



Training of professionals, acting in primary health care, in Diabetes Mellitus education*

Capacitação de profissionais da atenção primária à saúde para educação em Diabetes Mellitus

Capacitación, de profesionales que actúan en la atención primaria a la salud, en educación en Diabetes Mellitus

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ABSTRACT

Objective: To present the proposal of educational workshops on diabetes and a strategy of evaluation aimed at upgrading the professionals' performance in primary care. **Methods:** The workshops were implemented using participatory methodology, play techniques, experiences, and group dynamics, involving the participation of 85 health professionals from Units of Primary Care, in the city of Belo Horizonte, MG. The knowledge about the disease and the skills required for self-care were measured by applying specific instruments. The workshops were evaluated based on the instrument developed for that purpose. **Results:** There were limitations in the knowledge of professionals about pathophysiology and the disease's complementary tests. The workshops helped to awaken the potential of professionals (reflection, criticism and creativity) necessary to change the educational process. It was considered a pedagogical strategy, easy to understand, interactive and playful. **Conclusions:** The workshops contributed to the planning of the educational process and the structuring of an evaluation model of practices of health and education promotion in diabetes.

Keywords: Human resources formation; Health education; Primary health care; Diabetes Mellitus

RESUMO

Objetivo: Apresentar o delineamento das oficinas educativas em Diabetes Mellitus e uma estratégia avaliativa voltada à atualização dos profissionais de saúde da atenção primária. **Método:** As oficinas foram implementadas, utilizando metodologia participativa, técnicas lúdicas, vivências e dinâmicas de grupo, envolvendo a participação de 85 profissionais de saúde das Unidades Básicas de Saúde de Belo Horizonte/MG. Os conhecimentos sobre a doença e as competências requeridas para o autocuidado foram aferidos mediante a aplicação de instrumento específico. As oficinas foram avaliadas com base em instrumento próprio. **Resultados:** Foram observadas limitações no conhecimento dos profissionais centrados na fisiopatologia e nos exames complementares da doença. As oficinas contribuíram para o despertar do potencial reflexivo, crítico e criativo dos profissionais para a mudança no processo educativo. Foi considerada uma estratégia pedagógica, de fácil compreensão, interativa e lúdica. **Conclusões:** As oficinas contribuíram para o planejamento do processo educativo e a estruturação de um modelo de avaliação das práticas de promoção, da saúde e educação em Diabetes.

Descritores: Formação de recursos humanos; Educação em saúde; Atenção primária à saúde; Diabetes Mellitus

RESUMEN

Objetivo: Presentar el proyecto de talleres educativos sobre diabetes y una estrategia de evaluación dirigida a la actualización de los profesionales de la salud en la atención primaria. **Métodos:** Los talleres se llevaron a cabo utilizando la metodología participativa, las técnicas de juego, las experiencias y dinámicas de grupo, con la participación de 85 profesionales de la salud de las Unidades Básicas de Salud de Belo Horizonte, MG. El conocimiento sobre la enfermedad y las habilidades necesarias para el autocuidado fueron evaluados mediante la aplicación de instrumentos específicos. Los talleres fueron evaluados con base en instrumento propio. **Resultados:** Se encontraron limitaciones en el conocimiento de los profesionales centrados en la fisiopatología y en las pruebas complementarias de la enfermedad. Los talleres ayudaron a despertar el potencial de reflexión, de crítica y de creatividad de los profesionales, que se necesita para cambiar el proceso educativo. Fue considerada una estrategia pedagógica, fácil de entender, interactiva y lúdica. **Conclusiones:** Los talleres contribuyeron para la planificación del proceso educativo y la estructuración de un modelo de evaluación de las prácticas de promoción de la salud y de la educación en diabetes.

Descritores: Formación de recursos humanos; Educación em salud; Atención primaria de salud; Diabetes Mellitus

* Study carried out in four primary health care units in the East side of the city of Belo Horizonte (MG), Brazil.

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INTRODUCTION

The objective of the study was to present the development of educational workshops for primary healthcare professionals to provide education on Diabetes *Mellitus*, to update their knowledge on the disease and on healthy lifestyle habits which are required in the treatment of the disease. Authors⁽¹⁻³⁾ have observed that the work of health professionals in guiding self-care management of the disease is to understand and assess individuals, providing emotional and clinical support, skills and knowledge so that they reach the goals, helping them to find out and develop autonomy to be responsible for the control of their disease. However, primary health care professionals, most of the times, develop educational activities to the users on their own, and resent the lack of capacity building when the issue is Diabetes education⁽²⁻³⁾.

The Ministry of Health proposed capacity building of primary health care professionals in the Plan to Reorganize Systemic Hypertension and Diabetes Mellitus (DM)⁽²⁾, considering the gap knowledge detected in professionals that were responsible for educating this clientele. Additionally, it has been observed a need for critical and emancipatory thinking of these health professionals so that they look for an open and interactive communication with users in order to make them acquire knowledge and skills, and enabling them to do something to improve education on the self-management of disease care⁽¹⁻³⁾. Authors⁽²⁻⁴⁾, reinforce that this communication makes professional practice easier and make education of users for self-care and self-control of chronic diseases, such as DM effective, effective.

Educational actions carried out with a dialogical, reflective and critical perspective can be effective to shape critical awareness and thus, it will allow understanding users' reality to favor their autonomy to perform self-care of the disease⁽⁴⁻⁵⁾.

The increase in diabetes prevalence together with some complexity of its treatment such as: diet restrictions, medication use and chronic complications associated with it (retinopathy, nephropathy, neuropathy, heart disease, neuropathic foot, among others) reinforce the need for effective educational programs that are feasible to public health services. The change in behavior, with the adoption of a balanced diet and the practice of physical exercises, is essential for successful DM control and treatment⁽¹⁾. Studies⁽¹⁻³⁾ show that the control and prevention of diabetes complications are possible with education programs.

According to what has been exposed, the present study had the objective of presenting the preparation of educational workshops in DM and of an assessment strategy to update primary care health professionals in

Belo Horizonte/MG. The evaluation of this initiative pointed out the need for improving education methodologies that are part of the information and motivational content, favoring the collective construction of knowledge. This context favored the creation of a partnership between the health care service and the academic institution to develop the study presented here.

METHODS

We have chosen to use workshops to provide a space for debate, knowledge construction and proposals for health care improvement⁽⁶⁾. The workshops were introduced through a participative methodology based on playful techniques, experiences and group dynamics⁽⁷⁾. With this approach we could work simultaneously the cognitive aspects, and we could deal, in an articulate way, the ideas, values, practices, and behaviors. The objectives of the workshop were: sensitize primary care health professionals on the educational practice and improve the knowledge of these workers in diabetes self-care education associated with healthy lifestyle habits.

The assumptions of the present study are based on the critical conception of the field of health education according to Freire's theory that proposes a dialogical education to rescue knowledge and the experience coming from the social practice⁽⁵⁾. This emancipatory education is coherent with the need to search for dialectical bases – that articulates theory and practice – to assess professionals' knowledge on diabetes education.

Eighty-five primary health care professionals took part in the study (physicians, nurses, social workers, dentists, psychologists, nursing technicians and assistants) from four Primary Health Care Units from Belo Horizonte/MG, in 2008. The workshops were coordinated by five professors (three nurses and two dieticians) with the help of eight students of the Nursing and Nutrition Under graduation Course at Escola de Enfermagem da Universidade Federal de Minas Gerais - UFMG.

The preparation of the workshop involved three stages: assessment of health professionals' knowledge previous to the workshops based on the necessary care for self-care and self-control of diabetes; performance of educational workshops that approach clinical aspects of the disease and health lifestyle habits after one month of the education interventions and assessment of the workshops.

First Stage

The list of competencies required for self-care and self-control of diabetes (list of required competencies)⁽⁸⁻⁹⁾ was adjusted after a pilot test applied into two stages: the

first with professors/facilitators of the workshops, and the second with health professionals. This list has four axes: physiopathology (conceptualization, symptoms, classification, risk factors, complementary examinations and complications of the diabetes); nutrition (composition of foods, fractioning meals, *light/diet food*, portions, and building menus); physical exercise (a physical activity plan, advantages of physical exercises to prevent and control the disease) and insulin therapy (types, dosages, conservation and sites of application). Each item of the instrument was assessed, considering three answer possibilities of the knowledge measured: present, absent and partially present.

The knowledge of health care professionals was assessed through the application of a list of required competencies, to become aware of what professionals knew and, thus, support the planning and organization of the DM educational program.

Second stage

The educational strategy chosen to develop health professionals update was the type of workshops described in the data from Picture 1. In these workshops we tried to rescue the knowledge of the team on DM, to discuss the educational process, as a continuous activity of the local health care service, allowing for definition and differentiation of professional conducts.

Six workshops were carried out with professionals

from May to October 2008, after authorization of the health unit managers. The times have been determined according to the specificities of each center. The workshops were carried out with a participative and problem raising methodology, using participants' experiences and knowledge for discussion and awareness raising to facilitate reflection, teaching, learning, and awareness processes among participants.

Discussions were about the following aspects: conceptual update about diabetes, nutrition and healthy diet, and the importance of physical activities and diabetic foot. The contents were guided by educational materials used by the Ministry of Health (MS)⁽²⁾ for diabetes and in the reference standards of the National Standards for Diabetes Self-Management Education⁽¹⁰⁾. The themes have been approached with a playful dynamics, educational games, case studies, and panels so that each participant could share their knowledge with the other members of the team, leading to constructive discussions on the subjects approached, such as the one presented in Picture 1.

During the workshops, participants' behavior, receptivity of the activities proposed and the relationship between the team were recorded in a field diary.

The project has been approved by the Research Ethics Committee of the Universidade Federal de Minas Gerais and State Health Secretariat of Belo Horizonte/ MG (License No 403/2008 and 0024.040410.203.09)

Picture 1 – Education workshops on Diabetes *Mellitus* developed with primary health care professionals, Belo Horizonte, 2008.

Workshops/Theme	Development proposal	Facilitating techniques
I Actions for health education in DM	<ul style="list-style-type: none"> • Reflecting on the experience of health professionals in DM educational practices • Possibility to improve educational practices, involving a multidisciplinary team • Discussing on the pedagogical options guiding the educational practice 	“Broken heart” technique individual presentation, highlighting their insertion in the team of the Family Health Program and their experience in educational activities Building the synthesis of the discussions carried out in group
II Diet plan	<ul style="list-style-type: none"> • Discussing on the diet habits • Reflecting on the guidance given by professionals regarding diet for users with DM • The work of the multidisciplinary team in the preparation of a diet plan that matched the profile of the clientele 	Participants' reflection on the diet habits with the use of pictures Preparing together a food pyramid Building a diet plan according to the needs and conditions of life of people with DM synthesis of the discussions carried out by the group
III Physical activity, diabetic foot and case study	<ul style="list-style-type: none"> • Discussion on the importance of physical activity to control DM • Analysis of the clinical case of DM involving life habits, treatment and disease control. • Joining together concepts discussed in the previous workshops • Assessment of the educational process. 	Case study involving control and prevention – Standardization of the management to control DM Preparation of a diet plan and the practice of daily physical activities Discussion of the different attribution of health professionals in educational and disease control activities. Synthesis of the follow-up of the discussions carried out in group Questionnaire to assess the educational process experienced by the group

and gave their written Consent.

Third Stage

In the end, an assessment instrument was applied to assess the workshops with 85 health professionals centered in four questions: methodology, content, time of duration and instructional material.

One month after the end of the workshops, the list of required competencies for health professionals was applied again to assess knowledge, health nutrition and physical activity.

RESULTS

The assessment of the knowledge of 85 health professionals regarding diabetes, through the application of a list of required competencies, showed that there was smaller percentage of right answers regarding the physiopathology and complementary tests. These and other difficulties found (see footnote) pointed out the need for continuous education with health teams and supported the planning and development of workshops^{(1)*}.

During the workshops, we have discussed educational practices and the knowledge on the disease, food plan and physical activity, making it possible for a collective and individual reflection of participants on education for self-care of diabetes. Each workshop lasted two hours and occurred after the application of a list of required competencies with the same participants. The subgroups with eight people at the most were formed and the preparation of a food pyramid correlated with physical activities was proposed. Participants highlighted their experiences in the care for diabetic patients and build together a food pyramid adequate to users' needs and reality.

When preparing the food pyramid, we realized that some professionals had problems to distribute the food at first. Some teams preferred to organize food according to groups and then build a diet plan, distributing the food according to users' need and coverage area. During the work, we have observed the interest of participants in preparing a diet plan that considered the satisfaction and pleasure food provided to individuals, rather than just the calories and established portions.

Group activity with the pyramid also made discussions about diet products possible, together with fractioned diet, food variation and distribution. Participants were interested in and involved with understanding the details and improving their knowledge

on diet plan regarding their behavior and the behavior of users they cared for. Involved participants could discuss the main guidelines proposed by the MS⁽²⁾ to guide management for diabetes control. From the analysis of concrete cases, the health team made the diagnosis of the situations presented, highlighting management, guidelines and attributions of each professional in clinical and educational actions.

Professionals were interested in the contents on the educational actions for self-care associated with diet and physical activity. In the clinical case of users with diabetes, the participation and questions on professionals' practice, the diet habits and physical activity were discussed because these themes were not explored in the orientations made by the team. The periodical educational activities stood out as an essential tool to manage education and disease self-care.

At the end of the workshop patients filled in an assessment questionnaire with comments on the activities developed, and the content approached. The assessment carried out with primary health care professionals showed that the expectations regarding the workshops were fulfilled for 93% of the participants. The content approached was satisfactory with the possibility of applying it to the daily practice. The length of the workshop was considered adequate; however, 30% suggested an increase in the number of hours. The quality of the material had a positive evaluation by all participants. The work of the researchers and the knowledge of the content were considered excellent as well as the integration with the teams.

From the results of the list of required competencies and the debates of the workshop, the participants suggested the preparation of an instructional material with the themes of physiopathology, diet, physical activities in diabetes, in a pocket guidebook to help professionals providing care to diabetic patients. The outcome of the list of required competencies after the workshop presented the following improvement in diabetes knowledge: Disease conceptualization: 84%; Symptoms: 76%; Classification: 74%; Physiopathology: 66%; Risk factors: 68% and Complementary tests: 62%.

Workshops enabled interaction between teaching and center professionals in a playful way and it contributed to an analysis of the educational actions developed by the health team, offering subsidies to the planning and introduction of the educational program.

DISCUSSION

When we assessed the activities performed, their development, and the general dynamic of the workshops we can see there is a horizontal and dialogical relationship in the human relations of the team that was marked by

* Knowledge on diabetes: Disease conceptualization: 64%; Symptoms: 66%; Classification: 54%; Physiopathology: 36%; Risk factors: 58% and Complementary tests: 42%.

trust, facilitating the educational approach of the knowledge related to the discussed theme.

Regarding the possibilities observed in the use of this educational method, we have realized that it opens up several possibilities. The creation of a place for open dialog, characterized by meetings that were not directly run by facilitators, enabled the exchange of knowledge and experiences among participants and the reflection on the difficulties experienced by them in their daily routine, leading to a problematization of the relationship of each participant with the food pyramid⁽⁴⁻⁵⁾.

The dialogic approach was adopted in each stage to build knowledge on healthy habits, deepening the discussions between the participants through the reality experienced and the adoption of playful pedagogical and interactive strategies that make awareness of the scientific-technical knowledge possible⁽¹⁰⁻¹¹⁾.

Professionals demonstrated interest and awareness regarding the importance of team integration for diabetes promotion and education. The importance of planning and systematizing educational programs geared to diabetes was stressed out, respecting users' needs, values and beliefs, as well as the appropriate language by professionals to approach different themes.

Some authors⁽¹²⁻¹⁵⁾ highlight that any type of action to improve the quality of health care must make health professionals able to search constantly the improvement of the social relations that are developed in the routine of the services with a critical and reflective perspective in the work process. To invest in primary health care professional education, with a close collaboration of researchers, result in innovative products for centers and in new relevant challenges to the academic world. It is necessary to adjust it to the reality of each individual, to their routine and their ability to understand it in a way it can be applied into some aspect of their daily routine.

Thus, the workshop was characterized as a rich process of idea exchange between the health care center and the university in a two-way process. The update process and the update strategies adopted for such were positively assessed by most participants. They have reported that theoretical-practical capacity building enabled the introduction of a diabetes education program. Participants demonstrated their desire to continue with the workshops permanently as a way to update and assess education of the multidisciplinary team in the care of diabetes users.

The limitations of the study were related to the differences presented in each health unit regarding the commitment and interest of professionals for updating self-care educational actions. Participants from units that had previous capacity building courses carried out with

the participation of the academic institutions were more interested to take part in the workshops. Some of the identified problems were connected with the lack of physical space to carry out the workshops. In some units the room was too small for the amount of people and it was uncomfortable for participants. In some cases, managers of these units had not planned professionals' activities to be carried out in another time, making it difficult for the team to take part in all workshops.

One of the results of the work developed was the creation of an education manual for diabetes self-care that deals with the following themes: physiopathology of the disease, medications, insulin therapy, nutrition and physical activities using a clear and objective language with pictures and cartoons⁽¹³⁾. The manual has already been presented and discussed with health professionals to systematize the essential competencies for individual and collective care to users to prevent and control the disease. The assessment model of the educational program was introduced.

FINAL REMARKS

Update of health professionals allowed for health professionals to reflect on the practices developed in Primary Health Care regarding care to users with diabetes and the planning and organization of the educational program. Through education, professionals can identify the problems and solve them through the search for knowledge and changes in attitudes. The update process of health professionals should be acknowledged as part of a permanent education work carried out by health care units to which the University can be an important partner.

Thus, the proposal of working with health professionals in primary health care through workshops on diabetes to promote self-care, involving the participation of teaching professionals (professors) and those from the units was appropriate to make the health team reflect on the reality experienced by users and the educational process in the disease control.

The use of workshop as the mode of education favored the discussion of challenges and difficulties to structure the practice of diabetes education. On the other hand, it showed that it is possible to combine health promotion and prevention strategies and to assess the interventions guiding the continuity of actions. It was demonstrated that the intervention on the competencies for self-care in their different dimensions, through a dialogic communicative approach, could help strengthening the reflective, critical and creative potential of professionals in their education practices.

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