An Epistemological Referential that approaches to the possibility of intervention of a physical education professional in the primary, secondary and tertiary levels of prevention of health, concerning the cardiovascular disease

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ABSTRACT: This article aims to present an epistemological perspective concerning the possibility of intervention of a physical education professional in the primary, secondary and tertiary levels of health prevention, in Brazil, concerning the cardiovascular diseases. In this sense, a conception of Physical Education was presented as one of areas of knowledge related to health prevention, as a major mean of intervention. Afterwards, the problem of cardiovascular diseases in Brazil and in the world was evidenced, considered an epidemic problem. And thus, the role of physical activity in the context of health prevention is very important. The primary, secondary and tertiary levels of health prevention were also analyzed as well as their respective focuses on performance in relation to diseases, as areas of knowledge of Medicine, Physiotherapy and Physical Education and their intervention. Considering such factors, the possibility of physical education intervention was characterized in the three levels of health prevention in relation to the cardiovascular diseases, since the professionals present the technico-scientific competence discriminated in the professional ethics code to act in such field.

Keywords: Prevention Levels; Health; Physical Education; Epistemological Referential; Intervention.

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Um referencial epistemológico sobre a possibilidade de intervenção do profissional de Educação Física nos níveis primário, secundário e terciário de prevenção da saúde, nos aspectos relacionados com as doenças cardiovasculares

O objetivo deste artigo foi apresentar uma perspectiva epistemológica sobre a possibilidade de uma intervenção do profissional de Educação Física nos níveis de prevenção primário, secundário e terciário da saúde, no Brasil, nos aspectos relacionados com as doenças cardiovasculares. Neste sentido, foi apresentada uma concepção da Educação Física como uma das áreas do conhecimento relacionadas com a prevenção da saúde, sendo o meio principal de intervenção a atividade física. Em seguida, evidenciou-se a problemática das doenças cardiovasculares no Brasil e no mundo, sendo estas consideradas em conjunto um problema epidemiológico, e o papel da atividade física no contexto da prevenção da saúde. Também foram destacados os níveis primário, secundário e terciário de prevenção da saúde, e seus respectivos focos de atuação em relação às doenças, bem como as áreas de conhecimento da Medicina da Fisioterapia e da Educação Física, e suas possibilidades de intervenção, no que concerne à relação entre seus respectivos objetivos de saúde e os níveis de prevenção. Considerando tais fatores, ficou caracterizada a possibilidade de intervenção da Educação Física nos três níveis de prevenção da saúde no que se refere às doenças cardiovasculares, desde que os profissionais apresentem a devida competência técnico-científica discriminada no código de ética da profissão para atuar em tal campo.


RESUMO

Um referencial epistemológico sobre a possibilidade de intervenção del Professional de Educación Física en los Niveles Primario, Secundario y Terciario de Prevención de la Salud, en los Aspectos Relacionados con las Enfermedades Cardiovasculares

El objetivo es presentar una perspectiva epistemológica sobre la posibilidad de una intervención de un profesional de Educación Física en nivel de prevención primaria, secundaria y terciaria de salud, en Brasil, en los aspectos relacionados con las enfermedades cardiovasculares. En este sentido, una concepción de Educación Física se presenta como un de los campos de conocimiento relacionados con prevención de salud, siendo la actividad física el medio principal de intervención. En seguida, el problema de las enfermedades cardiovasculares se evidencia en Brasil y el mundo, siendo éstas consideradas juntos un problema epidémico, y el papel de actividad física en el contexto de la prevención del problema de salud. También se destacaron los niveles primario, secundario y terciario de prevención de salud, y sus respectivos enfoques de actuación respecto a las enfermedades, así como a los campos de conocimiento de la Medicina, Fisioterapia y Educación Física, y sus posibilidades de intervención, en lo que involucra una relación entre sus respectivos objetivos de salud y los niveles de prevención. Considerando estos factores, la posibilidad de intervención de Educación Física se caracterizan los tres niveles de prevención de salud en lo que se refiere a las enfermedades cardiovasculares, desde que los profesionales presenten la debida competencia técnico-científica discriminada en el código de ética de la profesión para actuar en tal campo.

Palabras clave: Nivel de Prevención, Salud, Educación Física, Referencial Epistemológico, Intervención.

PREVENTION AND PHYSICAL EDUCATION

It can be considered that one of the main situations of intervention of professional of PE in the health area arise from the conception of health prevention.

Etymologically speaking, the term prevention, which arises in the 17th Century, comes for the Latin term praevenire which means “dispose with anticipation’, ‘caution”’ (Cunha, 2001: 634), the same acceptance assigned to the entry prevent. According to Amora (1997:556) prevention means “the action of being on one’s guard”, “precaution”; and prevent, in turn, implies “dispose so that one avoids (harm, damage, loss).” Ferreira (1986:1391) adds to this entry the meaning of “disposition or anticipated or preventive preparation.” In this manner, the term health prevention can indicate previously prepared actions for harm, or which aims to avoid harm, damage and loss to the user. The Brazilian Society of Cardiology (SBC, 2001a) regards prevention as being the search and utilization of “methods to prevent diseases and/or their complications, applicable in a given population or in one individual."

WHO (2000:39) defines health as “a state of complete physical, social and mental welfare, and not only the absence of diseases or illnesses. Health is a resource for everyday life, not a purpose for life. It is a positive concept which emphasis the personal and social resources, as well as the physical capacities.”

The International Conference on Primary Health Care held in September 12th, 1978, and generated the Declaration of Alma-Ata. At that time health was already dealt within the concept of welfare, emphasizing, however, the issue of being a “fundamental human right and that the consecution of highest level possible of health is the most important social worldwide target […]” (Geraldes, 1992:133).

Nevertheless, Pereira (1995:30) defines health simply as “absence of disease,” and warns that definitions “[…] more elaborate, for example, the one by WHO are widely used as a rhetoric figure or an ideal for the future, while in practice, health is nearly always quantified in terms of the presence or absence of any sign, symptom or diagnosis of disease.”

The conception of health prevention, as one of the main foci of professional intervention, it can be identified and characterized from an analysis in several documents.

The Declaration of Alma-Ata itself (Geraldes, 1992:134) establishes in the fourth item that “the first health care is the essential health care based upon method and practical technologies, scientifically well-based and socially accepted, put to the reach of all individuals and families of the community, through its full participation [...]”. In the seventh item, sub-item three, it establishes what can be understood as one of the role of PE, as regards the primary health care, upon including the “[…] education in connection to prevent health problems and to the method for prevention and control […]” and, further “[…] prevention and control of endemic diseases […]”.

The Worldwide Physical Education Manifesto, a document created by the Fédération Internationale d’Education Physique references the condition of preventive acting for PE, when it quotes in its seven article that:

The Physical Education, to play its role of Education for health and to be able to act preventively in the reduction of diseases related
to obesity, heart diseases, hypertension, some forms of cancer and depressions, contributing for the life quality of its beneficiaries, should develop habits of regular practice of physical activity in people (FIEP, 2000: 25, our emphasis.)

And the physical activity is defined, in turn, as:

[...] any body movement deriving from muscular contracture, with energetic expense above the repose and it is made up as a human being complex, voluntary and autonomous behavior, with components and determinants of biological and psycho-socio-cultural order and which can be exemplified by the sports practice, physical exercises, dances, some leisure experiences and utilitarian activities (FIEP, 2000:22).

Likewise, a document presented by the Federal Council of Physical Education (CONFED, 2002) from the Brazilian laws indicates that:

Physical activity is all voluntary human being body movement which results in energetic expense above the levels of repose, characterized by the daily life activity and by physical exercises. It is about inherent behavior to the human being with biological and sociocultural characteristics.

On the other hand, it is recognized that health “as one of the principles quotes as essential for the physical activities” (FIEP, 2000:23). So, it is considered that:

An active life style in a regular practice of physical exercises of children, adolescent, young people, adults and the elderly, it is recognized as one of the best mean of promoting health and life quality, including the combat of several stresses of the daily life. (FIEP, 2000:24).

An editorial of front page of the CONFEF Journal (2001) considers the health prevention as “the perspective of acting so that preventing diseases it reduces causing risk factor. So, it establishes that “learning to live better presupposes the prevention of disease and preventing diseases is intimately linked to physical activities."

In this manner, it is clear that the role of promotion and prevention of health about the PE has as the main mean the regularly practiced physical activity.

**EPIDEMIC ISSUE OF CARDIOVASCULAR DISEASES AND THE IMPORTANCE OF PHYSICAL ACTIVITIES**

It is noticed in the world, and particularly in Brazil, especially in the past decades a general tendency to sedentarism in urban areas due to the great impact and the technological advance, which gradually replace the manual activities for automated activities, in turn, they reduce the level of effort. In the past, those activities demanded more intensive strength, as a consequence a more active physical state. This sedentarism has impinged on the population a set of health problems with the appearance or reappearance of new forms of diseases e more aggressive forms of diseases already existing.

On referring to cardiovascular diseases in the developing countries, WHO highlights that the urbanization, industrialization and globalization have caused a lot of changes in the life style of many individuals. This fact has tended to promote, among other malefactions, the heart diseases. As the main risk factors, the institution points out the “use of cigarettes, physical inactivity and unhealthful diets” (WHO, 2001).

As regards the physical activity, it is considered that:

There is a whole set of evidences which starts to demonstrate, without a shadow of a doubt, that the physical inactivity and sedentarism represent a serious threat for our body, causing a serious deterioration of the normal body functions. (Pollock, Wilmore, 1993:1).

The cardiovascular diseases are ranked in the first position worldwide and nationwide in the mortality rate, in absolute terms. These considerations are consubstantiated by documents as follows. SUS (Unique System of Health, an organ of Health Ministry of Brazil) makes available a database with information on the conditions of health in the country, an Interagency Network of Information for Health (Brasil, 2001). Within several existences data, a table is highlighted for this article. With data of 1998, this table informs the number of percentual of death according to the groups of causes. Out of a total of 790.418 deaths registered in the SUS, 256,333 (32.43%) were caused by circulatory-related system diseases, the greatest index within the ones presented, corresponding to practically one-third of death in Brazil in this period.

In terms of worldwide population, according to WHO (1977), in its document “Health and Environment in self-sustainable development,” the cardiovascular diseases head the list of death the world over. In another document (WHO: 2001), it is reported that the cardiovascular diseases, although they are controllable and preventable, account for one-third of death worldwide. And it affirms, for the International day for Health of 2002, whose motto was Move for Health which:

the greatest cause for cardiovascular diseases, diabetes and obesity is the lack of physical activity. WHO estimates that the lack of activity causes more that 2 million of deaths a year. This is similar to one-third of cases of cancer which can be prevented by the maintenance of a healthful diet, normal body mass and physical activity for the whole life. It is estimated that the combination unsuitable diet, lack of physical activity and smoke is the cause of more than 80% of premature cardiovascular diseases (WHO, 2002).

The Brazilian Society of Cardiology establishes that:

the physical inactivity is widely recognized as one of the important factor of risk for cardiovascular disease. The sedentarism, as well as tobaccoism, arterial hypertension and dislipidemia compose the risk factors, liable to be changed, for a group of chronic degenerative diseases considered the main problem for health nowadays (SBC, 2002b).

For cardiovascular disease, WHO regards as “a group of disor- der for heat and blood vessels,” which includes: hypertension, coronary disease, cerebrovascular disease, peripheral vascular disease, heart arritmia, rheumatic heart disease, congenital heart disease and cardiomyopathies (WHO, 2001).

For their characteristics, the cardiovascular diseases can and are considered and treated as an epidemic problem. Epidemiology is
a “branch of sciences of health which studies, in the population, the occurrence, distribution and determinant factors of events related to health” (Pereira, 1995:3). To demonstrate it, the author indicates to use that this has began to understand chronic diseases of degenerative nature, the congenital anomalies and many other events, as accidents and poisonings, which are not diseases, but which justify a similar approach. Hence, it is customary to say that the object of epidemiology is represented by any harm or grievance to health in terms of population (Pereira, 1995:2).

Therefore, it is relevant the participation and intervention of PE so as to contribute, to some extent, for minimizing the problems deriving for cardiovascular diseases. However, it has become pertinent to inquiry more specifically about which role of the professional is as regards for this contribution.

**LEVELS OF PREVENTION AND HEALTH DISCIPLINES MEDICINE, THERAPY AND PHYSICAL EDUCATION**

According to Pereira (1995:34), “it is considered ‘preventive actions’ all those used to avoid diseases or their consequences, be it occurring sporadically, and be it endemically or epidemically.”

**Actions for Primary Prevention** – these actions are health-oriented to the prevention of a given pathology. They correspond to pre-pathological period quoted by Pereira (1995:35), “aiming to avoid new cases of grievance to health.”

Geraldes (1992:113) tells us that:

Actions of Primary Prevention are all those which avoid the appearance of any disease, i.e., it is public health care, also called care or basic health actions of elementary level, already described previously (vaccinations, vector control, education for health, epidemiological vigilance, etc.)

According to the data previously related, it can be inferred that actions for Primary Action are related to health maintenance, so that it can be avoided the pathological manifestation by means of basic health actions.

Pereira (1995:36) subdivides still this phase of health prevention in two levels: Health Promotion and Specific Protection. The health promotion would be related to “the actions assigned to keep the welfare, without aiming at any disease in particular,” and while the specific protection would be related to the “measures to hinder the appearance of a given affection in particular or of a group of correlated diseases.”

**Actions for Secondary Prevention** – these actions already take part of the pathological period, in phase of initial disease progression. According to Pereira (1995:36), “they aim at ‘prevention of evolution’ of the pathological process in the organism [...], (seeing that) the acting, in this phase, sometimes it is not of curative nature, but preventive, of a potential risk [...].”

Geraldes (1992:113, in turn, establishes that:

Actions for Secondary Prevention are the ones which are developed after the appearance of the disease, i.e., with the disease already, and have a curative nature or so a pathological investigation which allows some differential diagnosis (surgery, applications of pharmacotherapic resources, radiology, clinical analyses, etc.) It is considered that the actions of primary prevention failed and were not capable of hindering the eclosion of a morbid process and which, therefore, is necessary to interrupt by means of the establishment of correct diagnosis and application of therapeutic process indicated and more efficient for the case.

As regards the information already mentioned, it can be inferred that actions for secondary prevention are the ones related to the initial pathological state of the disease aiming for the curative nature and prevention of potential risk.

Again, Pereira (1995:36) subdivides still this phase of health prevent in two levels: Precocious Diagnosis and treatment, and Limitation of Harm. The precocious diagnosis and treatment are related to the identification of the "pathological process at the beginning, before the appearance of symptoms." The limitation of harm consists of "identifying the disease, limiting the extension of the respective injuries and retarding the appearance of complications, if it is not possible to avoid them entirely.”

**Actions for Tertiary Prevention** – these actions are related to the attempt of development of “residual capacity of the individual, whose functional potential was shortened by the disease (e.g.: poliomyelitis) or by sequelae of an acute episode of a chronic affection (case of cerebrocardiovascular accident)” (Pereira, 1995:35).

Geraldes (1992:113) establishes that:

Actions for Tertiary Prevention are the ones which should be applied after the reestablishment of the patient, aiming to rehabilitate him/her, getting rid of any possible sequelae or avoiding the recrudescence of the disease, i.e., hindering the recurrence. Here the secondary prevention has already been carried out, the disease was diagnosed, fought off, and the morbid process controlled and interrupted. The tertiary prevention expects, therefore, the application of methods of rehabilitation (physiotherapy, occupational therapy, phonoaudiology, etc.), besides pharmacotherapeutic care and others.

Hence, it can be inferred that actions for the tertiary prevention are those related to the individual’s rehabilitation, so that she/he develops her/his residual capacity to hinder sequelae or the reappearance of disease.

Pereira (1995:36) establishes only a level of prevention for this phase: Rehabilitation. To the author, rehabilitation “aims to develop the residual potential of the organism, after having been affected by a disease [...], in order to contribute so that the individual lead a useful and productive life.”

As regards Medicine, the Ministry of Education, regarding the undergraduate courses such as Nursery, describes as a general competence of a doctor, among other, “attention to health: health professionals in their workplace should be able to develop actions of prevention, promotion, protection and rehabilitation of health, both individually and collectively.” And as “Skill, Competences and Specific abilities,” among others, the professional should “act in the different levels of primary and secondary health care,” “act in the protection and health promotion and prevention of diseases, as well as the treatment and rehabilitation of health problem and attendance in the death process.” (Brasil, 2001:10, our italic)
As regards Physiotherapy, the Ministry of Education, regarding the undergraduation courses such as Physiotherapy, Phononaudiology and Occupation Therapy, describes as a general competence of professionals, among other, "attention to health: health professionals in their workplace should be able to develop actions of prevention, promotion, protection and rehabilitation of health, both individually and collectively." And as "Skill, Competences and Specific abilities," among others, the professional should “act in the different levels of primary and secondary health care,” “act in the protection and health promotion and prevention and recovery of health, be touched and committed to the human being, respecting him/her and valorizing him/her.” (Brasil, 2001a:4, our italic)

The resolution number 8 of the Federal Council of Physiotherapy and Occupational Therapy which “approves the norms for re habilitation for physiotherapists and occupational therapists and other actions,” establishes that:

It is constituted private acts, common to the physiotherapist and to the occupational therapist, in the area of occupation:

1 - The planning, programming, arrangement, coordination, execution and supervision of physiotherapeutic, occupational therapeutic methods and techniques which aim for health execution and supervision of physiotherapeutic, occupational

Concerning the PE, it had already been demonstrated previously that, in a primary level of health prevention, it presented total qualification to act locally and globally, through physical activity oriented regularly. However, what can be said about the acting of the secondary and tertiary levels? Would the professional of PE be qualified to work with patients of cardiovascular disease, with the disease in advance?

Chapter 2 of the act of Federal Council of PE (CONFEF, 2001) which treats the professional activity is undefined in relation to the aforesaid questions, i.e., it does not refer specifically to the question of physical activity for groups which need more specialized health care. In this case, the act quotes the following:

The professional of PE is in charge of coordinating, planning, programming, supervising, guiding, organizing, teaching, conducting, training, managing, implementing, analyzing, evaluating and carrying out activities, studies, programs, plans, projects and research; carrying out specialized training; auditing and consulting; taking part of multidisciplinary and interdisciplinary teams; elaborating technical, scientific and pedagogical reports; providing assistance and body education to individuals or groups, in private or public institutions; providing assistance and specialized training; coordinating, organizing, supervising; elaborating courses and tutoring; recycling and professional training in the area of sports and physical activities. (our italic)

In this manner, legally speaking the act does not either forbid or approve publicly the participation of professional in the secondary and tertiary levels of health, but it provides hints that can be interpreted as permissionary for the mentioned levels.

These indications were well-defined in the Resolution of CONFEF no.46/2002 which it is defined that:

The professional is a specialist in physical activities such as: gymnastics, physical exercises, sports, fights, capoeira, martial arts, dances, rhythmic, expressive and acrobatic activities, bodybuilding, leisure, recreation, rehabilitation, ergonomy, body relaxation, yoga, compensatory exercises for labor activities, aiming to provide services that favor the development of health and education, for better qualification and/or reestablishment of suitable levels of performance and physiocorporal conditioning of its beneficiaries. This aims for welfare and life quality, awareness, expression and aesthetic movement, disease prevention, accidents, postural problems, compensation of functional disorder. All this contribute for autonomy, self-esteem, cooperation, solidarity, social integration, socialization, environment preservation, and technical and ethic quality individually and collectively (our italic)

An important contribution is offered by Santos (2001:56) about Hospital PE for the professional acting. The author presents the Clinical PE as a specialization which is “characterized by individual assistance (it can be done collectively), generally performed in the infirmary to patients with serious diseases.” He also presents 32 sub-specialization areas:

- **Cardiac rehabilitation** – for the treatment of cardiopathic patients and morbid obese which aim to promote good vascularization. Another aim is to avoid sedentarism.

- **Brain rehabilitation** – for patients with pleural effusion, and children; it makes use of ludomotricity.

- **Therapy for special cases** – specific area for patients with serious diseases. It aims to slow down the acceleration of disease. This kind of treatment is suitable for AIDS bearer and cancer. It can be used with aerobic activities, which produce cardiorespiratory improvement, besides stretching exercises (Santos, 2000:58).

The document of professional PE intervention (CONFEF, 2002) establishes that PE is:

The body of knowledge, understood as a set of concepts, theories and procedures employed to explain theoretical and practical problems, related to the professional sphere and scientific enterprise, in the specific physical area.

Upon dealing the Professional intervention, it is established that:

The intervention is targeted at individuals or groups of different group ages, with different body conditions and/or special need and it is developed individually and/or multiprofessional team considering and/or demanding evaluation of other professional, and consulting (CONFEF, 2002).

The very document considers that, as regards the professional qualification, the professional should be qualified for

Acting in all dimensions of his/her professional field, what supposes full command of the PE knowledge and practice for promotion, diffusion, socialization, attitude and ethics. (CONFER, 2000)

In relation to ethics, in the sense of deontology or professional ethics, PE presents two aspects which are highlighted in the Ethics code, “ […] which are the existence of specialized and technical knowledge of specific competence for duly applicability, providing
values and benefits for society” (CONFEF, 2000). This applicability is established based on a network of values which determines his/her responsible acting before the individual.

The Ethics Code of PE (CONFER, 2000) attests that:

[…] professional acting is based upon the ethics which derives from the existence of moral history as a set of norms which regulates the individual and social behavior, based on values, principles and norms, to meet the needs of the society.

And therefore, it is clear that the Ethics Code should assure the clientele a good professional service, free from negligence or imprudence, making use of their knowledge, ability and experience (CONFEF, 2000).

CONCLUSION

According to what was proposed, it can be considered that there is some epistemological and legal possibility of performance of the professional of PE in the three levels of health prevention, as regards the cardiovascular diseases. However, it urges the duly technico-scientific of this professional, in terms deontological, it means ethical commitment which will assist in his/her treatment. Effectively, this means that the professional should be aware of his/her intervention, technically and scientifically, becoming able of working individually or collectively. This aims for the promotion of life quality of the patient with cardiovascular disease.

Nowadays, the technico-scientific competence of a PE professional is not limited to the undergraduate course. During this period, it is important for the student to be involved in research, extracurricular courses, internships etc. After that, it is necessary to specialize in a specific area. In this manner, it is achieved the aim of presenting an epistemological perspective about the possibility of an intervention of the PE professional in all levels of health in Brazil, in the aspects related to the cardiovascular diseases.

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