





EXPERIENCE REPORT

Nutritional guidance for the prevention of type 2 diabetes mellitus in a rural community: experience report

Orientação nutricional para prevenção do diabetes mellitus tipo 2 em comunidade rural: relato de experiência

Orientación nutricional para la prevención del diabetes mellitus tipo 2 en una comunidad rural: relato de experiencia

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ABSTRACT

Objective: To describe the experience lived through the provision of a nutritional guidance action for the prevention of type 2 diabetes mellitus in a rural community. **Methods:** Experience report of a nutritional guidance action carried out in a rural community in Rio Grande do Norte. To perform the action, the following flow was adopted: reception and welcoming of users; screening and explanation of the services that would be offered; anamnesis and health assessment by the multidisciplinary team and; nutritional guidelines, according to the needs of the participants. **Results:** Of the 18 individuals who underwent the fasting blood glucose test, six showed significant glycemic changes, being them directed to individual nutritional guidance for a more specific conduct. The guidelines were carried out in an objective and accessible way by a nutritionist, who explained what should be avoided and what to choose in the diet so that glycemic balance, control and maintenance of health could be achieved. **Conclusion:** The experience was relevant for users and the local health team, who were given support in the mapping of cases of chronic diseases that often act silently. The need for a nutrition professional for continuity of care was also identified.

Descriptors: Diabetes Mellitus. Prevention. Diet Therapy. Food and Nutrition Education.

RESUMO

Objetivo: Descrever a experiência vivenciada por meio da oferta de uma ação de orientação nutricional para prevenção do diabetes *mellitus* tipo 2 em uma comunidade rural. **Métodos:** Relato de experiência de uma ação de orientação nutricional realizada em uma comunidade rural do Rio Grande do Norte. Para execução da ação, seguiu-se o fluxo: recepção e acolhimento dos usuários; triagem e explicação dos serviços que seriam ofertados; anamnese e avaliação de saúde pela equipe multiprofissional e; orientações nutricionais, conforme a necessidade dos participantes. **Resultados:** Dos 18 indivíduos que realizaram o teste de glicemia em jejum, seis apresentaram alterações glicêmicas significativas, sendo estes direcionados para a orientação nutricional individual para uma conduta mais específica. As orientações foram realizadas de forma objetiva e acessível por uma nutricionista, que explicou o que deveria ser evitado e o que escolher dentro da alimentação para que fosse alcançado o equilíbrio glicêmico, o controle e a manutenção da saúde. **Conclusão:** A experiência foi relevante para os usuários e a equipe de saúde local, que obteve um reforço no mapeamento de casos de doenças crônicas que agem, muitas vezes, de forma silenciosa. Também foi identificada a necessidade de um profissional de nutrição para a continuidade da assistência.

Descritores: Diabetes Mellitus. Prevenção. Dietoterapia. Educação Alimentar e Nutricional.

RESUMÉN

Objetivo: Describir la experiencia por medio de la prestación de una acción de orientación nutricional para la prevención del diabetes mellitus tipo 2 en una comunidad rural. **Métodos:** Relato de experiencia de una acción de orientación nutricional realizada en una comunidad rural de Rio Grande do Norte. Para ejecutarla, se siguió el siguiente flujo: recepción y acogida de usuarios; selección y explicación de los servicios que se ofrecerán; anamnesis y evaluación de la salud por el equipo multidisciplinario y; pautas nutricionales, según las necesidades de los participantes. **Resultados:** Dieciocho individuos realizaron la prueba de glucemia en ayunas, seis presentaron alteraciones glucémicas significativas y fueron conducidos a la orientación nutricional individual para una conducta más específica. Las pautas fueron realizadas de manera objetiva y accesible por un nutricionista, quien explicó qué se debe evitar y qué elegir en la dieta para lograr el equilibrio glucémico, el control y el mantenimiento de la salud. **Conclusión:** La experiencia fue relevante para los usuarios y el equipo local de salud, lo que se reforzó en el mapeo de casos de enfermedades crónicas que muchas veces actúan silenciosamente. También se identificó la necesidad de un profesional de nutrición para la continuidad de la atención.

Descritores: Diabetes Mellitus. Prevención. Dietoterapia. Educación Alimentaria y Nutricional.

INTRODUCTION

Type 2 diabetes *mellitus* (DM) is a generally insidious clinical condition that is associated, in most cases, with obesity (80-85%), being the most frequent type of DM in the entire diabetic population, corresponding to 90% of people affected by the disease. The worldwide prevalence of DM in the adult population is around 4%, which may vary according to ethnicity and lifestyle habits, such as diet, physical activity and prevalence of obesity.⁽¹⁻²⁾ DM is part of the group of chronic Non-Communicable Diseases (NCDs) and is responsible for the first cause of mortality in Brazil, with 61.85% of total deaths, according to the ICD-10 chapter, in 2015.⁽³⁾

It is estimated that 35% to 50% of individuals with type 2 DM are unaware of having the disease, which in many cases contributes to the presence of micro and macrovascular alterations in the clinical diagnosis. If we assume that these vascular changes appear, on average, 10 years after the onset of the disease, the need for an early diagnosis is evident. In addition, vascular disease is an important factor that causes mortality and morbidity in these individuals, and can lead to chronic renal failure, stroke, coronary heart disease, cardiomyopathy, blindness, arterial damage to the lower limbs and predisposition to infections.^(2,4-6)

In this context, the Ministry of Health (MH) proposes a Plan to Combat Chronic Non-Communicable Diseases for the period from 2011 to 2022, addressing diseases of the circulatory system, cancer, chronic respiratory diseases and diabetes. It emphasizes, in this plan, the need to face risk factors, including smoking, harmful consumption of alcohol, lack of physical activity, inadequate diet and obesity.⁽⁷⁾

In reference to inadequate nutrition, the literature confirms that excessive consumption of ultra-processed foods, sodium, saturated fats and refined sugars, associated with low fiber intake and foods with essential nutrients for our body, are precursor factors for the emergence of NCDs. To a large extent, the increase in the prevalence of type 2 DM parallels the worldwide increase in obesity, as adipose tissue has a known positive association: insulin resistance, which is the main pathophysiological feature of type 2 diabetes.^(2,6,8)

In recent decades, a reduction in the mortality rate from NCDs has been observed, especially in relation to cardiovascular and chronic respiratory diseases. This reduction is attributed to the implementation of health policies that led to the expansion of access to Primary Health Care (PHC) and the reduction of smoking. However, the DM mortality rate continues to increase.⁽³⁾

Health promotion consists of a set of strategies focused on improving the quality of life of individuals and communities. It can materialize through policies, strategies, actions and interventions, with the objective of acting on the social determinants and conditions of health, in an intersectoral way and with the participation of the population. It is noteworthy the fact that health promotion considers that the search for control and improvement of their

DM is a health problem considered a sensitive condition for primary care. Evidence shows that good management of this condition in Primary Care prevents hospitalizations and deaths from cardiovascular and cerebrovascular complications. For actions aimed at DM control to develop effectively and efficiently, PHC must act as a gateway to the health system and as care coordinator.⁽³⁾ However, the insufficiency of nutritionists in the local primary care network makes difficult the promotion of nutritional education for the population and the provision of assistance with regard to the treatment of patients previously diagnosed with any pathology that requires dietary monitoring.

Given this scenario and the alarming occurrence of type 2 DM, the idea arose of promoting a community action, of voluntary initiative, where health professionals working in the private network, in partnership with local health agents of the Unified Health System (UHS), would assist a group with the purpose of identifying glycemic alterations to people in this community from the measurement of capillary blood glucose, in addition to guiding them on adequate food and nutrition, which is a determining factor in the treatment and diagnosis process. The initiative to support these people with information is because prevention and monitoring are, admittedly, the best ways to control and prevent the problems that DM can bring to the individual's health.

In this perspective, the objective of the present study is to describe the experience lived through the offering of a nutritional orientation action for the prevention of type 2 DM in a rural community.

METHODS

This is an experience report by a nutritionist, a *lato sensu* postgraduate student in Public and Family Health, from a private college in Rio Grande do Norte. The action was carried out in a Health Center covered by a Family Health Unit (FHU), inserted in the rural community of a municipality in the interior of Rio Grande do Norte, in the region of Seridó Potiguar.

The aforementioned community is located about 24 km from the city and has approximately 100 inhabitants. According to data from the situational diagnosis of the area, carried out by the FHU team, the unit has a health agent to provide assistance to the 62 registered users, in addition to another 133 individuals from surrounding communities who are also assisted at this location. Of the total public of 195 users, 64% have some chronic disease (hypertension or diabetes), 12.9% of whom are diabetic, according to data obtained from the municipal health department.

Among the activities proposed for the health action carried out with the community was health education, which could be developed, with emphasis, in the practice of this study. Initially, the situational diagnosis of the area was carried out, which supported the planning of activities to be offered. To execute the action, the following flow was adopted:

(a) reception and welcoming of users; (b) screening and explanation of the services that would be offered; (c) anamnesis and health assessment by the multidisciplinary team and; (d) nutritional guidelines, according to the needs of the participants. This action was carried out on August 28th, 2021, in allusion to the month of the nutritionist, whose commemorative date is the 31st of this month. On this occasion, 18 people participated in the action, being men and women adults, aged between 29 and 57 years.

The activities were conducted by a voluntary multidisciplinary team, composed of a nursing technician, a psychologist and a nutritionist, in partnership with the local health service. On the occasion, capillary blood glucose measurements and blood pressure measurements were carried out, and specific nutritional guidelines were provided for this audience. The nutritionist and psychologist are not part of the FHU team, only the nursing technician. The nutritionist's role in this action was based on the basic principles of nutrition, by Pedro Escudero, and diet therapy, which are: quality, quantity, harmony and adequacy.⁽¹⁰⁾

Because the study is an experience report, it was not submitted for consideration by the research ethics committee. However, authorization from the FHU team was previously requested to carry out the action. Participants' data were not disclosed, respecting the standards recommended by Resolution No. 466/2012 of the National Council for Ethics in Research.⁽¹¹⁾

RESULTS

In PHC, there is a shortage of nutritionists inserted in the Family Health Strategies and in the communities, which generates an increase in the waiting list due to high demand, as well as an overload of professionals, resulting in partial lack of assistance to the population. However, despite the difficulties that health professionals find in their jobs, they perform activities that are essential from the perspective of health promotion and nutritional education.

The motivation to carry out this work was, at first, to put into practice what was theoretically seen in the discipline of "Health prevention and promotion strategies", and to provide the voluntary service of nutritional assistance to these people, since this is still something quite bureaucratic and difficult to achieve in PHC, due to the high demand and the few professionals available. Faced with the occurrence of chronic diseases in the region, the idea arose of promoting this partnership between the voluntary private sector and PHC, to carry out this "D-day to prevent and combat diabetes mellitus". On the occasion, capillary blood glucose tests, blood pressure measurement and, later, nutritional consultation were carried out, providing specific nutritional guidelines for this audience.

In the situational diagnosis of the area, it was observed the difficulty of this population in accessing services with specialized and individualized nutritional guidance activities, especially for patients with chronic diseases for which the diet is part of the

Nutritional guidance for the prevention of type 2 diabetes.. therapeutic plan. In the planning stage, the mobilization of the necessary professionals for the action was organized: recruitment, definition of the procedures to be carried out during the action, planning the date, organization of the place and publicizing of the event. The publicizing was carried out through the social networks of the community association and the professionals involved, inviting the community to participate in the health promotion event.

In the intervention stage itself, there was reception and welcoming of users by the multidisciplinary team that, after performing the screening, sought to explain to individuals in the community which services would be offered. Consequently, people went individually to the room where the capillary blood glucose test was performed with the nursing technician, then they were referred to consultation with the nutritionist, being guided according to the evaluation and test result. Each consultation lasted, on average, 30 minutes.

On that occasion, informative pamphlets were delivered with the "10 steps to a healthy diet", illustrated in the Food Guide for the Brazilian Population, of the Ministry of Health. The Food Guide is a document that addresses the principles and recommendations of an adequate and healthy diet, with the purpose of supporting food and nutrition education, in addition to subsidizing national food and nutrition policies and programs in the health sector, as well as the other linked areas.⁽¹²⁾

All who participated in the moment received this material, however, only individuals who presented glycemic alterations were directed to individual nutritional guidance, for a more specific conduct. Of the 18 people who attended the action, six presented glycemic alterations (>100mg) in fasting, however, all of them reported not having any specific symptoms. At the time, these patients received all the necessary guidance to perform glycemic control and information relevant to diet therapy for hyperglycemia.

Nutritional guidelines were given succinctly and objectively, addressing food in a way that the individual could clearly understand what should be avoided and what to prefer in their diet, especially regarding the consumption of refined carbohydrates, sweets and ultra-processed foods, so that, in this way, glycemic balance, control and maintenance of health status could be achieved.

DISCUSSION

In Brazil, the Unified Health System (UHS), as a public and universal health instrument, offers health promotion, protection and recovery actions. PHC is the preferred gateway for individuals to access the UHS and its main role is to coordinate and order the actions and health services available on the network. In this context of care, food and nutrition actions must be aligned with the guidelines of the National Food and Nutrition Policy (NFNP) and can be leveraged through food and nutrition surveillance actions.⁽¹³⁾

Access to health services in the UHS significantly affects the living and health conditions of individuals

and communities, and health professionals are the protagonists, through their practices, to implement and qualify them.⁽¹⁴⁾ An execution of actions that aim to promote health, well-being, quality of life and self-care practices and, health education among individuals with type 2 DM should be performed frequently in PHC.^(2,15)

In this perspective, health teams are required to organize themselves in order to prioritize actions for individuals with chronic diseases based on risk stratification, condition stabilization and, potentiation of supported self-care, with a focus on food and physical activity. At the same time, depending on the epidemiological profile, teams must undertake actions to combat recurrent diseases in the circumscribed community.^(4,13,16)

In line with current literature, a personalized meal plan, supported by ongoing dietary advice from nutritionists, is referred to as a key strategy for long-term success in weight and glycemic control, particularly in individuals who are at high risk. Therefore, the nutritionist is the only professional qualified to prescribe food plans and diets for individuals, in a way that meets their caloric, energy and nutritional needs, and, from this, there is true health promotion and disease prevention.^(4,16-17)

It is common knowledge that nutrition is decisively responsible for the health status of individuals, especially with regard to chronic diseases such as DM. Therefore, the role of the nutritionist, in these cases, is to promote the food education of these people, in order to guide them on how to eat in a more balanced and healthy way, aiming at increasing the quality of life and maintaining health, preventing and treating diseases. The quest to guarantee health and food as human and citizenship rights, with an emphasis on health promotion, has stimulated the formulation and execution of public policies in the country, such as the National Food and Nutrition Policy.^(4,18)

Education and support for diabetes self-management are crucial for individuals dealing with type 2 DM, as it is a fundamental part of treatment, and aims to change individuals' behavior regarding knowledge, management and acceptance of their disease. In this context, the professional nutritionist aims to lead the individual to eating routines appropriate to their clinical condition, by assisting these patients in the development of autonomy for healthier choices, in order to maintain glycemic control as recommended.^(2,6,16,19)

With regard to diabetes self-management, the user needs support to implement and maintain coping skills and behaviors to control the disease on an ongoing basis. In this way, encouraging patients to identify measurable goals and helping them create a plan to achieve those goals is best done in partnership with the healthcare team. Creating an atmosphere of mutual respect will facilitate trust and encourage people to adhere to their plan of care in order to continue their treatment appropriately in primary care.⁽²⁾

Nutritional Care (NC) comprises care related to food and nutrition aimed at health promotion and protection, prevention, diagnosis and treatment of diseases, which must be associated with other health

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Nutrition is a vital science for the promotion of human health, being decisive in several aspects in the prevention of diseases, maintenance of the immune system, and other issues that influence people's quality of life. In diet therapy for chronic diseases, such as type 2 DM, the diagnosis of the disease and the early identification of glycemic alterations are decisive factors in the success of the treatment to manage and maintain the individual's health condition and quality of life.

From food education actions, which aim not only to provide knowledge for self-care, but also encourage the exchange of experiences and knowledge, the individual's interaction with his social environment is stimulated. When considering that these aspects can positively influence the participants' confidence in the process of knowledge about the disease, healthy eating and their perceptions about the difficulties faced, the importance of the nutritionist's role in the development of nutritional support actions is expanded and reinforced.⁽²⁰⁾

The experience reported in this study was considered successful, since we found how much theory and practice go together and never dissociate. We can mention as a potentiality of this work the access of individuals to free nutritional assessment, without having to move to the urban area. At the same time, for professionals, the exchange in the field is always enriching for the improvement of the skills inherent to their function, which makes it possible to exercise their profession with more passion and dedication.

On the other hand, there were also some difficulties, such as the process of publicizing the action, since some people from the surrounding communities did not have access to social networks. Other limiting factors concern the engagement of the population, since only 18 people participated in the event, which indicates that more encouragement and awareness is needed for the involvement of individuals in these health promotion actions.

CONCLUSION

From the identification of glycemic alterations carried out through this work, it was possible to communicate with the FHU team so that control and management strategies for these cases could be traced with more care and assertiveness. In this way, this action was of great value to the community, as well as to the local health team, which was reinforced, in a way, in the mapping of cases of chronic diseases that often act silently, requiring specific attention and effective awareness and prevention policies.

Nutrition is a science that works with food as a means of health promotion and disease prevention, with the responsibility of helping the patient to

Souza JA, Lima AGT & Cordeiro JKR. maintain metabolism, immunity and in all areas that relate to the health of individuals.

In this regard, the present work showed that treating users through nutritional assistance specialized in PHC optimizes results for coping, controlling and preventing metabolic diseases, whether chronic and/or acute, such as type 2 DM. It

Nutritional guidance for the prevention of type 2 diabetes.. is suggested the conducting of new studies that encompass other methodological approaches, enabling patient follow-up for an extended period of time, in order to obtain more robust results.

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