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KNOWLEDGE ABOUT HYPERTENSION AMONG YOUNG ADULTS

CONHECIMENTO SOBRE HIPERTENSÃO ARTERIAL ENTRE ADULTOS JOVENS

CONOCIMIENTO SOBRE HIPERTENSIÓN ARTERIAL ENTRE ADULTOS JÓVENES

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Objective: learning the knowledge about hypertension of young adults without the diagnosis of the disease. Method: an exploratory descriptive study of a qualitative approach conducted in a municipality in the Northwest of the State of Paraná. Data were collected from January to May 2023 through semi-structured interviews, audio-recorded after consent and submitted to thematic content analysis. Results: 39 people who demonstrated that, in general, they know that hypertension refers to uncontrolled and/or increased blood pressure levels, cited headache, neck pain and dizziness as the main symptoms of hypertensive crisis and pointed out as preventive measures, healthy eating, physical activity and stress control. Final considerations: People have a good but superficial knowledge about hypertension, symptoms, risk factors and forms of treatment. Many neglect the adoption of habits that can prevent and/or postpone the emergence of this health condition.

Descriptors: Noncommunicable Diseases. Hypertension. Health Education. Qualitatibe Research.

Objetivo: apreender o conhecimento sobre hipertensão arterial de adultos jovens sem o diagnóstico da doença. Método: estudo descritivo exploratório, de abordagem qualitativa, realizado em município no noroeste do estado do Paraná. Os dados foram coletados no período de janeiro a maio de 2023 mediante entrevistas semiestruturadas, audiogravadas após consentimento e submetidas a análise de conteúdo modalidade temática. Resultados: participaram 39 pessoas que demonstraram que, de forma geral, sabem que hipertensão se refere ao descontrole e/ou aumento dos níveis pressóricos, citaram a cefaleia, dor na nuca e tontura como principais sintomas da crise hipertensiva e apontaram como medidas de prevenção, alimentação saudável, prática de atividade física e controle do estresse. Considerações finais: as pessoas têm um conhecimento bom, mas superficial sobre hipertensão, sintomas,

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fatores de risco e formas de tratamento. Muitos negligenciam a adoção de hábitos que podem prevenir e/ou postergar o surgimento desta condição de saúde.

Descritores: Doenças não Transmissíveis. Hipertensão. Educação em Saúde. Pesquisa Qualitativa.

Objetivo: aprehender el conocimiento sobre hipertensión arterial de adultos jóvenes sin diagnóstico de la enfermedad. Método: estudio exploratorio descriptivo, con abordaje cualitativo, realizado en un municipio del Noroeste del Estado de Paraná. Los datos fueron recolectados de enero a mayo de 2023 a través de entrevistas semiestructuradas, grabadas en audio después del consentimiento y sometidas a análisis de contenido temático. Resultados: participaron en el estudio 39 personas, quienes demostraron que, en general, saben que la hipertensión arterial se refiere a la falta de control y/o aumento de los niveles de presión arterial, mencionaron el dolor de cabeza, el dolor de cuello y los mareos como los principales síntomas de la crisis hipertensiva, y señalaron la alimentación saludable, la actividad física y el control del estrés como medidas de prevención. Consideraciones finales: las personas tienen un conocimiento bueno pero superficial sobre la hipertensión, los síntomas, los factores de riesgo y las formas de tratamiento. Muchos se olvidan de adoptar hábitos que puedan impedir y/o posponer la aparición de esta condición de salud.

Descriptores: Enfermedades no Transmisibles. Hypertencion artérielle. Educación en Salud. Investigación Cualitativa.

Introduction

Chronic conditions represent a significant burden on global health and are responsible for the deaths of millions of people annually. Among the most prevalent, cardiovascular diseases stand out accounting for about 17.9 million deaths followed by diabetes *mellitus* (DM) (1.6 million). However, only a quarter of people affected by these conditions receive adequate care, and of these, half reach the established clinical care goals, which show a substantial challenge in the management of these conditions. This reality is partly attributed to the difficulty of access to health care and inadequate management of chronic conditions[1].

Among cardiovascular diseases, arterial hypertension (AH), characterized by persistent increase in blood pressure levels, is the most prevalent. Individuals with SBP ≥ 140 mmHg and/or DBP ≥ 90 mmHg are considered hypertensive, and those with SBP between 130 and 139 and DBP between 85 and 89 mmHg are considered pre-hypertensive[2]. Several risk factors, including lifestyle habits and genetic predisposition, can lead to the development of this pathology[2].

In 2021, through an ordinance, the Ministry of Health of Brazil established the Cardiovascular Health Strategy in Primary Health Care (PHC), with the objective of supporting the implementation of measures for prevention and control of cardiovascular diseases in the scope of PHC, focusing on AH and DM[3]. This ordinance highlights the need for effective implementation of specific activities, especially among the youngest, aiming to promote early knowledge about these pathologies. This is very important because studies have identified limited knowledge about AH in the younger population[4-5].

Another fundamental aspect is the joint collaboration between health professionals and the population, for a more effective approach of risk factors for the development of these pathologies. In this sense, the awareness and continuous training of health professionals is a strategy with potential to strengthen the management of chronic conditions (CC)[6].Thus, investing in in-service training promotes the adequate performance of health professionals and managers, especially in the context of PHC. The care provided by the Family Health Strategy teams can contribute to the management of CC and, thus, to the prevention and consequent reduction of hospitalizations and deaths resulting from its micro and macrovascular complications[7].

It is necessary that the actions developed within the scope of PHC, in addition to being based on a solid theoretical basis, are aimed at preventing complications and promoting the improvement of health conditions, and not only for the treatment

of complaints and current symptoms. The interventions implemented need to include an adequate approach to risk factors and behaviors, the importance of self-management of health conditions and self-care actions[8-9].

In this context, understanding the knowledge of the general population about chronic conditions, such as AH, can favor the educational performance of health professionals. The model of attention to chronic conditions (MACC), for example, highlights the importance of directing attention also to family members of people with chronic conditions, because environmental factors, such as life habits and customs, can influence the development of the disease in the future.

Given the above, the following questions arose: What do people in the community know about hypertension? Do they know it? Do you know how to avoid it? To answer these questions, it was defined as the objective of the study to learn the knowledge about hypertension of young adults without the diagnosis of the disease.

Method

This is an exploratory descriptive study with a qualitative approach, carried out in a small municipality in the northwest of the State of Paraná, distant from the capital 481 km. This municipality has an estimated population of 17,568 inhabitants[10]. In the health area, there is a Municipal Emergency Department, a Hospital with 32 beds of the Unified Health System (SUS) and, in PHC; it is assisted by five Basic Health Units (BHU) each with only one team of the Family Health Strategy. In the area of education, it has two state schools, six municipal and one private offering from pre-school to high school. The leisure area has 11 gyms in the city (public) and 3 private, as well as free areas for hiking.

In the definition of the participants, it was considered the ease of access and the possibility of obtaining authorization for the study, which occurred through and indication of acquaintances with the owner of one of the academies and directors of schools. Thus, the informants were teachers and classroom assistants from 2 municipal schools (one with 25 and the other with 16 eligible people) and the regulars of the largest academy in the city, which offers different sports modalities, such as weight training, Chinese boxing and Brazilian Jiu-Jitsu and had more than 400 people paying tuition, but with irregular frequency.

The inclusion criteria previously defined were: being 18 years old or older, being a resident of the municipality and not having a diagnosis of AH. In turn, people who were not in the places on the days destined for data collection (at least five days in each institution, in the morning and afternoon) were not included in the study. No exclusion criteria were used, that is, all those contacted and who agreed to participate in the study were included and answered all the interview questions. It is noteworthy that in the academy people were approached when they arrived at the place, when the researcher presented herself as a nursing student, informed about the study, its objective and type of desired participation and carried out the invitation to participate. However, although many showed interest and agreed verbally to participate, when they finished the training they left without going through the room where the researcher informed that would be available for the interview.

Data were collected in the period of January and February 2023, through semi-structured interviews, conducted in rooms reserved at the study sites. They were conducted by the same researcher (academic of the last year of the Nursing course, properly trained for the collection of qualitative data), which had no relationship with the participants.

The interviews had an average duration of 15 minutes and were recorded after the participant's consent. An instrument consisting of two parts was used: the first with questions addressing sociodemographic characteristics (age, sex, level of education, etc.), life habits and health conditions, which included the question: Comparing with other people of their age, how do you consider your health? This question presented five answer options (Great,

Good, Regular, Bad and Terrible). The second part addressed specific questions related to the object under study: 1) For you, what is *arterial hypertension/high blood pressure?*; 2) What are the symptoms of high blood pressure?; 3) What causes high blood pressure?; 4) In your opinion, which people are most likely to have high blood pressure?; 5) What do you believe people can do to avoid having high blood pressure or at least delay its onset?; 6) How can high blood pressure be treated?; 7) What health problems can a person who does not properly treat high blood pressure have?; 8) Do any close relatives have high blood pressure?

For analysis, all interviews were transcribed in full without use of technological resources and quantitative data were transferred to the Google Spreadsheets® platform. The qualitative data were submitted to content analysis, thematic modality, following the three proposed stages: pre-analysis, material exploration and data treatment/inference/interpretation[11].

In the pre-analysis stage, the material was organized and then performed fluctuating reading of all interviews individually and together with the systematization of preliminary ideas and formulation of the first hypotheses and indicators. Already in the stage of *exploration of the material* proceeded to the codification and categorization of the text of the interviews, using colored pens, to highlight with distinct colors the similarities and semantic differences and subsequent identification of distinct codes that when grouped, formed the sense units. Finally, in the stage of *treatment of results, inference and interpretation,* the previously identified units were analyzed in a reflexive and critical manner, printing a logical understanding for the interpretation of the results and construction of thematic categories[11].

The study was developed according to the ethical precepts disciplined by Resolutions n. 466/2012 and n. 510/2016, of the National Health Council. The project was approved by the Research Ethics Committee with human beings of the signatory institution under Opinion n. 6.224.777/23. All participants were informed about the objectives of the study and the type of participation desired and expressed consent to participate, signing the Informed Consent Form in two equal courses, and receiving one of the routes.

In the presentation of the study results, relevant and significant excerpts/reports were selected from the interviews to better understand what was being presented or inferred. To ensure the anonymity of the participants, the statements of the teachers' reports were identified with the letter P, and those of the gym goers with the letter A, followed by a number indicating the order of the interviews.

Results

Of the 39 participants, 15 were teachers or classroom assistants and 24 attended the city academy. They were aged between 18 and 58 years, being 25 women, 21 married, 19 had higher education and, of these, 17 had postgraduate, 12 with specialization in early childhood education.

Regarding health conditions, 31 participants reported perceiving their own health as great or good, 6 as regular and 2 as terrible, and 32 reported not having any health problem. It is noteworthy that 22 participants reported having normal weight, 15 overweight, 1 underweight and 1 obesity. Among those who reported being overweight and obese, 9 were teachers. However, when calculating the body mass index of self-reported height and weight, it was found that 19 had normal weight, 15 overweight and 5 obesity, being 3 grade I, 1 grade II and 1 grade III.

Regarding behaviors and habits of life, 30 of them reported that they rarely check blood pressure and only do so when seeking health care for any reason; 33 reported that they did not smoke, and the same number, that rarely or never ingest alcohol. On the other hand, 30 of them reported practicing physical activity with some regularity.

In the analysis of qualitative data emerged three categories named: Hypertension in the popular imagination; Recognition of the causes and symptoms of Hypertension; and Ways of

treating hypertension from the perspective of young/adults.

Arterial hypertension in the popular imagination

The concepts of AH, in the perception of the study participants and who do not have the diagnosis of the disease, are related to previous experiences with relatives affected by the disease, since only three reported not having relatives with this condition.

> [...] *like my grandmother who has high blood pressure, rises too high, begins to get sick* [...]. (P6).

> *My grandfather has high blood pressure, but he controls, makes controlled use of medicines.* (P12).

It should be noted that when asked what AH is, only one person could not give an answer and some expressed doubts about their own knowledge:

> *Hypertension would be what we call high blood pressure.* (P8).

> *It is when the pressure is above normal which is 12 by 8.* (P15).

> *Above 13 by 9.* (A1).

> *Isn't blood flow changing?* (P1).

Although some people define AH as the increase or lack of control of blood pressure levels, they do not always know the ideal value:

> *High blood pressure is above 16?Is it 15 and 9?* (A2).

Sometimes the definition of AH presented by participants included possible causes and consequences when the condition is not properly treated.

> *Hypertension is when the person's pressure changes and then he may feel uneasy* [...]. (P10).

> *I think it's a malaise that we have, that the heartbeat goes up and then you get sick, and can cause some disease* [...] *you may have some more serious health problem in the case* [...]. (A3).

The reports included in this category highlight that AH is often conceptualized superficially and based on situations experienced by family members living with this condition.

Recognition of the causes and symptoms of high blood pressure

When discussing the causes of AH, irregular eating and the absence of physical activity were pointed out more frequently:

> *I think people who are sedentary, those who already have a family history of hypertension, and those who consume a lot of alcohol, caloric foods* [...]. (A1).

They also highlighted heredity, age and emotional factors as possible causes of hypertension:

> *It can be hereditary and can also be developed over time due to lack of physical activity and poor diet. Also, I think it includes a lot also the emotional part of people* [...]. (P2).

> *I think like this: nowadays, in our world today, I think acceleration is a lot, it's the stress of everyday life, it's being with a thousand and one functions. I think the body of us is like this, let's say, with low immunity, because we feed badly right, in the rush* [...]. (P8).

> *Age* [...] *because of people's digestion. With age we start to have problems, because the organism starts to slow down* [...] *then the processing, it also slows down.* (P2).

Regarding the symptoms and forms of most common manifestations of high blood pressure, headache and neck pain stood out.

> *Headache and dizziness are the most common I know* [...]. (P1).

> *Neck pain, headache, the ones I know most are these* [...]. (P7).

> *It depends, some have a headache* [...] *at least, when I had high blood pressure, which I had postpartum, I felt a lot of headaches, neck pain, and my pressure went up and did not go down. The headache I felt like this, you know, even with dizziness* [...]. (P8).

> *So, my sister who has, she says she has a lot of pain in the neck, headache, I think dizziness, but it's the same headache.* (A3).

The reports included in this category show that, in general, the study participants have correct basic knowledge about the causes and manifestations of AH symptoms. However, it is noteworthy that none of them refers to the fact that this is a silent disease, that is, it can be present without any symptoms.

The treatment of arterial hypertension in the popular imagination

The treatment of AH can be pharmacological and non-pharmacological. In general, participants recognize these two forms (with medication and non-pharmacological measures). Among non-pharmacological, the following stand out: change of habits, improved diet and physical exercise:

> *I think so, with medicine, quiet life, physical activities* [...]. (P5).

> *I think nowadays, people end up treating more with medicine, but a good diet could help a lot. Physical activity and the control there in the day to day of everyday activities, do not run over too much. I think our time is very busy, we have many functions* [...] *that neither in my case: teacher, mother, housewife, wife* [...] *I think that all this contributes to dysfunction of the organism too.* (P8).

Most participants pointed to lifestyle change as the main measure to avoid or postpone the onset of AH. In addition, there were those who associated healthy lifestyle with having tests, routine appointments and reducing stress on a daily basis:

> *To prevent this, you have to take care of your diet, exercise, have a healthy life* [...] *less fat, less carbohydrates* [...]. (P1).

> *I believe that healthy eating, physical activity and exams, medical consultation at least annually, once a year to see how health is* [...] *I believe this* [...]. (P13).

> *Walk more calmly. In fact, the day to day of people that became a routine, so we had to change this day of us. It's a stressful routine, it had to be changed this* [...] *routine.* (A2).

However, when asked about their own life habits, some participants referred to self-indulgence and lack of time as justification for the absence of behaviors they consider healthy and necessary to prevent AH:

> *The physical activity that I would like to have a little time* [...] *but we do not find a time is because we do not really want.* (P4).

> *Lack of opinion and time too, because I work all day, come home and have two children. I know that's an excuse, because who really wants, takes time. In my case, wins the lack of opinion "no, I will do"* [...] *and as my desire to sit on the couch is greater, then I end up not doing* [...]. (P13).

In addition, most participants reported not having received any guidance from health professionals about hypertension and how to avoid it. Four others, however, reported receiving these guidelines.

> *The specialist with whom I do the kidney treatment, for many years has already been telling me about high blood pressure.* (P2).

> *I heard from the doctor of the post* [...] *she explained it well* [...]. (P3).

> *I've been to a cardiologist a couple of times and they always talk about* [...] *the dangers of those who do not care, what can happen and even how to prevent.* (P9).

> *My mother talks a lot; she's a health worker, so she always comments* [...]. (P12).

In general, it can be inferred that most participants had some knowledge about AH, even if superficial, basing their responses on actual events and experiences they had with the disease. It is also noteworthy that although risk factors are widely cited/discussed among the answers, there is still difficulty to cultivate healthy habits in the daily routine.

Discussion

Regarding the characteristics of the participants, the fact that the majority is female is a reflection of what occurs in the country globally, since women represent almost all of the teachers crowded in elementary schools. A study conducted in 23 elementary schools and 5 high schools in Altamira, Pará, also identified that the number of female teachers was three times higher than that of males[12].

With regard to the participants' life habits, the non-use of tobacco and alcohol or their social consumption, may also be related to the fact that a large part of the sample consists of elementary school teachers and middle-aged women, since the consumption of these substances is more frequent in both sexes among the youngest.

A worse perception of nutritional status was reported and confirmed among teachers more than among gym goers and it was precisely they who reported more unavailability of time and difficulty to perform physical activities. In the case of women, the double and even triple working hours is often identified as an impediment to

physical activity. In addition, a scope review was carried out in order to analyze the evidence in the literature on the nutritional status of teachers of basic education and that included 15 studies, 11 of which were conducted in Brazil, concluded that this population is exposed to an increased risk for the development of chronic non-communicable diseases caused by overweight and obesity[13].

The participants of this study, in general, demonstrated to have basic knowledge about AH, due to contact with family members and acquaintances who have a diagnosis of this health condition. In this sense, they used as an example symptoms presented by those during hypertensive crises. However, the lack of knowledge that many had of the pressure figures considered normal drew attention. This result is consistent with the findings of a study conducted in Petrolina, Pernambuco, with teachers from the municipal elementary school system, who also characterized the disease by increased blood pressure[14].

In Indonesia, a study of people with AH identified that almost half of the participants had a knowledge about the disease classified as moderate and sufficient perceptions about the dangers associated with this condition. However, the same proportion of participants did not present complications prevention behaviors, being significant the correlation between knowledge and perceptions about the dangers and prevention measures adopted. These results led the authors to infer that greater understanding about the disease can positively influence the prevention behaviors of complications and that a significant portion of the population can benefit from educational interventions and awareness programs directed to the effective management of hypertension and its complications[15].

Only three participants reported not having relatives with a diagnosis of AH, which allowed their knowledge to be, in general, due to practice, that is, contact with close people who live with this chronic condition. Having a knowledge that can be considered sufficient about causes and complications of AH, even in popular language, may be related to the participants' education, since most had higher education. Data from the National Health Survey 2019, which considered only individuals who self-reported previous diagnosis of hypertension, found that the disease was more frequent in populations with low education level[16]. This result allows us to infer that people with higher education have, among other aspects, more access to information related to the prevention of this condition.

The fact that the study participants have *satisfactory* knowledge and, at the same time, demonstrate low adherence to healthy behaviors and habits, especially in relation to food and physical activity, corroborates the result of a study conducted with 11,618 participants in Italy, which found that, although the general population has a reasonable level of knowledge about the relationship between salt consumption and AH, it presents less satisfactory behaviors in relation to promoting changes[4]. In Nigeria, it has also been identified that routine testing and the adoption of a healthy lifestyle is not common in the population[17]. These findings reiterate the importance of education and awareness about the effects of sodium on cardiovascular health, the need for positive changes in eating habits and reflection on the health condition itself and self-care actions[4].

Stress was another risk factor frequently cited by participants, especially teachers, and can be related to double working hours. Studies indicate that occupational stress is one of the problems that most affect the worker and, when elevated, can compromise physical and mental health and trigger the development of AH[18].

To avoid or postpone the emergence of AH, highlighted the change in lifestyle, characterized by regular physical activity, healthy eating and decreased stress. Some also referred to the performance of tests and routine consultations. However, the partial adoption or even non-adoption of these actions by the participants was justified by the unavailability of time and lack of willingness. It should be noted that although there are numerous governmental and non-governmental initiatives, including the relevant

role of the media in encouraging the adoption of healthy habits, the share of the population that fully adheres to these habits is still very small, people who already live with a chronic condition.

Another aspect to be considered is that the knowledge demonstrated by the study participants is based on common sense, because, at no time, they were specific about what would be a healthy diet or about characteristics of physical activity. Regarding physical activity, it is recommended to practice 150 minutes or more of moderate physical activity or 75 minutes or more of vigorous physical activity per week[19]. In relation to food, the National Health Survey recommends the regular consumption of fruits and vegetables (≥5 days a week), and not regular consumption of ultra-processed foods, sweets and soft drinks, and moderate or reduced consumption of salt[16].

Estimates for the year 2023, indicated in Vigitel, show an increase in regular consumption of fruits and vegetables on five or more days of the week. However, the increase in the rates of overweight and obesity, especially in the younger age groups, is a reality that worries, because they are conditions that favor the development of chronic diseases, such as AH and DM, and that could be avoided, adoption/change of some behaviors[20].

In this sense, it is important to highlight the relevant role of the school and the teachers themselves, especially those of elementary education, in encouraging the adoption of healthy habits. If they have a consistent knowledge of risk factors for chronic conditions such as AH and DM, they can, in addition to benefiting themselves, act as information multipliers and stimulate children who, in turn, may charge for adopting some habits in their family.

Finally, the fact that some participants reported that they never received guidance from health professionals on hypertension, forms of prevention, symptoms and possible complications, reflects a performance of the health sector based on complaint and not prevention. This highlights the importance of health education activities on relevant topics, such as Chronic Non-Communicable Diseases (NCDs), as identified in an educational intervention study to improve the knowledge and practice of self-care in DM and AH[21].

Thus, health professionals who work in the scope of PHC cannot disregard the fact that the emergence and control of diseases, such as AH and DM, are strongly influenced by modifiable and that the care model still in force has not been effective in its prevention, in the identification and adequate monitoring, in meeting the health needs of people affected, and in promoting healthier lifestyles[22].As a consequence, there has been an increase in the number of patients and worsening of their health conditions. These two diseases are responsible for high mortality rates, sequelae, health expenditures, loss of productivity and sustainability of contemporary health systems[23-24].

The increase in the number of people diagnosed with AH and who need to be assisted is not a reality observed only in the Brazilian context. A study conducted in India highlighted that, in primary care units, more than half of nurses' time is directed to the development of direct and indirect activities related to hypertension[25]. For this reason, reporting never having received information about hypertension and specific measures to prevent it demonstrates a gap in the communication of health professionals with users who have not yet developed the disease. Conducting population screening and health education activities regularly, with emphasis on awareness of the general population about AH, may contribute to minimize the lack of control and progress of this important health condition.

A study conducted in Brazil demonstrated that, even when performed remotely, educational interventions contribute to the improvement of drug adherence and health literacy of participants[8].

Possible limitations of the study refer to the composition of the sample studied, since it was constituted by convenience, related to the possibility of obtaining authorization and ease of access to participants, which did not allow

the reach of data saturation. However, the study provides important data and discussions that can be used for future studies.

Final Considerations

The data analysis showed that people in general have a reasonable knowledge about hypertension and that this is mainly derived from contact with family members and acquaintances that live with the disease. They know, for example, that it refers to the lack of control and/ or increased blood pressure levels, listed as the main symptoms presented by people with hypertensive crisis: headache, neck pain and dizziness (and prevention measures), healthy eating, physical activity and stress control.

However, knowledge is still based on common sense, because at no time were specific about what would be healthy eating or the characteristics of physical activity. This may be related to the fact that most participants have stated that they have never been guided by health professionals on issues related to AH. In addition, they revealed that they do not put into practice habits that they consider healthy, such as the practice of physical activity, which justified mainly by the unavailability of time.

It is recommended that in future studies be given voice to people with low education, in order to broaden the understanding of what the general population knows about hypertension as a chronic condition.

Collaborations:

1 – conception and planning of the project: Ana Heloisa Mendes and Sonia Silva Marcon;

2 – analysis and interpretation of data: Ana Heloisa Mendes, Vitória Vasconcelos Logullo and Beatriz Jorge Oliveira Gomes;

3 – writing and/or critical review: Erika dos Santos Ratuchnei-Dal Pizzol and Elen Ferraz Teston;

4 – approval of the final version: Gláucia Maria Canato and Sonia Silva Marcon.

Conflicts of interest

There are no conflicts of interest.

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