

**The development of physical activities in the environment by
professionals of Physical Culture**

**El desarrollo de actividades físicas en el medio ambiente por los
profesionales de la Cultura Física**

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ABSTRACT

This article aims to reflect on environmental problems, in addition to how they affect the quality of life of the human being and propose to the professional of Physical Culture the necessary elements that allow them to develop physical activities to mitigate the effects that they may bring to the health of participants current environmental conditions. In the development of the research, research methods and techniques were used such as: the interview, the review of documents among others that allowed determining the elements necessary for the preparation of the proposal.

Key words: Environment; Physical culture; Physical activities; Environmental conditions

RESUMEN

Este artículo tiene como objetivo reflexionar sobre los problemas medio ambientales, además de cómo afectan la calidad de vida del ser humano y proponer al profesional de la Cultura Física elementos necesarios que le permitan desarrollar actividades físicas para mitigar las afectaciones que puedan traer a la salud de los participantes las actuales condiciones medioambientales. En el desarrollo de la investigación se utilizaron métodos y técnicas de investigación tales como: la entrevista, la revisión de documentos entre otros que permitieron

determinar los elementos necesarios para la elaboración de la propuesta.

Palabras clave: Medio ambiente; Cultura física; Actividades físicas; Condiciones medioambientales

INTRODUCCTION

At present, the negative environmental impacts are becoming more and more visible in the daily actions of man. The different environmental problems resulting from situations caused by certain human activities, processes and behaviors significantly affect the health of individuals, according to data provided by different national and international health institutions.

This requires deep, detailed and systematic work by professionals, who systematically use the environment according to their profession, to mitigate the harmful consequences that problems may cause, therefore, it is essential that these professionals know what to do and how to do not only for the achievement of care and protection of the environment, but also for the health care of citizens.

Reference is made to professionals of Physical Culture, where the performance of physical activities constitutes the main element for the work of the different spheres of action, in the different scenarios, specifically the activities that are carried out in the community, outdoors; for this reason, it is important to identify environmental problems and tasks in order to mitigate those that can cause damage to the environment, physical-sporting activities and facilities and the health of practitioners, the latter problem that is not taken into account by these professionals when planning activities.

Undoubtedly, the preparation to work on the health care of the practitioners of systematic physical activities, especially those that are carried out, generally, outside sports facilities becomes very complex, since it requires dedication, more time to think about what to do and how to do, which comes from the interest of preparing men who are useful to themselves and to their social group, in alert vigilance for the future of present and future generations.

DEVELOPMENT

The issue of the role of the professional of Physical Culture regarding the treatment of Environmental Management has been addressed in other works by these

authors, among which the following stand out: "Environmental management for professionals of Physical Culture" from 2019, in which they appear didactic procedures to strengthen environmental management, by professionals of Physical Culture, for the protection and preservation of the environment, as well as the health care of the participants.

At present, the protection of the environment in Cuba is a priority of the Government, which has inserted itself in what is now predominant on the international scene and has supported the relationship that exists between the population, the territory and the environment. (Rodríguez, 2019, p.113)

According to researcher María Novo, nature is not only there, passive for man to make use of it and use it; it is no longer just a means to satisfy human needs. Nature is, at the same time, man's environment, that which surrounds him and allows him to live, that which conditions the very existence of humanity, including his survival. This environment has in itself its rules, presents a systemic functioning, some demands and is, in short, the space of action-reaction in which men can advance, not "at the expense of" the other elements of the system, but in dynamic interaction with them". (Novo, 1988)

In the international context, *"... it has now been agreed that the concept of the environment should encompass the social and cultural environment and not only the physical environment, so the analyzes carried out must take into account the interrelationships between the natural environment, its biological and social components and also cultural factors ..."* (UNESCO-UNEP, 1978, pp.11-12).

Likewise, in relation to this concept, it is formulated that

"... environment is everything that surrounds the human being and that includes: natural elements, both physical and biological; artificial elements (technostructures); social elements, and the interactions of all these elements with each other ... The sum total of all external conditions, circumstances or physical and chemical conditions that surround a living organism or group of these, and that influence the development and physiological activities or psychophysiological of the same ..." (Sanchez and Guisa, 1989, p.63)

On the other hand, and according to the online definition dictionary updated in 2019, the environment

It is a system formed by natural and artificial elements that are interrelated and that are modified by human action. It is about the environment that conditions the way of life of society and that includes natural, social and cultural values that exist in a given place and time.

In relation to the environment, Fidel expressed:

What is going to happen to the environment? Every day there are more problems with pollution, every day they are more serious, every day they poison the waters and the air more; the earth's atmosphere is warming, the waters rise, natural disasters or great droughts that devastate us multiply, even the United States itself was hit by a drought in recent months; to China great floods. More cyclones and more intense in many parts. And nobody knows the catastrophic consequences; or they are known, unfortunately, but there is no awareness, within the empire or in many developed countries, of these problems. (Castro, 1996, p.1)

The Cuban socio-environmental practice according to Cruzata (2006) cited by (Cordero and Ruiz, 2018, p.125) “has shown that ecological protection and environmental security require and need political, economic and social will and actions on the part of the decision-makers”.

In the Cuban encyclopedia EcuRed, updated in 2020, it is stated that in many countries and regions, environmental protection is conceived as a process for the strict conservation only of natural resources, and it has not been possible to incorporate the preservation of historical components, cultural and social, as well as the care and protection of man - the main component of the environment -, and his quality of life, is not included, on occasions, within the comprehensive environmental management system. This reveals the need to venture into this issue in search of alternatives that lead to the protection of the health of the individual, in relation to the many setbacks caused by environmental problems.

In this task, the actions carried out by each of the entities that have interaction with the environment that surrounds them and especially the professionals of Physical

Culture play an important role, which in their direct incursion can mitigate many of the affectations that may not be suffered. only the practitioners, but the public that attends the various systematic physical activities that take place in the communities.

It should be noted that pollution, the lack of and difficulties with the management, availability and quality of water, the impacts of climate change and the deterioration of the hygienic-sanitary condition in human settlements, are some of the main environmental problems in Cuba, among others, the professional of Physical Culture must take into account when conceiving the activities to be developed with the members of these communities.

Carrying out well-planned, conscious and sustained activities in the environment affects the achievement of a better quality of life and to achieve this achievement they must be analyzed from a passive point of view, which corresponds to the environmental elements, their relationships and the effects that they also cause the individual. As was clearly stated in the work that was referred to at the beginning of this, there is a close relationship between the Environment and Physical Culture.

Physical Culture has four spheres of action: Sports, Physical Education, Recreation and Therapeutic and Prophylactic Physical Culture; they all have one element in common: physical activity.

Physical activity, defined as *"any body movement produced by skeletal muscles that requires energy expenditure"* (WHO, nd, p.1), is one of the various activities that man undertakes in the different facets of his life, it mainly develops in the environment, therefore, in direct contact with the environment, whether urban or rural.

According to the online dictionary DefinitionABC, physical activity is any activity or exercise that has as a consequence the expenditure of energy and that sets in motion a lot of phenomena at the body, mental and emotional level in the person who performs it.

The work carried out by the four spheres of action of Physical Culture mentioned by (Hernández-Pérez, Calderín-Pedroso and Martínez-Barzaga, 2018, p.70) brings with it that man uses the environment according to his work needs, establishing himself in that way a not unlikely incidence of contamination towards himself, so knowing what to do and how to do for the protection of the environment also comes, for these

professionals, in an urgent need to preserve the health of the individuals with whom they develop their professional work. Examples of only some health and well-being effects that man suffers from environmental problems are evidenced when it is known that the level of carbon monoxide (CO) in the urban environment is not toxic for plants, but it is for human beings in the transport of oxygen in the blood. CO that reaches the lungs along with polluted air or cigarette smoke combines with hemoglobin (Hb) to form carboxyhemoglobin (HbCO). This process is irreversible and hinders the normal transport of oxygen through the blood. Castro (1990) cited by (Rose-Cesar and Rodríguez-Martínez, 2019, p.5)

Effects on the central nervous system and visual acuity failures are some of the symptoms when the HbCO concentration is 2-5%. Cardiac and pulmonary functional changes appear at concentrations greater than 5% HbCO. Headaches, fatigue, coma, drowsiness, and death can appear with 10-80% HbCO. These effects worsen as the HbCO concentration values or the time of exposure increase, causing the onset of cardiovascular diseases, as insufficient oxygen reaches the myocardium. Castro (1990) cited by (Rose-Cesar and Rodríguez-Martínez, 2019, p.6)

In the National Conference on Health, Environment and Sustainable Development (1995) data were raised that, to date, are valid. Nitrogen oxides are very toxic, they cause irritation of the mucous membranes of the eyes, nose, throat, not to mention that it increases the risk of allergic diseases. In addition, these particles can accumulate in the lungs and produce a group of diseases called pneumoconiosis, which are considered within occupational neuropathies, and are characterized by damage to the parenchymal tissue of the lung, that is, pulmonary fibrosis.

Air pollution is a mixture of solid particles and gases in the air. Car emissions, chemical compounds from factories, dust, pollen, and mold spores can all be suspended as particulates. (Environmental Protection Agency, 2020, p.1)

In this sense, ozone is a radioactive gas formed in the lower atmosphere by the reaction between oxygen, nitrogen and volatile hydrocarbons, which produces a negative effect on the airways causing bronchitis and inducing asthma attacks and worsening symptoms of patients with chronic obstructive pulmonary diseases

(COPD). When a person is exposed for a long time to these gases, it causes more serious diseases such as pulmonary edema due to the toxic effect on the alveoli.

In relation to the increase in the chances of suffering from lung cancer, it is agreed (Flores, et al., 2008, p.12) that this is mainly due to foundries carried out in the industry that release arsenic into the medium. Sulfur dioxide (S₂) comes mainly from petroleum combustion, which causes bronchoconstriction and with it, resistance to normal breathing.

Water pollution is the presence of chemical or other components in a density higher than the natural situation, so that it does not meet the conditions for the use that would have been intended in its natural state. (Zarza, nd., p.1)

Regarding water pollution, (López and others, 2003, p.22) states that this can occur at the level of surface water and groundwater. Surface waters are more easily polluted because they are more exposed to the usual sources of contamination, given by water from natural phenomena such as erosion, or by wastewater from human activities (domestic sewers, industrial waste, agricultural activities, etc.) Taking into account what has been stated by the World Health Organization (WHO, 2017, p.1), health problems related to water are classified according to the origin of their contamination:

- Those acquired by ingesting contaminated water, which can be bacterial, viral or parasitic.
- Those acquired by contact with contaminated water such as diseases caused by microorganisms that penetrate the skin and mucous membranes, rashes or skin irritations.
- Those that water constitutes habitat for vectors, and those that can be avoided by regular use of water.

Pollution in excess of water, its waste and misuse will cause a considerable decrease in it, often leading to a lack of water, so these aspects are closely related to each other, demonstrating once again the interrelation that exists among environmental problems. According to what is proposed by (Picazo, 2016, p.1), water is essential for life in the life of any living being on the planet, since it is necessary to drink between one and two liters per day. Water quality is of great

importance, as a number of bacteria, viruses and parasites can spread through the water and cause illness. Most of these diseases are called communicable because they travel from one sick person to another through the water. Water is a vehicle for the transfer of diseases, a latent situation in the country today. On the other hand, it agrees with what was raised by (Toledo, 2008, p.1) in that the scarcity of water is related to the increase in contagious diseases due to the worsening of hygienic practices. It is directly related to gastrointestinal diseases, but it is also the gateway to other harmful chemical elements present in surface and groundwater from chemical activity in agriculture or industrial, such as those discussed above, there are also others that, although They are not the only ones, they are the ones with the highest incidence and they are:

- Diarrheal diseases. It is the most important public health problem influenced by water and sanitation.
- Pinworms. Depending on its severity, a parasitic infection can lead to malnutrition and anemia and stunted growth in children.
- Trachoma. It is related to overcrowding and poor hygiene. It ends in loss of sight.
- Schistosomiasis. Disease caused by parasites. Infection occurs when the skin comes into contact with contaminated water.
- Cholera. A disease that is generally spread by poor sanitation and lack of access to drinking water.
- Giardiasis. It is a protozoan infection caused mainly by *Giardialamblia*, *intestinalis* or *duodenalis*. Often asymptomatic, the infection can cause abdominal cramps, diarrhea, fatigue, and weight loss. The infection can be acquired by ingestion of fecally contaminated food or water or by hand-to-mouth transfer of cysts from the feces of infected people.

Effects of ultraviolet radiation, defined by the WHO as electromagnetic radiation with wavelengths between 100 and 400nm (2020, p.1), on human health: today it is estimated that the rates of skin cancer increased due to the decrease in the stratospheric ozone. The most common type of skin cancer, called non-melanoma, is caused by exposures to UV-B radiation over several years.

A person's defenses to fight infection depend on the strength of their immune system. Exposure to ultraviolet light is known to reduce the effectiveness of the immune system, not only related to skin infections but also to those verifiable in other parts of the body.

Knowing the negative impact that, for years, man has exerted on the environment and the damage that these problems bring to the health of the man himself, then one is in a position to propose that the professional of Physical Culture should take into account It tells what to do and how to do, so that the development of physical activities with children, adolescents, youth, adults and the elderly in these areas, do not become a mobile that complicates, at present, the health of practitioners and non-practitioners . Non-practitioners attend the areas where the activities take place, therefore, they are also participants in all this analysis.

To achieve **what to do**, reference is made to the skills that a Physical Culture professional must have to undertake work in the environment, the following are proposed:

- 1- Have knowledge of the environment that surrounds it. It refers to the specific characteristics of the environment in which the activities are to be carried out and whether the conditions correspond to the activity to be carried out. The practices that can be carried out without damaging the natural environment.
- 2- Creativity. It refers to being a professional open to the environment that surrounds them, to the different spheres of action, to the different age groups, having the ability to organize, create, innovate.
- 3- Communication. Knowing how to express your opinion, knowing how to transmit the study you carry out, knowing how to listen to other criteria.
- 4- Consult. It refers to the need to share your criteria, opinions, ideas with other professionals that allow you to enrich your proposal, see if it is viable or not.
- 5- Elaboration. Have the ability to develop, write what you think, develop a protocol for observation, transformation of the environment, without using predatory practices.

For **how to do (develop)** physical activities, Physical Culture professionals need to take into account the following aspects:

- Carry out a meticulous study that takes into account, among others:
 - Characteristics of the place where the activities will be carried out: nearby rivers, predominant vegetation, their characteristics and importance, prevailing historical-cultural heritage; all with the aim of working with practitioners, intentionally, the characteristics of working with practitioners, intentionally, the characteristics of the place for the creation of habits, mitigating the causes of environmental deterioration and disseminating and informing to create the environmental perception and promotion of protection so necessary in these times (environmental education). This can be worked in different ways; through conferences, conversations, contests, talks, creating circles of interest, among others.
 - Think and elaborate forms of control to know environmental impacts produced by the development of these activities to provide feedback on what is planned and carried out.
 - Do this as part of physical preparation and the development of physical activity; is carried out in urban or rural areas.
- Take into account to select the area where the activities will take place:
 - That there are no nearby areas where waste is dumped.
 - Locate outdoor spaces in which there are, around them, places where participants can take refuge (active and passive), from time to time, so that they do not receive the intensity of the sun's rays persistently, especially if systematically perform those activities.
 - At these times when epidemics proliferate, be informed that in the radius of action where the activities will take place there are no manifestations of any of them.
 - Due to the necessity of the ingestion of liquid, especially water, for those who expend physical energy, guide the practitioners or participants to bring drinking water to drink.

- Try not to locate places where there are nearby rivers or lagoons that may awaken the desire to cool off, without prior knowledge of the conditions of the water.
- In general, many of the physical activities carried out by the different age groups are enlivened by music; take care that the equipment is not so close to the participants that it can cause them to get noise pollution.

CONCLUSSIONS

Spend time thinking about what to do and how to do to mitigate the health problems that could bring the man. On this basis, a series of reflections were made in relation to environmental problems, and their effects on the quality of life of human beings. These elements were offered to professionals of Physical Culture as a tool for the development of physical activities that contribute to improving the quality of life of human beings. In this sense, the preparation of Physical Culture professionals to treat these conditions stands as a primary need.

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