



ORIGINAL ARTICLE

Environmental health education in the initial training of early childhood educators

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ABSTRACT

Introduction: given the need to raise a generation committed to caring for the planet, it is essential to integrate environmental health education into the initial training of early childhood educators. This will allow educators to become agents of change in the community.

Aim: to evaluate the effectiveness of a brochure for environmental health education in the initial training of early childhood educators.

Methods: a pedagogical study was conducted between January and July 2022. A purposive sample of seven second-year students and five professors teaching during that academic year was selected. Document review, scientific observation, and participant interviews made it possible to address the topic at hand, using descriptive statistical methods for analysis.

Results: a brochure is being developed with guidelines for students in initial training as early childhood educators. It provides the knowledge needed to address health issues related to the environment and the adoption and promotion of healthy and sustainable behaviors.

Conclusions: the limitations identified in the year's objectives and methodological guidelines for addressing environmental education content related to health were addressed in the booklet's activities. The booklet's validity was demonstrated by the changes in attitudes and the development of knowledge among the students regarding environmental health promotion.

Keywords: Health; Health Education; Environmental Health Education; Environmental Health.

INTRODUCTION

The quality of the environment is a determining factor of health. Environmental deterioration produces direct and indirect negative effects on people's health and compromises sustainable development. On the contrary, a protected environment allows man to maintain and improve his health. Therefore, a high level of priority is attributed to its treatment from different positions: educational, scientific and medical, not only to prevent diseases, but also to contribute to general well-being, promote social equity and foster a more sustainable society.^(1,2,3,4)

In line with this need, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has emphasized the need to promote environmental health through interdisciplinary programs that encompass all levels of education and are aimed at people of all backgrounds and ages, residing in both rural and urban areas, with the aim of educating them about the basic measures they could take to manage and control their environment, using their own resources. These objectives have also been ratified and expanded in the Berlin Declaration on Education for Sustainable Development,⁽⁵⁾ which urges nations to empower communities to achieve sustainable development, creating learning and citizen participation opportunities, providing them with the skills and tools in environmental health programs so that they are co-creators of individual and social transformation.⁽⁶⁾

In Cuba, a policy on the environment and health education is defined, in accordance with what is expressed in the Constitution of the Republic, in the documents of the Party, the Ministry of Science, Technology and Environment and what is stated in Agenda 21. In relation to this, Law 150 of the system of natural resources and the environment is approved, which incorporates the environmental dimension in development plans, promotes multidisciplinary and citizen participation and establishes the means and guarantees to achieve environmental sustainability and the well-being of people.⁽⁷⁾

In addition, the Director Program for Health Promotion and Education is introduced in the national education system with the purpose of fostering a health culture among children, adolescents, young people and workers. It focuses on ordering, articulating and strengthening the actions of Promotion and Education for Health in the methodological work system, covering different levels of education.⁽⁸⁾

The incorporation of the dimensions of environmental education and promotion and education for health in the national education system demands the need to transform the curricula in higher education to train professionals highly trained for the fulfillment of the functions required by their context of action.⁽⁹⁾

Responding to these challenges, the university incorporates the environmental dimension and promotion and education for health in professional training to promote environmental management and sustainable development.⁽⁸⁾ Specifically, the early childhood professional must be prepared to address the common and specific professional problems of this educational level in order to promote the integral development of each child, providing guidance to their family and the social environment to which they belong.

Hence the need to intensify the teacher's preparation from their initial training so that they can demonstrate with their example and performance the system of knowledge, values and ideological, political preparation, taking into account the needs of an environmentalist culture for sustainable socioeconomic development and the best pedagogical experiences as well as the principles and norms of the professional's ethics, which allows forming in the students an

environmentalist and health culture that materializes in environmental health education. The above evidences the need to evaluate the effectiveness of a brochure for environmental health education in the initial training of the early childhood educator, based on the analysis of theoretical positions related to sustainable environmental aspects that may influence the health of early childhood children.

METHODS

A pedagogical study was developed between the months of January and July 2022. For this, a population of 16 students of the Bachelor of Preschool Education degree at the Hermanos Saíz Montes de Oca University is selected. The sample consists of seven 2nd year students of the degree and was selected intentionally considering the use of healthy habits, the opportunities offered by the educational teaching process in this academic year and the incidence of the environment on the health of the students.

In addition, the five professors who work in this year of study were selected, taking into account that they are Graduates in Education and have more than seven years of experience in the training of early childhood professionals.

The research is based on materialist dialectics that allows the study of the object as a process, the determination of its antecedents, the components and the dialectical relationships between them.

During the research, various research methods were used, including documentary analysis to know the information recorded in the study plans, the professional model, the year and career strategies, the labor component plan, the validation reports of the disciplines and the career, class control reports, as well as preparation protocols. This was complemented with interviews with students and professors to know the preparation they have to educate environmental health. In turn, observations were made to the classes to verify the treatment to environmental health and to the labor practice, to verify the modes of action of the students.

In compliance with ethical principles, the consent of students and professors was obtained, who were informed about the objectives and results of the research.

RESULTS

The results obtained from the documentary review show the existence of own and optional curricula that allow the planning and execution of contextual actions that adapt to the individual needs of the students and the development of environmental health education. In the Professional Model of Study Plan E, environmental health is implicitly present in all its components and is particularized in the General Pedagogical Training (FPG) discipline through the subjects Anatomy-Physiology and Didactics.

In the general objectives of the professional model, the expressions speak of some of the maximum aspirations that must be achieved in terms of environmental education and that must be part of their environmentalist culture: energy saving, care of physical and mental health, nutritional education and road education. The year's objectives do not clearly express the

knowledge and skills that students should acquire. The methodological guidelines do not clearly establish the treatment of environmental education content in relation to health.

During the research, interviews were applied to students and professors to know the preparation they have to educate environmental health in the direction of the educational teaching process in higher education. As a result, the insufficient knowledge of the professors to link the objectives of environmental education and health education with an integrating approach that allows educating environmental health from the initial training of the early childhood educator through the academic, labor, research and extension components is evidenced.

All this is reflected in the insufficient knowledge of the students to understand and address the health problems related to the environment, limiting the possibilities to educate environmental health in the organization and direction of the educational process in early childhood.

Observations were also made to classes in the second year of the degree, to verify the treatment of environmental health education from the use of the contents of the subjects of the study plan. When tabulating the results in the indicator referring to the promotion of the connection between human health and the environment of the eight activities observed, two are evaluated as good for 25 %, two activities are valued as regular representing 25 % and four as bad for 50 %.

In one of the observations, the indicator concerning the perception of environmental risks to health, was evaluated as regular, for 12,5 %, two activities representing 25 % are valued as regular and five activities were evaluated as bad, for 62,5 %. In addition, the promotion of an attitude of respect and care towards the natural environment is evaluated as good in three observations representing 37,5 %; it is valued as regular in three observations and in two for 25 % it is appreciated as bad.

With the objective of knowing the modes of action of the students, seven observations were made to the labor practice and areas of the university campus. It is verified that in the indicator referring to decision-making on lifestyles, four of the observations are valued as regular for 57,1 % and three representing 42,9 % are evaluated as bad.

The indicator referring to the manifestations of behaviors that positively impact the environment and health, two observations are valued as good for 28,6 %, three observations are evaluated as regular representing 42,9 % and two observations that mean 28,6 % are appreciated as bad. Regarding the practice of actions that minimize the negative impact on the environment, two observations are evaluated as good representing 28,6 %, in addition, four observations are valued as regular for 57,1 % and one observation representing 14,3 % is appreciated as bad.

The application of the aforementioned research methods allowed identifying the main insufficiencies to give treatment to environmental health education in the initial training of the early childhood educator, such as: the practice of unhealthy lifestyles in the educational institution and the community, the insufficient mastery of the topics related to environmental health and the low level of integration, with a systemic character, of the actions between the components: academic, labor and research of the subjects in the second academic year.

All these shortcomings are, in essence, the most faithful sample of how much we still have to do to form a generation of early childhood professionals who are aware, responsible and committed to the health of their environment and their integral well-being.

In order to give treatment to the detected insufficiencies, a brochure with guidelines for students in training as early childhood professionals is proposed.

This result is based on the general foundations of the Sciences of Education, the principles of early childhood, specific objectives, introduction, development in which information on the subject and methodological guidelines and evaluation are offered.

The specific objectives pursue:

- ✓ Provide the knowledge, skills and awareness necessary to address health problems related to the environment.
- ✓ Identify the environmental factors that affect the health of the community in which they operate.
- ✓ Promote healthy and sustainable behaviors.

In the introduction: the topic is presented to sensitize students with the importance of the treatment of environmental health from the initial training of the early childhood educator, in addition the objectives of the brochure are presented.

The development offers information on the subject specifying some key aspects of environmental health education:

- ✓ Environmental awareness to know the connection between health and the environment to foster an attitude of respect and care towards the natural environment.
- ✓ Knowledge about environmental risks to health.
- ✓ Promotion of sustainable lifestyles.
- ✓ Decisions about lifestyles and behaviors that positively impact the environment and health.

In addition to the information on the topics mentioned above, the brochure guides suggestive activities that students should develop in different contexts of action and that will be based on the academic, labor, research and extension components.

The methodological suggestions are adjusted to the contexts of action of professors and students considering the following elements:

- ✓ It can be worked during the different forms of methodological work in higher education
- ✓ In the different contexts, the environmental and health diagnoses of the community should be considered.
- ✓ Consider the opportunities offered by the contents of each subject or area of development of early childhood.
- ✓ Project the exit to the topic through the academic, labor, research and extension components.
- ✓ Take advantage of the opportunities offered by the educational process in early childhood (independent activity, complementary, play and family guidance) to give treatment to the topic.

The evaluation is projected to analyze the performance of professors and students and the change of attitudes in the practice of sustainable lifestyles, once the brochure is applied, for which three evaluative categories are established.

Good (B): When teachers are able to systematically promote the connection between human health and the environment, taking advantage of the contents of the subjects of the study plan, identify the environmental risks to health in the area of action, drawing up strategies that respond to the identified problems and systematically promote an attitude of respect and care

towards the natural environment through the academic, labor, research and extension components.

And the students are systematically able to make more informed decisions about healthy lifestyles, manifest at all times modes of behavior that positively impact the environment and health, and also constantly practice actions that minimize the negative impact on the environment.

Regular (R): When teachers are able to regularly promote the connection between human health and the environment, taking advantage of some of the contents of the subjects of the study plan, identify the environmental risks to health in the area of action, drawing up strategies that respond to some of the identified problems and occasionally promote an attitude of respect and care towards the natural environment through the academic, labor, research and extension components.

And the students are regularly able to make more informed decisions about healthy lifestyles, manifest at some times modes of behavior that positively impact the environment and health, and also occasionally practice actions that minimize the negative impact on the environment.

Bad (M): When teachers are not able to promote the connection between human health and the environment from the contents of the subjects of the study plan, identify all the environmental risks to health in the area of action and draw with some difficulty strategies that respond to some of the identified problems, occasionally promote an attitude of respect and care towards the natural environment through some of the components of the educational teaching process.

And the students are not able to make more informed decisions about healthy lifestyles, manifest modes of behavior that positively impact the environment and health, and practice actions that minimize the negative impact on the environment.

With the implementation in the educational practice of the brochure, environmental health education was strengthened, raising the level of knowledge of professors and students for making decisions about sustainable lifestyles and behaviors that positively impact the environment and health.

In addition, the educational strategies of the academic years were redesigned, and methodological activities were developed to make viable the exit to the contents of environmental health through the curricular, extracurricular routes, contributing to the future educators the necessary tools to promote environmental health in the direction of the educational process of early childhood and family and community guidance.

DISCUSSION

Throughout history, human beings have struggled to preserve their life, their health and education, considering them as their most valuable possessions. Currently, the close relationship between man, the environment and health is observed, since a large part of infectious diseases are influenced by environmental factors. For this reason, various institutions and public bodies have taken measures in this regard. Despite the efforts made, there is still much to be done in terms of promoting healthy lifestyles to reduce the risks to which we are exposed.

In 2004, a group of health experts gathered under the slogan "One world, one health", focused their attention on this issue and highlighted the priorities of an interdisciplinary and international approach. Here the "Manhattan Principles" are declared in which 12 recommendations are exposed for the prevention of infectious diseases and the integrity of ecosystems for the human, animal and biodiversity benefit.⁽¹⁰⁾

The "One Health" initiative consists of the collaborative effort between multiple professions of the health sciences, together with their disciplines and institutions to achieve the optimal health of people, animals and the environment.⁽¹¹⁾ It constitutes an approach conceived to apply programs, policies, laws and research, in which multiple sectors collaborate to achieve better public health results.^(12,13)

This approach, even when it recognizes the participation of different sectors, directs the treatment to the topic from the area of medical sciences, considering it insufficient, because from the educational sector, in addition to transmitting information, skills and values are developed that empower individuals to make informed decisions about their well-being.

Another discipline that studies the relationship between the environment and health from the area of medical sciences is environmental health. According to the World Health Organization (WHO),⁽⁹⁾ it comprises those aspects of human health that are determined by environmental, physical, chemical, biological, social and psychosocial factors. It also refers to the theory and practice of evaluating, correcting, controlling and preventing those factors in the environment that may affect health,⁽¹⁾ and includes the creation of healthy environments, using the concept of ecosystem health. In addition, it is seen as a dynamic, changing and participatory process that allows people to increase control over their health and well-being for all.⁽⁶⁾

The previous definition does not describe the characteristics of a healthy ecosystem, however, it explicitly states the relationship between humans and environmental factors that affect health, which is essential to achieve sustainable development.⁽¹⁴⁾ However, education for sustainable development will only become a reality if the basic problems are addressed from the point of view of multiple stakeholders. This requires a different working paradigm in which attempts are made to establish new partnerships and an interdisciplinary treatment is offered in order to find solutions to complex problems. In this sense, intersectoral collaboration is key to implementing effective strategies in environmental health.

Given these conditions, health problems cannot be addressed only from the perspective of traditional medical care, but from a multisectoral approach in which educational systems play a very important role. In Cuban higher education, health education and environmental education programs have been gradually incorporated into the different careers and disciplines, constituting a priority in the training of students who graduate from pedagogical careers. These professionals must possess the general knowledge and skills that allow them a consistent and responsible action, so that through pedagogical practice they can give way to the contents of education for health and environmental education through the curricular, extracurricular, family and community education.⁽¹⁵⁾

Specifically, from the methodological and organizational indications of the Bachelor of Preschool Education degree, the student is conceived as the protagonist of their learning, making self-preparation a permanent process. Therefore, from the professional model, the aspirations are raised in terms of the integral formation of the early childhood professional, which is specified in the disciplines and requires a level of concretion in the subjects and educational strategies of career and academic years.⁽¹⁶⁾

These strategies will take into consideration the content of the different subjects and disciplines of the study plan, contributing to the integral development of the personality and to their preparation for the solution of problems of the educational practice.

In the analysis carried out on the contents, thematic axes and objectives that must be achieved in the graduates of the pedagogical faculties according to the Director Program of promotion and education for health, it is verified that the treatment to environmental health is found implicitly because according to the WHO. Environmental health is related to all the physical, chemical (anti-tobacco, anti-alcohol and anti-drug) and biological external factors of a person. It encompasses environmental factors that could affect health and is based on the prevention of diseases and the creation of environments conducive to health.⁽¹⁷⁾

However, in the objectives of the program it is focused in a very general way and in those corresponding to the graduates of the pedagogical career only the hygienic problems, of sexuality, smoking, alcoholism and road education are specified. Similarly, in the objectives of the Professional Model of the Bachelor of Preschool Education degree, only healthy lifestyles are referred to. Such results evidence that generally the information is projected merely from the health approach and the environmental part is not related, there is little information on the relationship between certain behaviors towards the environment and the health of people.

It would be necessary to value the conceptualization of "environmental health" from a pedagogical perspective, because until now the definitions consulted respond to the area of medical sciences. If it is considered that environmental health is a formative goal and that from the educational system it is necessary, and also possible, to improve the current situation regarding the behaviors of people, it will also have to be considered that it is not enough to work in the classroom the contents structured in the different subjects. Therefore, it is necessary to intentionally treat the contents of education for health with an environmentalist approach to guarantee the formation of an early childhood professional capable of contributing to the fulfillment of the sustainable development objectives.⁽¹⁸⁾

Early childhood is characterized because all the anatomical-physiological structures are in full process of formation, maturation and improvement. During this stage, children develop fundamental skills and values that will influence their future behavior towards the environment, so it is the opportune moment to promote awareness about environmental problems and the importance of caring for the environment, in addition to integrating routines that promote an ecological lifestyle, from a young age a professional is needed who is capable of planning the conditions of the life regime in each stage of development that allows the child to adapt to any changing condition of the environment to promote an adequate stimulation to their development.

CONCLUSIONS

For all the above, it is necessary to train a professional capable of demonstrating with their example and performance the system of knowledge and ideopolitical values, who takes into account the needs of an environmentalist culture for sustainable socioeconomic development and the best pedagogical experiences, knowledgeable of the principles and norms of the ethics of the education professional that allows forming in the students revolutionary attitudes and the practice of healthy lifestyles, who participates as an agent of social development and transformation and who builds a model to follow in sustainable practice, implies the integration of the objectives of education for health and those of sustainable development taking into account environmental issues.

Conflict of Interests

The authors declare that there is no conflict of interest.

Authors' Contribution

All authors contributed equally to the conception, design, writing and revision of the final version of the manuscript.

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