26 - PHYSICAL EXERCISES AND DIABETES IN THE CONTEXT OF THE PUBLIC HEALTH

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INTRODUCTION

Among the diseases related to physical inactivity, can highlight diabetes. Diabetes is a chronic disease characterized by metabolic disorders whose common denominator is the persistent hyperglycemia caused by the body's dysfunction to produce insulin or use it properly. This dysfunction in insulin also reflected in the inability to block the action of glucagon. Thus in addition to ingested glucose, the body maintain active glucagon, producing hepatic glucose, so there is a tendency of these individuals to remain for long periods in hyperglycemia after meals ((GELONEZE; LAMOUNIER; COELHO, 2006).). Treatment of diabetes types 1 and 2 aimed predominantly glycemic control. Exercise prevents the risk factors and complications of the disease, preventing other non-communicable chronic degenerative diseases (NCDs) acometam diabetics, but also acts directly on glycemic control. Accordingly, it is emphasized that the increase in insulin sensitivity during and after exercise, occurs by activation of protein GLUT4 carrier, which has the function of mediating transport of blood glucose into skeletal muscle (GUILHERMEME et .al, 2010). At rest, the majority of these carriers is within vesicles of the muscle cell, but in response to insulin or to muscle contraction, some GLUT-4 is moved to the cell membrane in order to perform a transport function, allowing glucose can be oxidized within the cell. Faced with this literature, it appears that proper physical exercise contributes on a large scale for the treatment of diabetes. Despite this obvious observation, there is a sedentary lifestyle trend for this population, or the choice of practices that contribute to the overall health, but has no physiological results as significant in relation to specific pathology.

It should be noted that according to the Ministry of Health, Brazil (2003), 90% of the population is of some user mode Unified Health System (SUS), of which 28.6% is exclusively user of SUS, and therefore uses Services offered at the Family Health Strategy (ESF), fitting well to these the diagnosis of diabetes as well as the guidelines as its prevention and treatment. So rethink the treatment of diabetes in order to effectively cover the exercise is embraced by the need to qualify the service offered in the ESF. In this scenario it is prudent to reflect the exercise as part of the specific actions of primary health care.

Aiming to contribute to these aspects, the Ministry of Health has created specific programs and policies such as PNPS- National Health Promotion Policy, Creation of NASF- Center for Support to Health, and the Health Programme SBP-Academies. All these bring theoretical contributions to encourage the practice of physical exercises and activities, and corporal practices in SUS. Its purpose is to strengthen the aspects of health promotion and also counteract the "significant increase in chronic health conditions, especially when it comes to overweight and obesity" (BRAZIL, 2014, p.5).

Despite the incentives, exercise and physical activity in the context of SUS did not translate the inclusion of physical educators in this field. Primarily because traditionally public health is not of physical education playing field and second we created programs (NASF and PAS), the physical educator is provided, as well as other professionals, leaving the decision to the city manager. It is understood that the guidance for the practice of physical exercises should be made by competent persons. There is no role of physical educators in the context studied, it was considered necessary to analyze the guidelines received by diabetic patients in health facilities with regard to the care of the disease, including guidelines related to physical exercise and to identify the habits these patients.

METHODOLOGY

The research comprised a descriptive study with a quantitative approach to field study design. The sample comprised 36 diabetic patients, randomized, 4 FHTs users of a municipality in the north-west of the Rio Grande do Sul region, registered in HIPERDIA (National Register of Hypertensive Diabetics), diagnosed with the disease made less than 10 years. Questionnaires were distributed to these patients by community health agents during home visits in order to know their lifestyle, especially with regard to physical exercise as well as identifying the received the ESF for disease control. The validation of the research instrument was made with the testing of it. The study was conducted in ways that respect all ethical aspects of research involving people (CNS RESOLUTION 466/2012).

RESULTS

Considering the diabetes, especially type 2, a result of lifestyle, patients with the disease often have an abandonment of historic health practices, so it has great difficulties to rethink their habits to include physical exercise in order to prevent progression and complications of the disease. In this sense is common among diabetics physical inactivity and obesity. In a study by Crepaldi (2009) it was found that more than half of the studied diabetic patients are sedentary, which can also be observed in this study since 58% did not perform any exercise regularly.

Table 1. Life-style

TAKEN CARE	Power Care	Physical exercise	Appropriate use of medication
YES	83%	42%	92%
NO	17%	58%	8%

Guilherme et.al (2010), claim that due to the sedentary lifestyle, these patients have low cardiorespiratory fitness, but have the same capabilities to improve their physical fitness than non-diabetic individuals to practice exercises regularly. The same authors say studies show that people with diabetes type 1 and 2 who exercise regularly have antioxidant activity and the most proper metabolism than sedentary, and therefore can and should practice physical exercises. In such cases the prevalence of physical inactivity, it is recommended that the initial exercise program is predominantly composed of force exercises in the training adaptation phase in order to prevent joint damage that may occur due to the impact on aerobic exercise. The Ministry of Health (BRAZIL, 2006, p 24) argues that: "Exercise should be started gradually. Physical activity intensity should be increased

gradually, aiming to achieve moderate intensity (60 to 80% of maximum heart rate). "

Although most patients to continue sedentary, the study shows that patients maintain nutritional care, 83%, and the proper use of medication was reported by 92% of patients. This demonstrates that there is adherence to diabetes treatment, but also shows the strong connection the treatment of biomedical aspects.

Regarding the physical exercises practiced for the maintenance of health, these can be classified broadly in aerobic and anaerobic (SABA, 2003). It was observed in this study that 88% of respondents practice walk, while 6% practice swimming, that is, 92% practice aerobic activities, and other 6% practice weight training, anaerobic activities. Krinski et.al (2006) indicate that both types of exercises should be practiced by healthy individuals or diabetic, they contribute in improving the health and quality of life. Guilherme et.al (2010) says that aerobic exercises are most recommended training for diabetics, but strength training also influences the transport of glucose through the cell membrane. This effect is observed by an increase muscle mass and enhance expression of GLUT4 and some insulin signaling proteins, with mechanisms similar to those observed in aerobic training. Sigal et.al (2007), after evaluating the effect of strength training, aerobic training and the combination of the two, say the combined training of these two modalities, has superior results in glucose control. The same claim is made by Tokmakidis (2007), therefore, the most appropriate way to train the diabetic public seems to be the combination of strength training and aerobic.

Among the studies specifically related to diabetes, some bring very accurate data regarding the frequency and intensity as in the case of Silva and Lima (2002, p. 10) that recommended for diabetics: "(...) an exercise program physical, with aerobic and muscular endurance activities four times a week, with 60-minute sessions. " Already the American Association of Diabetes (ADA), cited by Vaisberg, Junior and Zanella (2010, p. 221) says that for type 2 diabetics the benefits can be seen with the practice of 150min / week of aerobic exercise and work strength exercises 3 times per week. Some medical companies listed by Vaisberg, Junior and Zanella (2010) point out that for type 2 diabetics, aerobic exercise should not be developed in more than 2 consecutive days and strength exercises should be performed for all muscle groups with up to 3 8 to 10 repetitions, with increasing load not exceeding more than 10 moves. These studies relate specifically to type 2 diabetes.

Besides the type of exercise, this study sought to identify the objectives of the practice of physical exercises to diabetic patients. It was observed that the benefit to the overall health mingles with the benefit of exercise in controlling diabetes. This lack of knowledge of the specific objectives of each modality, may influence the choice of these. Among the patients studied, 21% cited the benefit of exercise practiced lowering cholesterol, 26% improved circulation, accelerating metabolism of 11% and 42% glucose homeostasis. With this data it is understood that 58% of patients who perform aerobic exercise, do to improve the overall health and not specifically for the control of diabetes. Patients were asked about the factors influenced adherence to the practice of physical exercises:

Table 2 Factors contributing to membership

Factors contributing to adherence to exercise	Percentage
Was guided	33
Heard that it was good	17
Improving the quality of life	42
Cholesterol control	8

With regard to guidance received at the facility level, it was found that:

Table 3- received Guidelines

Guidance received	Alimentation	Physical exercise	medication
well oriented	78%	61%	92%
More or less oriented	14%	17%	8%
bit oriented	8%	32D	-
Is more concerned with	39%	5%	56%

According to the authors surveyed there are two main factors that hinder the proper treatment of diabetes: the quality of the information received and the resistance of patients to adhere to treatment. Seeking to evaluate the guidelines received by diabetics at the time of diagnosis of Guimarães disease and Takaianangui (2002) developed a study and proved that 70% of SUS users diabetic patients were instructed to treat the disease using only the medication, ignoring any change in habits Life therefore only use these as the prescribed form of treatment.

As in life habits, we observed in this study's instructions received predominance of curative aspects. Thus it is necessary to question the guidelines of the ESF for care of diabetic patients, since more than developing curative activities, these teams have the task of bringing communities closer together, knowledge of the subjects and the local reality, seeking closer relations aimed at helping communities to build health aspects, both in theory and practical. Public health through the ESF is constituted as a privileged space for the development of educational and health-promoting practices (FIGUEIREDO; NETO; LEITE, 2012). Among the actions of the ESF, emerging educational activities as an essential tool to encourage self-esteem and self-care of family members, promoting reflections that may lead to the redefinition of attitudes and behaviors (MACHADO et al., 2006).

Despite the guidance received may influence the treatment to be followed, Coelho,Wechsler e Amaral (2008), show that despite oriented, there is a low adherence rate to the prescribed treatment, which is around 40-90%. Moreover, these patients seem to adhere more to prescribed medications than to changes in lifestyle. These studies show that adequate information is not always enough, there are other individual and social factors involved that can contribute to that population does not suit your lifestyle in accordance with the instructions received. Medina (2011) states that the word itself does not cause changes in behavior, can at best trigger them. The imposition of information is not enough, however, the interaction between individuals and professionals in an exchange of energies, knowledge and affection translates into an educational act, able to bring about change. In this way, all the directions in the ESF, and more specifically in referring to physical exercise requires an education process for health that distances himself from normalizing ideals of the hygienist discourse, centered on the transmission of knowledge in the form of rules, without critical reflection.

To sedentary patients, he was asked about the factors that influence non-adherence to physical exercise:

Table 4 Factors for non-adherence to exercise practices

Factors contributing to non-adherence to the exercises	Percentage
Lack of motivation	11
Pain	50
Lack of time	17
Lack of a group	11
Lack of adequate spaces	11

From study, Assunção and Ursine (2007) associated to low adherence to drug treatment not lack of motivation. One of the ways for this fixed is participating in groups, specifically diabetic groups. These authors found that motivated patients have a 6.6 times greater chance of adhering to treatment in the same way, patients who participate in a group of diabetics has 5.4 times more likely to adhere to treatment. According to this study, creating a group of diabetics physically active, would provide 11% of patients who do not exercise for lack of a group, could practice them and contribute to 11% of patients who do not practice exercise for lack of motivation possibly feel more motivated and to begin to practice them.

Seeking the inclusion of effectiveness in the field of public health, they are defended two streams in the area of physical education: On one side the physical education in the field of health turns to the traditional scope of improving physical fitness, reaffirming the biomedical nature, another seeks recognition of socio cultural constitution of subjects in order to value them in the culture of body movement, contributing to the recognition of a healthy lifestyle (BRUGNEROTTO; SIMÕES, 2009), (MENDONÇA, 2012), (PASQUIM, 2010).

I understand that the two theoretical terms are necessary for effective work for health. In this sense, the role of physical education professionals working with the health teams need to contribute to the information regarding the exercise in controlling diabetes are more enlightening. Moreover, professionals need to commit themselves to promote the adherence to physical exercise, acting as motivators, educators who does not impose the acceptance of an authority to "prescribe exercise," but who value the social and cultural issues, preferences each individual and this bias constituting together with the subject alternatives for decreasing sedentary lifestyle and physiological improvements for diabetes. This acceptance of the practice would always be subject to the individual, to the extent that he retains his private right of judgment, enforcing their emotions, feelings, capabilities and limitations. In addition to biological values, the role of physical educator must provide the autonomy of the subject, considering the individual human values (PALMA 2001). We must encourage the practice, but also the reflection and the ability to value on the moves in a three-dimensional dimension.

FINAL CONSIDERATIONS

Currently there is a predominance scenario of inactivity among diabetics. It was evident also that diabetic patients can and should practice exercises to maintain or restore the overall health, but also to prevent complications of the disease and reduce blood glucose levels. It denotes a complex picture to be thought of public health, as well as information that transcends the biomedical aspects, we need to reflect on the coping possibilities, in order to promote adhesion and permanence of these patients in the exercise. This initially involves the insertion of physical education teachers in primary health care, which has been partially through policies and programs.

From a physiological point of view the use of force exercises in the adaptation phase, especially in cases of inactivity, after which the combination of this with aerobic activities, would increase the effects of exercise during and after training in diabetes management. However, what good is this benefit if there is no adherence to prescription? In this sense it is understood essential to develop, encourage and promote the practice of physical exercises, which pervades the socio-cultural issues and consider individual and collective preferences.

The acting in the public health demands of physical education professionals perception of embodiment that does not end in a physical body, so it can not be restricted to interventions in specific clinical conditions with biological focus, but human and cultural, acting for the sake of production health mediated by educational capacity, aimed at autonomy. I understand that the possibility of professional legitimacy in this field by the differentiation of other professions traditionally active in public health that are supported by biological basis focusing on disease.

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PHYSICAL EXERCISES AND DIABETES IN THE CONTEXT OF THE PUBLIC HEALTH

ABSTRACT

The consensus is that physical exercise contributes to the improvement of general health and quality of life of the population. In diabetic patients the incorporation of these has a further special significance, since it plays a fundamental role in glycemic control. However, the practice exercises is still a face for this population. In order to understand more deeply this dimension of physical exercise in diabetic users of the public health service patients developed a field study, descriptive quantitative. Questionnaire were administered to 36 diabetic patients, enrolled in Hiperdia, four ESF users of a municipality in the Northwest of Rio Grande do Sul state region. Was found that: a) there is a prevalence of sedentary among diabetic patients. b) the guidance received in the public health service emphasize the use of drugs and nutritional care. It highlights the importance of clarification and encouraging the practice of physical exercise for this population, which implies the performance of physical education professionals in this field that transcends the biological values and socio-cultural issues.

KEYWORDS: Diabetes. Physical exercise. Public health.

EXERCICE PHYSIQUE ET DIABÈTE DANS LE CONTEXTE DE LA SANTE PUBLIQUE

RÉSUMÉ

Le consensus est que l'exercice physique contribue à l'amélioration de la santé générale et la qualité de vie de la population. Chez les patients diabétiques l'incorporation de ces a une autre signification particulière, car elle joue un rôle fondamental dans le contrôle glycémique. Cependant, les exercices de pratique est encore un visage pour cette population. Afin de comprendre plus profondément cette dimension de l'exercice physique chez les utilisateurs diabétiques des patients des services de santé publique élaboré une étude sur le terrain, quantitative descriptive. . Questionnaire ont été administrées à 36 patients diabétiques, inscrits dans Hiperdia, 4 ESF utilisateurs d'une municipalité dans le nord-ouest de Rio Grande do Sul région de l'Etat a été constaté que: a) il ya une prévalence de la sédentarité chez les patients diabétiques. b) les conseils reçus dans le service de santé publique insistent sur l'utilisation des médicaments et des soins nutritionnels. Il souligne l'importance de la clarification et encourager la pratique de l'exercice physique pour cette population, ce qui implique la performance des professionnels de l'éducation physique dans ce domaine qui transcende les valeurs biologiques et les questions socio-culturelles.

MOTS-CLÉS : diabète . Exercice . La santé publique .

EJERCICIO FÍSICO Y LA DIABETES EN EL CONTEXTO DE LA SALUD PÚBLICA

RESUMEN

El consenso es que el ejercicio físico contribuye a la mejora de la salud general y la calidad de vida de la población. En pacientes diabéticos la incorporación de éstos tiene un significado especial más allá, ya que juega un papel fundamental en el control glucémico. Sin embargo, los ejercicios de práctica sigue siendo una cara para esta población. Para comprender más profundamente esta dimensión del ejercicio físico en los usuarios diabéticos de los pacientes de servicios de salud pública desarrollado un estudio de campo, descriptivo cuantitativo. . Cuestionario se administraron a 36 pacientes diabéticos, matriculados en HIPERDIA, 4 usuarios ESF de un municipio en el noroeste de Río Grande do Sul, región se encontró que: a) existe una prevalencia de sedentarismo entre los pacientes diabéticos. b) las orientaciones recibidas en el servicio de salud pública hacen hincapié en el uso de drogas y atención nutricional. Se destaca la importancia de la aclaración y el fomento de la práctica de ejercicio físico para esta población, lo que implica el desempeño de los profesionales de la educación física en este campo que trasciende los valores biológicos y cuestiones socioculturales.

PALABRAS CLAVE : Diabetes . Ejercicio físico. Salud pública.

EXERCÍCIOS FÍSICOS E DIABETES NO CONTEXTO DA SAÚDE PÚBLICA

RESUMO

É consenso que o exercício físico contribui para a melhora do estado geral de saúde e qualidade de vida da população. Em pacientes diabéticos a incorporação destes tem um significado ainda mais especial, uma vez que ele desenvolve um papel fundamental no controle glicêmico. Entretanto, a prática de exercícios ainda é um enfrentamento para esta população. A fim de compreender com maior profundidade essa dimensão da prática de exercícios físicos em pacientes diabéticos usuários do serviço público de saúde, desenvolveu-se um estudo de campo, descritivo de cunho quantitativo. Foram aplicados questionário à 36 pacientes diabéticos, cadastrados no Hiperdia, usuários de 4 ESFs de um município da região Noroeste do Estado do Rio Grande do Sul. Constatou-se que: a) existe uma prevalência de sedentários entre os pacientes diabéticos. b) as orientações recebidas no serviço público de saúde dão ênfase ao uso de medicamentos e cuidados com a alimentação. Destaca-se a importância dos esclarecimentos e incentivo a pratica de exercícios físicos para esta população, o que implica na atuação dos profissionais de educação física neste campo que transcenda os aspectos biológicos e valorize as questões socioculturais.

PALAVRAS-CHAVE: Diabetes. Exercício Físico. Saúde Pública.