriptive, experience report type study, developed from annual reports and various files of the extension action Act and Educate in the face of Diabetes Mellitus. Results: The results were listed from three categories: Act and Educate Group; Individual Care as a Care Strategy and Health Education in Social
Networks or Social Networks as a viable strategy for Health Education. **Conclusion:** It is noted that the group Act and Educate in the face of Diabetes Mellitus developed different educational actions in order to provide strategies for improving the quality of life of the person with Diabetes Mellitus, from the perspective of the expanded concept of health, which values the autonomy and empowerment of individuals. As a contribution to the Health area, the use of social media to reach a greater number of people and spread knowledge is highlighted.

**Descriptors:** Nursing; Diabetes Mellitus; Health Education; Self-Care; Knowledge; Health Strategies.

**RESUMEN**

**Objetivo:** describir las principales estrategias llevadas a cabo durante los cuatro años de la acción de extensión Actuar y Educar contra la Diabetes Mellitus. **Método:** se trata de un estudio cualitativo, descriptivo, tipo informe de experiencia, desarrollado en base a informes anuales y diferentes archivos de la acción de extensión Actuar y Educar (en) contra la Diabetes Mellitus. **Resultados:** se enumeraron los resultados mediante tres categorías: Grupo Agir e Educar; La atención individual como estrategia de atención y la Educación para la salud en redes sociales o redes sociales como estrategia viable para la educación en salud. **Conclusión:** se observa que el grupo Agir y Educar (en) contra a la Diabetes Mellitus desarrolló diferentes acciones educativas con el fin de brindar estrategias para mejorar la calidad de vida de las personas con Diabetes Mellitus, desde la perspectiva del concepto ampliado de salud, que valora la autonomía y el empoderamiento de las personas. Como aporte al área de Salud, se destaca el uso de las redes sociales para llegar a un mayor número de personas y difundir el conocimiento.

**Descripores:** Enfermería; Diabetes Mellitus; Educación en Salud; Autocuidado; Conocimiento; Estrategias de Salud.

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It is known that Diabetes Mellitus (DM) is a chronic, nontransmissible disease of great relevance to public health worldwide. It was reported by the International Diabetes Federation in the year 2019 that 463 million adults (aged 20 to 79 years) were living with diabetes mellitus (DM), with 4.2 million deaths. It was also found that the number of people with type two diabetes is increasing; in most countries (95%), 79% of those affected live in low and middle income countries; one in five people over 65 years of age has diabetes; 50% of them were not diagnosed and about 760 billion dollars were spent on the health of diabetics in 2019. It is estimated that by 2045 the number of people with DM in the world will reach 700 million. It is specified that Brazil has 16.7 million diabetics, 11.4% of them adults. It is estimated for the year 2045 that the number of cases will reach 49 million in the country.

It is estimated that the growing prevalence of DM worldwide is motivated by a complex interaction of socioeconomic, demographic, environmental and genetic factors. This is due in large part to a continuous increase in type two DM and related risk factors, which include increasing levels of obesity, inadequate diet, and physical inactivity. It is noticeable that type one DM diagnoses, started in childhood, are also increasing, as well as an important increase in the number of cases of type two DM in young people, a rather unusual picture a few years ago.

It is understood that DM is a chronic condition that requires people to continually manage their lifestyle and adapt to the disease. It is emphasized that the acceptance of this condition does not correspond to a static phase of life, but to a process of transformation that occurs gradually, because there is a need for a greater understanding of oneself and the ways to deal with health/disease. It is pointed out that the process of acceptance-control of the disease favors better adherence to treatment, strengthening autonomy and quality of life. Therefore, it is considered indispensable to respect and encourage the autonomy of diabetics, making them co-responsible for their treatment.

It is noted that the treatment is daily and continuous, associating drugs and non-pharmacological actions that include feeding, practice of physical activities and periodic clinical follow-up, among other forms of control, according to individual needs. It is pointed out that the primary objective of the treatment is to maintain glycemic levels within desirable parameters in order to avoid the progress of the complications caused by the disease.

The complications of DM are divided into acute (hypoglycemia/hyperglycemia, diabetic ketoacidosis and hyperosmolar coma) and chronic (retinopathy, neuropathy, nephropathy and cardiovascular diseases), which in turn have a systemic impact on a person’s health and pose serious risks of death and permanent sequelae.
In the context of the chronic health condition, it is identified that the care of the person with DM is complex and, for this reason, the health professional must be prepared to act in order to offer the best options of control of the chronic condition, in order to prevent the possible complications of the disease, however, without leaving aside the individual’s need to feel included in their family, professional and social environment.

Therefore, systematic follow-up, welcome, bonding, availability of medication and other general health control needs, individual and collective health education, and appropriate clinical and educational approaches are constituted as indispensable tools for professionals to use in the practice of diabetic care.

It is known that the issue of the link between health professionals and users is fundamental for adherence to DM treatment, since it mobilizes, motivates and offers the necessary support so that the person with DM can take care of their own health.

It is stressed that the promotion of self-care practices or self-management of health and health education activities can take place individually or in groups, in person, by telephone or internet, and can be performed by professionals or among patients, at different time intervals and with or without family members. In all cases, it is verified that the educational intervention has a beneficial effect on the control of glycemic levels. It is understood, however, that these practices, in the context of DM, find several complicating factors, related to the lack of availability and willingness to practice physical activities, dyslipidemia from metabolic syndrome and inadequate nutrition. It is observed that these conditions portray adherence or not to treatment and are strongly linked to the culture of each diabetic.

Participation in support groups for people in chronic health condition is recommended. It is suggested that supporting self-management in groups can neutralize the guilt that many feel and contribute to the identity negotiations of people with DM. It is understood that this mechanism makes participation in groups beneficial for some, however, for others, it can generate stigmata, emphasizing that the logic of moral responsibility seems to motivate this choice.

Elements of care are considered to be the bond, interdisciplinarity, self-care, co-responsibility and health education, components of integral care and the premise of accompanying people with DM. Therefore, in order to bring nursing care closer to these elements, since 2016, the university extension action entitled Act and Educate in the face of Diabetes Mellitus, near the outpatient clinic of a university hospital in southern Brazil. It is evaluated, in the assistance proposal of this extension action that Nursing adopts the expanded concept of health, in which the person is considered an integral being, singular and endowed with autonomy, as long as they find opportunities to take care of themselves.
It is important to point out that several actions have been developed by the project team, involving students, researchers, technicians and inter-institutional partners, whose main contribution is reflected in the quality of life of the diabetic, his/her well being and adherence to treatment. It is highlighted that many challenges, skills and the production of strategies and technologies were necessary to achieve the best results.

**OBJECTIVE**

To describe the main strategies carried out over the four years of the extension action Act and Educate in the Face of Diabetes Mellitus.

**METHOD**

It is a qualitative, descriptive study, in the modality report of experience, developed by the participants of the extension action Act and Educate in the face of Diabetes Mellitus, linked to the Department of Nursing of the Federal University of Santa Catarina (UFSC). Scholarships were distributed to undergraduate students participating in the action, financed by the PROBOLSA public notice, from 2016 to 2020, uninterruptedly, from the Pro-Rectory of Extension of the UFSC.

It can be seen that the report of the experiences was based on the information described in the annual reports of the action, as well as other documents from the records of the meetings of the Health Education Group, the case studies and the production of educational information.

The project started from a partnership between professors from the Nursing Department of UFSC and nurses from the outpatient clinic, area B, at the University Hospital Polydoro Ernani de São Thiago (HU/UFSC), in Florianópolis (SC). It is informed that the ambulatory service attends people with chronic diseases, such as DM. It is pointed out, along its trajectory, that the action also counted with the insertion of other professionals, highlighting the participation of the Department of Nutrition of UFSC and, especially, the academics of the graduation in Nursing and Nutrition, extension fellows, scientific initiation fellows and volunteers.

The objectives of the action are related to the health care of people with DM type one or type two, as well as relatives, caregivers or friends of people with DM interested in the topic. It is emphasized that health education, for the understanding of DM, the control of the disease and the exchange of knowledge and experiences are the core of all actions.

For the presentation of the results of this experience, the main activities of the action were organized under three categories: Act and Educate Group; Individual Attention and Health Education in Social Networks.
The Act and Educate group is set up as a health education group for people with DM. The first meeting of the group took place on April 31, 2016, as an activity of the extension project of the same name, in which people with DM were invited, assisted in area B of the HU/UFSC ambulatory, to talk about insulin therapy with Nursing professionals and academics. From this meeting, the group was formed to meet monthly to share information about DM. From its formation until September 2019, 25 meetings were held dealing with various topics, excluding the months of recess of academic activities.

It is noted that the topics addressed emerged from needs arising from the group itself and others identified by professionals as necessary to meet the demand of participants. Among the highlighted themes are insulin therapy (storage, mixing in the syringe, techniques and care for application), foot care (diabetic foot), pharmacological and technological innovations for the treatment of DM, food and nutrition for people with DM and the use of phototherapeutic / medicinal herbs by diabetics. Meetings on resilience, non-pharmacological strategies, such as yoga and physical activity in collective gyms, and the presentation and discussion of motivating films to overcome difficulties were also organized. The themes of yoga and physical activity were addressed through practical activities and workshops for experimentation with the modality.

The group meetings are regularly scheduled for the last Tuesday of the month, in the afternoon, from 2 pm to 5 pm, in different places, according to the meeting proposal, in the outpatient room of the UH/UFSC, the UFSC classroom, the UH Medicinal Plants Garden, the Forest Garden, which has an outdoor gym, the Alternative Practices Room or the UFSC Health Sciences Center.

It is noted that participation in the group is spontaneous and flexible and the number of participants has fluctuated over the years, as people have moved closer and further away from the group, due to city changes or difficulties in reconciling the work with the meetings. There are, however, participants who have been active since the beginning. There were approximately 25 people in the group, with an average of eight participants per meeting.

It is noteworthy that all participants had a type one or type two DM diagnosis, highlighting members with more than ten years of diagnosis, while others were newly diagnosed and looking for information. It is observed that the prevailing age group was from 40 to 60 years old and most were retired or unemployed, living in Greater Florianopolis.

It is pointed out that the planning of the meetings is biannual and includes the approach of the themes of interest and two activities per year carried out in the Dietetic Techniques Laboratory of the Nutrition Department. It is understood that the meetings in this laboratory aim to learn about
recipes for people with DM, also allowing moments of great interaction between the members, who participate in the preparations and, at the end, taste the dishes in a collective snack and take the recipes home, to be able to replicate them.

There were also moments for discussion and mobilization of participants for the creation of an association of diabetics, a fact that materialized in August 2018, with the formalization of the Association of Diabetics of Greater Florianopolis (Adiflor).

In order to work on the topics at the meetings, several partnerships were necessary, especially to promote interdisciplinarity. Professionals from the areas of Nursing, Nutrition, Psychology, Physical Education and Medicine were invited.

**Individual attention as a care strategy**

Individual attention to the participants of the group was configured as an action developed, above all, from the second year of the project, through the strategies of case studies and educational activities in waiting rooms.

The case studies began as a proposal in 2017, with the objective of consolidating the Health Education Group and promoting an interdisciplinary discussion focused on individualized attention for people with DM. It is pointed out that two people with DM type one and one, with type two, recruited according to the attendance criteria in the Health Education Group participated in the case studies, and all of them attended all the meetings of the group in 2016.

Two Nursing and Nutrition appointments were scheduled for each case study participant. In the first one, the health records were collected, complemented later by research on the medical records.

With the information collected, it was verified that the professionals and the fellows discussed the cases, defined diagnoses of Nursing and Nutrition and elaborated the individual plans of care.

Finally, new consultations were scheduled with the participants for the return of the analyses and orientations regarding the plans.

It is warned that this strategy of individual care has faced numerous obstacles, especially the lack of adherence of professionals from other areas of health, which favors the necessary referrals, according to the identified needs. It is emphasized that only the areas of Nursing and Nutrition worked interdisciplinary in the evaluations, and despite the importance of these professionals, the chronic health condition imposed by the DM requires multiple approaches in areas such as Medicine, Physiotherapy, Psychology, Social Assistance, among others that could fully contribute to treatment adherence, effective disease control and prevention of possible complications related to DM.
In the third year of the Act and Educate action, in 2018, the Health Education Group was added as an individual attention strategy in a waiting room format. On two days a week, in the afternoon, approaches were made with users who were waiting for medical appointments or with nutritionists at the outpatient clinic, area B, at UH/UFSC. In this approach, subjects such as nutrition and physical activity were presented in the context of the DM, the importance of adherence to drug and nutritional treatment, multiprofessional follow-up (endocrinologist, nutritionist, nurse, psychologist, physical educator) and foot care. Manuals and leaflets on DM have been provided to patients to facilitate the educational process, to reinforce information and to complement learning at home, encouraging adherence to the guidance received.

There were 61 DM users and ten caregivers of people with the disease, totaling 71 consultations in the waiting room. It is evaluated that this activity allowed expanding the attention proposed by the extension action.

Health education in social networks or social networks as a viable strategy for health education

It is noted that the extension action Act and Educate in the face of Diabetes Mellitus had continuity in the years 2019 and 2020, when it sought to expand its capacity of public reach and innovate their strategies for health education. For this, educational materials were developed in the format of e-folders, videos and animated infographics aimed at promoting self-care of the person with DM, to be disseminated on social networks of action. Four social networks were used: Facebook and Instagram pages; a YouTube channel and a WhatsApp streaming list.

It is emphasized that the productions of folders, videos and infographics resulted from a process of research in scientific literature in the area of health about the DM, to support the content in the best evidence recognized by the Brazilian Society of Diabetes, American Diabetes Association and Ministry of Health. Besides the research phases and elaboration of the contents and texts that accompanied the posts, moments were reserved for the validation of these productions by the teachers involved, as well as by health professionals who work with the theme. It is worth mentioning that the illustrations, filming and editing of the videos are authored and made by the scholarship holders with the help and supervision of the teachers of the action.

In 2019, nine folders were elaborated, entitled “Types of Diabetes”, "Insulin Action", "NPH Insulin Preparation in the Syringe", "Regular Insulin Preparation in the Syringe", "Mixture of Insulins in the Syringe", "Effect of Glucose on Blood Vessels", "Who Sees Diabetes Sees Heart", "Have you seen your Diabetes? And your heart?" and "HemoGlicoTeste", besides four videos: "Insulin Association in the Syringe"; "NPH Insulin Preparation"; "Regular Insulin Preparation" and "Diabetic Foot Care". The objective for 2020 is the elaboration of educational materials that advance in the care related to the use of medications, DM and foot care.
Variations in the population affected by this action are observed, according to the social network. In networks like Instagram, Facebook and YouTube, visibility is measured from those who follow the profiles or view the posts, but there is no specific control of these accesses or followers' profiles. For example, 90 followers were calculated in Instagram and 26 in Facebook, in addition to an average of 40 views in videos on YouTube channel.

In WhatsApp, transmission groups were used, in which, in order to receive the posts produced by the action, the interested person should send a message to the mobile number, exclusive for this purpose, mentioning the desire to participate. The contacts of the people who sent the message were saved and they became part of the transmission list. It was decided not to form a WhatsApp group, considering the ethical aspects of access to contacts, privacy and confidentiality. It is also believed that the interaction between participants could generate discomfort and require too much time to manage. There were 81 people in this social network who expressed the desire to participate and receive the action posts.

The evaluation of the actions was carried out continuously, either through the feedback of the patients themselves in the meetings, or through comments from the social networks or even in meetings with the group of professionals and fellows, who made a reflection of the actions developed and glimpsed the future ones. However, it is noticeable that the greatest return of the actions was perceived through the life stories and the health-disease process of the participants who managed, over time, to change habits, rethink their self-care and reflect about their health condition.

DISCUSSION

It is perceived that the trajectory lived by the Act and Educate group is permeated by experiences woven by different perceptions about health care, the promotion of self-care and, mainly, about the challenges of living with DM, its implications and repercussions in people's daily lives and the role of the health professional as ally and facilitator of this confrontation.

When evaluating the clinical variables and the self-management of DM care, it becomes relevant to consider the demographic, social and cultural aspects of the people who have the disease so that strategies can be adjusted and greater adherence can be fostered, obtaining a change in behavior and promoting better coexistence with the disease. Thus, it is inferred that education is fundamental for the self-management of the care of the disease and helps in the reduction of chronic complications.

Another aspect worth mentioning is the importance of working on the resilience of people with DM, in order to improve the conditions for living with the disease and ensure self-care, safety and empowerment in the face of the challenges inherent to this condition.
It is known that DM is a chronic health condition that systemically affects people's lives, biologically, emotionally and socially. It is pointed out that the experiences with the participants of the group highlighted several aspects related to treatment and adherence to new life habits. Among them, the relationship with health services for periodic follow-up of the disease and access to exams, medications and glycemic levels control supplies, as well as access to information and spaces for the appropriation of this knowledge in accordance to individual realities and needs, are highlighted. In this regard, the space of collective care characterized as a Health Education Group should be highlighted.

In spite of the difficulties of exercising, in practice, a multiprofessional work in the reported extension action, it is undeniable the importance of the participation of a multiprofessional team as a necessary strategy, above all, for the construction of a metabolic control and the increase of the adhesion to the treatment. However, it is important to highlight the role of the nurse as the main professional responsible for the promotion of health education.

It is emphasized that the nurses need to assume their space in the health education scenario, acting under different perspectives and from active strategies of prevention of diseases and health promotion, suggesting spaces such as waiting room, educational groups, nursing consultations and home visits to achieve the desired objectives.

One of the actions of the project is to emphasize, from the group perspective, its importance as a genuine space for health education, considering, therefore, that the group transcends this role, configuring itself as an environment of cultural care with its own values that need to be identified and adapted to each individual, in order to provide a culturally congruent care, directed to the needs of the people who participate.

Another point to be highlighted in the experience of the Agir e Educar group is the importance of integrality as one of the doctrinal principles of the Unified Health System (UHS). This principle highlights an important concept, from which assistance is viewed with a holistic character, i.e., it perceives the subject as a complex and individual being, who needs the understanding of his/her real health needs.

It can be seen that, in practice, integrality is directed to opposite sides of the biomedical model, which simply seeks care for the disease and cure, ignoring the specificities of the individual. Integrality is necessary for these reasons, in relation to the DM, especially for the issue of the link between the professional and the patient. It is evaluated that, through this link, the care becomes horizontal quality. It is defined that the horizontalization, besides providing the humanized care, also allows diminishing distances between the professional and the patient, allowing a better un-
derstanding of the patient's reality and, consequently, offering, to the professional, a greater success in the support and motivation for the control and self-care of the diabetic.14

It is understood from the experiences of the Health Education Group that the movement for the discussion, organization and implementation of Adiflor was protagonized by the participants, considering itself one of the greatest achievements, because it represents the empowerment of the group. Empowerment should be seen as a complement to health education, mainly prioritizing the participation of users of educational actions in decisions based on pre-informed choices and according to their own reality. The subjects are assigned the protagonism of care through an educational process, in which the health professional is a facilitator, and the users, with access to knowledge, develop habits and responsibilities.15

In this context, it is understood as a health education strategy that educational groups are an opportunity to accompany each other and to orient them towards self-care. It is also observed that the meetings allow social coexistence and exchange of experiences, helping individuals in the assimilation of the disease and in the understanding of the need of changes in life style. It is defended, based on the self-perception of all the elements that involve the health-disease process, the offer of information, the support of health institutions, family and collectivity, that the person with DM can strengthen his/her autonomy to deal with his/her chronic condition.16

It is suggested, besides health education groups, that individual attention to the diabetic patient should also be adopted. However, it is warned that this stage may encounter difficulties to be executed, since the lack of physical structure, the high demand to be attended and the difficulty in the integration in the multiprofessional team are adversities experienced in public health institutions. However, it is reinforced that individual attention should be stimulated, since it allows the identification of specific problems for later individual and collective strategies.

Thus, the Nursing appointment is portrayed as a propitious moment, as it provides the opportunity to act directly and individually with the diabetic patient. It is pointed out, through the consultation, that the professional will be able to identify the patient's history and way of life, planning, with the user and the multiprofessional team, strategies that cooperate for their co-responsibility, promotion and restoration of health.16

Another approach that figured in the experiences of the project is the waiting room, a strategy that aims to take advantage of the idle time that patients have in consultations to promote individual and collective health education. It is a gateway to receive and capture users who do not attend educational groups, for example, who, generally accustomed to the traditional model of health care, consider medical appointments with prescriptions a more convenient option.
This strategy provides for welcoming and approaching these patients. It is pointed out, based on accessible language and qualified listening, that humanized care can be practiced and empowerment encouraged. Furthermore, the waiting room stimulates health production in conformity with the National Policy on Health Promotion (NPHP), expanding care to the community through strategies that aim at reducing vulnerability and social risks resulting from aggravated diseases such as DM.\(^{17}\)

In order to reach a larger number of participants, it is verified that the action bet on the use of information technologies. Over the years, it has been noted that technologies have been transforming the way of relating in postmodern society. It is noticeable, through social networks, that people have been connected 24 hours a day, sharing information in an instantaneous way. It is understood, in the field of health care, that social networks have emerged as a necessary complement to the practice of care. They have become important tools for the exchange of information regarding health education, as well as promoting quick and direct contact with patients and families and reaching new audiences, such as adolescents and other groups.\(^{18}\)

It is considered necessary, for the effectiveness of networked methods, as well as in other strategies, to respect the principles that understand that individuals are provided with knowledge and that it should be included in the processes, thus refuting the imposition of knowledge. However, the construction of educational strategies that contribute to self-care and adherence to treatment is required, valuing the knowledge of the interest group and making patients critical and co-participative beings in the health-disease process itself.\(^{19-20}\)

**CONCLUSION**

It is concluded that the Act and Educate group in the face of Diabetes Mellitus developed, during the last four years, different educational actions, in order to provide strategies for the improvement of the quality of life of the person with DM, thinking in the perspective of the expanded concept of health, which values the autonomy and empowerment of individuals.

In this article, the aim was to share the experiences, challenges and contributions coming from the activities. In addition to the possibility of reflection by the participants on routines, habits, food and self-care, one of the significant results of the project is the creation of the association of diabetics, fruit of the empowerment of participants in the project.

As a contribution to the health area, the use of social media is highlighted, reaching a larger number of people and disseminating knowledge.

**CONTRIBUTIONS**
It is informed that all authors contributed equally in the design of the research project, collection, analysis and discussion of data, as well as in the writing and critical review of the content with intellectual contribution and in the approval of the final version of the study.

**CONFLICT OF INTERESTS**

Nothing to declare.

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