The use of active methodologies in the prevention of enterobiasis in the elderly: Experience report

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ABSTRACT

Introduction: Enterobius Vermiculares is the parasite that causes enterobiasis, a very prevalent disease in Brazil, with many signs and/or symptoms that impair the quality of life of the population, especially the elderly who, due to issues related to natural aging, decreased self-care, and living conditions, demonstrate the need for greater attention and care by health professionals. Education and health, combined with active methodologies, educational technologies, and social participation, can act in the prevention of this disease. Objective: To report the experience of nursing students regarding the use of active methodologies in the prevention of enterobiasis in the elderly. Methodology: This is an experience report with a qualitative approach regarding the health action carried out by nursing students participating in the extension project "Promotion of knowledge about intestinal parasitosis with elderly people in situations of socioeconomic vulnerability", in November 2023, in the waiting room of the Hiperdia Program (Hypertension and Diabetes Program) of a basic health unit in Belém do Pará. The use of active methodologies such as styrofoam prototypes, illustrative posters and gamification were used in the educational action. Results and Discussions: The action demonstrated that most of the elderly had already contracted enterobiasis, popularly known by all as "tuxin", with anal pruritus being the sign and symptom most reported by the group. As for the preventive and control measures of this disease, the group demonstrated that the most feasible are hand washing and nail trimming, while the others that require costs and depend on basic sanitation infrastructure were considered more difficult to adopt. Health education identified that although enterobiasis is a recurrent and known disease, the vast majority did not understand the mechanisms of contamination and prevention. The educational materials designed and built specifically for the elderly were relevant instruments and facilitators of interaction, approach, participation and retention of knowledge about this disease. It was evidenced the need to invest in health actions, far beyond just exposing information, to plan teaching efficiently, to think about active methodologies that allow bonding with the elderly, with experiences and knowledge, which make

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them participative and, therefore, autonomous, critical and capable of making decisions about their own health, also based on the in scientific knowledge. Conclusion: In view of the results of the educational action, it was evidenced that the elderly are qualified to adopt preventive measures against enterobiasis and to share such knowledge with family members and the community, in order to improve quality of life and social well-being.

Keywords: Health education, Enterobiasis, Elderly.

INTRODUCTION

Enterobius Vermicularis is the parasite responsible for the disease enterobiasis and/or oxyuriasis, or as it is known in popular language: "Tuxin". With a monoxenic life cycle, the males die soon after copulation, while the female goes from the cecum to the perianal region where the release of eggs that become infective occurs in a few hours. Due to sanitary issues, contact with the soil, food care and difficulties in treating water for consumption, these eggs reach the human body, hatching in the small intestine and repeating the cycle. The main signs and symptoms are intense itching in the anal region, causing strong insomnia, abdominal pain, nausea, vomiting, weight loss, diarrhea, in the most severe and persistent cases, there are skin lacerations, dermatitis, secondary infections, urethritis and vaginitis. The diagnosis is confirmed by the "Anal Swab" method, a pressure of the gummed tape in the anal region of the patient. Transmission is related to domestic infection and/or collective environments (daycare centers, nursing homes, schools, and other closed environments), so preventive measures prioritize body hygiene, care with underwear, not sharing personal items such as towels, and in case of a positive diagnosis for parasitosis, clean the bed cloths of the residence with hot water, in toilets to prevent reinfection (Hornink *et al*., 2013).

In Brazil, a study demonstrated the constant contamination of lettuce with feces (human and/or animal) in the north, northeast, midwest, south and southeast regions, finding the presence of helminths of the hookworm group, and of the genera Ascaris, Schistosoma, Strongyloides, Taenia, Toxocara, Trichostrongylus and Trichuris, in addition to the species Ancylostoma duodenale, Ascaris lumbricoides, Hymenolepsis nana, Fasciola hepatica, Schistosoma mansoni, Strongyloides stercoralis, and Enterobius vermiculares (Pedroso; Wedge; Cunha-Neto, 2020), demonstrating the need to discuss the subject with the population, seeking to make them capable of protecting themselves from these parasites, either by consuming food or ingesting water.

Among the groups most predisposed to this parasitic infection are the elderly, because due to the aging process there is a decrease in the functions of the immune system which, coupled with the gradual reduction of autonomy and self-care (impaired body hygiene and food cleanliness) end up becoming facilitators of contagion, usually monoparasitism, but possible biparasitism and polyparasitism. In addition, issues related to precarious housing, basic sanitation, access to drinking water and other living conditions also appear as relevant points. (Saints *et al.,* 2017). Studies on the general population indicate a higher occurrence in people over 80 years of age, the female public (due to high life expectancy), consumers of salads, vegetables and fruits, and workers in contact with gardens and/or vegetable gardens. However, without so many agreements due to the scarcity of studies, evidencing the need to investigate this prevalence and the specific profile of these individuals (Monteiro *et al.*, 2021).

Thus, health education becomes the appropriate intervention to ensure the population's autonomy regarding the care of intestinal parasitosis, especially enterobiasis. Within undergraduate nursing, extension actions play a fundamental role in this regard, as they bring students closer to the population and aim at the great challenge of sharing knowledge in a creative, reflective and humanized way. Therefore, active methodologies can be used because they have a transformative character, allowing a more dynamic learning in which the student directs information based on the previous knowledge of the target audience, including thinking about specific educational technologies for them (Vieira *et al.*, 2019). The use of active methodologies, whether games (gamification) and/or dialogued expository interactions, contribute to the stimulation of the individual's responsibility with the construction of their own knowledge, making them more active in self-care and providing care compatible with the reality of the group (Assunção; Silva, 2020).

Health education with the elderly allows for wide possibilities of action, leaving the traditional model and innovating the way of teaching, for which permanent health education (PHE), which is guided by the dynamics of the service, can bring great transformations to the primary care scenario, working in a multiprofessional way and thinking about social participation. To build the moment with and for the group, they need to have a voice within the exchange of knowledge, in addition to the materials and dynamics being designed specifically for each profile (Mendonça *et al.*, 2017).

Educational technologies help in the exchange of knowledge, including the internet, multimedia, information booklets, and group activities are positive in promoting health with the elderly (Frota *et al*., 2019). In the context of health units, it is relevant to use group dynamism, because most of the actions are carried out in the waiting rooms, so the participants get involved in the experiences of others, exercise listening, reasoning and social bonding, and it is necessary to plan health actions taking into account all these aspects. addressing topics such as enterobiasis with active methodologies, educational technologies and social participation.

OBJECTIVE

To report the experience of nursing students regarding the use of active methodologies in the prevention of enterobiasis in the elderly.

METHODOLOGY

This is an experience report of a qualitative approach regarding the health action carried out by nursing students participating in the extension project "Promotion of knowledge about intestinal parasitosis with elderly people in situations of socioeconomic vulnerability", on November 24, 2023, in the waiting room of the Hiperdia Program (Hypertension and Diabetes Program) of a basic health

unit in Belém do Pará, with the theme: Enterobiasis. The planning of the approach was done in the following order: 1- Concept; 2- Transmission cycle; 3- Signs and Symptoms; 4- Prevention; 5- Water care; 6- Food care. As an active methodology, the dialogued expository class model was used, seeking active participation and identifying previous knowledge of the group to guide the discussions. The use of gamification was also used to encourage interaction, dynamism and competition in the game of questions and answers, aiming beyond the right alternative at a brief justification. In addition, the Styrofoam prototype of the human organism, the illustrative posters and the flit chart were the tools for exposing the content, configuring itself in a non-verbal language.

RESULTS AND DISCUSSION

Twelve users who were waiting for a medical appointment in the waiting room of the Hiperdia program, aged between 60 (sixty) and 70 (seventy) years, and who showed interest in the theme, participated in the educational action. The action began with the presentation of the theme Enterobiasis, with the support of the flit chart, seeking to identify first the experiences of the group to guide the exhibition. To this end, the exhibitors asked a question: If anyone and/or family member had already received a diagnosis of worms. The vast majority reported having been diagnosed with some type of worm infection several times in their lives, and that they had accompanied their children and grandchildren experiencing the same conditions of worms. They understood it as something recurrent, not preventable, but completely treatable. After the initial discussion, the concept and form of transmission of the disease Enterobiasis caused by *Enterobius vermicularis or* pinworms, popularly known as "tuxin", was introduced. When the popular name of the causative agent of the disease was mentioned, all of them claimed to know what it was, because most of them signaled having had the disease and then words such as "itch", "irritation" and "I've had it" emerged from the group. Enterobiasis is a highly prevalent disease in Brazil, as are many worms that are neglected in the current scenario, with few studies on the subject, lack of prevention and health promotion actions (Vasconcelos; Silva-Vasconcelos, 2021).

There is a lack of knowledge in the literature on the prevalence and/or incidence of intestinal parasitosis in the elderly, with a wealth when it comes to the prevalence in children and schoolchildren, so it is necessary to give greater importance to studies related to intestinal parasitosis in the elderly, so that knowing the data can plan and work with more direction and specificity on the prevention and control measures of this disease.

To explain the transmission cycle, the illustrative poster and the styrofoam prototype of the human body were used and with these instruments they were able to visually perceive each stage of contamination by *Enterobius vermicular and* showed concern with signs and symptoms such as: Itching in the anal region, diarrhea, irritability, nausea, weight loss, vomiting and abdominal pain,

among others. Most of them were concerned about the problems that the disease can cause, since they showed it as a simple aggravation and did not imagine that it could cause so much harm to human health and especially to the elderly, and many emphasized that they had already presented such signs and symptoms, as well as many of their grandchildren, with anal itching being considered the most evident by the group.

It is known that constant reinfection by parasites, especially in the elderly, can have serious consequences on quality of life, because it impairs nutritional status, leading to weight loss, anemia, diarrhea, low nutrient absorption, in addition to intestinal obstruction or bleeding. All these factors impair physiological functions in the body, consequently reducing self-care, autonomy, social well-being, and lead to complications related to associated infections (Santos *et al*., 2017).

Then, the preventive and control measures against this disease were addressed, among which the following were highlighted: Orient the population regarding personal hygiene habits, particularly washing hands before meals, after using the toilet, after scratching and before handling food. Keep your nails trimmed close to your finger to avoid accumulation of contaminated material. Avoid scratching the bare anal area and bring your hands to your mouth. Eliminate the sources of infection through the treatment of the patient and all family members. Change of bed linen, underwear and bath towels daily to avoid the acquisition of new infections by the eggs deposited on the tissues. Keeping sanitary facilities clean (MS, 2010). It was noted that the most feasible preventive measures in the group's reading were hand washing and nail trimming. The others that require costs, such as changing bed linen, changing bath towels and even underwear, on a daily basis, are more difficult to adopt, in view of the low purchasing power of the group and other structural problems that add to these such as: Insufficiency of sewage network, lack of internal toilets, housing incompatible with the number of people in the family and without adequate ventilation and lighting, lack of access to drinking water and insufficient quantity for carrying out domestic activities and for personal use, factors that hinder the control of this disease in the community.

Although these are conditions related to precariousness in basic sanitation, housing, among other social particularities, the simple habit of washing hands, sanitizing food and water with appropriate products can help prevent and reduce the aggravations of this disease. Thus, educational action is evidenced as a very important instrument for the improvement of this situation, as it allows the explanation of protective measures, signs and symptoms, modes of detection and treatment, facilitating self-care by the population (Pena *et al*., 2022).

By using the waiting rooms of the units to have this moment of dialogue with the elderly, informing about the popularly known "Tuxina", its characteristics and prophylaxis measures contributes to the change of scenario, since it generates reflection on an all-too-common reality,

which are intestinal parasitosis, and makes it pertinent to combat, Not as something to be accepted in a common way, but to the point of being less prevalent for that audience.

Next, the correct ways to wash food were discussed, as well as how to treat water for consumption with sodium hypochlorite or bleach, given the financial conditions of the public and the free distribution of the product by health units.

Most parasitic diseases involve a cycle that permeates water and food, due to the precarious conditions of basic sanitation, in which physiological waste is assigned to rivers, also contaminates the soil and reaches homes. The eggs of *Enterobius vermicularis* can survive up to three weeks after elimination, meeting nails, objects, food. These issues demonstrate the need to take care of water, food, and hands.

Thinking of Brazil as a major consumer of vegetables, contamination can occur in the stages of production, distribution, handling and consumption, including many studies point to the presence of cyst, larvae and/or eggs in different regions, occurring directly or indirectly (runoff, flooding, irrigation water and natural fertilizers), and it is possible to generalize to fruits and other vegetables. that is, foods that are beneficial to health, with great positive properties, if not treated correctly, can have the opposite effect (Pedroso; Wedge; Cunha-Neto, 2020). The same occurs with water from the public system, despite undergoing treatment before its distribution to the beneficiary community, the route to the individual can generate contamination, and it is necessary to leave the tap water ready for consumption with other resources (filter, boil, hypochlorite or bleach).

Finally, there was a final discussion to clear up doubts, listen to more reports and the like, and many elderly people who were waiting for the appointment were also interested due to the prevalence of *vermicular Enterobius* in this group and in children and joined the group actively participating. The final dynamic was configured in a game of true or false with the use of signs, the question was launched and whoever raised the sign with the correct answer and with a justification won a gift (project keychain). Everyone answered correctly, but few volunteered to deepen the answer, one user won the freebie twice, and four others were able to develop the rationale for winning the freebie. The moment was very relaxed, ending with applause, a more lively atmosphere in the face of the wait for care and the group showed that in addition to alerting their families about the above, they would also take care of themselves.

Educational practices contribute as facilitators of teaching and learning, enabling greater exchanges to improve situations of vulnerable people and/or in adverse situations, providing conditions of well-being (Vasconcelos; Silva-Vasconcelos, 2021). It is necessary to invest in health actions, far beyond just exposing information, it is to plan teaching efficiently, to think about active methodologies that allow bonding with the elderly, with their experiences and knowledge, which make them participative and, therefore, autonomous, critical and capable of making decisions about

their own health, also based on the in scientific knowledge. In addition, the use of educational technologies, such as predominantly illustrative posters, the flit chart, the styrofoam prototype and the plaques (game) for the learning assessment help in the memorization of the content and information that the action intends to leave.

CONCLUSION

The educational action on enterobiasis using active methodologies was effective since it reached the desired age group and caused an exchange of knowledge between nursing students and the elderly, breaking the communication barrier and making everyone participate in the discussion.

The majority of the group emphasized having had the disease, identifying it by the signs and symptoms presented in the educational action, and the most relevant symptom mentioned was anal itching, which leads to irritation of the host.

The elderly were perplexed and concerned when they learned about the health problems that this disease can cause, specifically for those who have a weakened immune system, since they had a concept that enterobiasis and other worms were simple diseases and practically common among the general population.

Regarding preventive and control measures, they mentioned the daily change of bed linen, bath towels and underwear, due to the socioeconomic conditions that prevent the adoption of these measures and, consequently, hinder the prevention of this parasitosis. In this sense, they mentioned other issues of environmental sanitation infrastructure, such as lack of sewage network, piped water, small houses with little ventilation and lighting, allowing all residents to live in the same environment and there is still one more aggravating factor, which is the sharing of the environment with domestic animals such as dogs and cats, factors that contribute to the maintenance of the chain of transmission of the disease in the family and in the community.

It is understood that knowing the preventive and control measures of intestinal parasitosis, including enterobiasis, is of great value for the maintenance of the health of the elderly because they are recurrent in daily life, easily contaminated and affect families as a whole. This time, active methodologies enter as facilitators of learning because they provide a more dynamic, interactive and fun discussion, especially with the elderly.

In addition to presenting enterobiasis and explaining its characteristics, it is necessary to ensure the understanding of that public, with the production of materials directed to the group's profile, loaded with visual language, which allow openness to dialogue, instigate the community's prior knowledge, encourage creativity, active participation, critical thinking, and especially self-care.

In view of the results of the educational action, it is affirmed that the proposed objectives were achieved, to clarify, prevent and empower the population to become aware of the diseases that affect them and the ways to protect themselves, raising the quality of life and social well-being.

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