

## 89 - DANCE LIKE THE CONTENT OF PHYSICAL EDUCATION IN CARDIOVASCULAR DISEASE PREVENTION.

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### ABSTRACT

**Aims:** The tumultuous life and routines lived in search of survival, it has made men and women fail to take care of your health. Evidence shows that physical inactivity and sedentary condition pose a serious deterioration of normal bodily functions, especially when linked to other risk factors for chronic degenerative diseases and, consequently, to the emergence of cardiovascular disease. The exercise program of aerobic predominance condition the cardiovascular system providing positive changes in relation to chronic degenerative disorders and the dance becomes an option, opening the way for a new conception of life, where all people regardless of their age, can express their feelings and emotions through the rhythmic body movement. **Methodology:** Literature review by subject in MEDLINE (PUBMED), BIREME (LILACS) and SCIELO database, published from 2009 to 2014 and books published from 1973 to 2010. **Objective:** evidence about the importance of content as a dance exercise modality, its physical benefits and organic as the aerobic fitness in the prevention of chronic degenerative diseases and cardiovascular diseases. **Conclusions:** It follows that dance when practiced respecting the principles of continuous movement, long-term, moderate light intensity, provides a perfect balance of state "Steady State" between the consumption and supply of oxygen in the body. For this activity to be controlled more effectively, calculations from the maximum heart rate, obtaining reliable results of the target zone training, ensure the practitioners physical and organic benefits that dance can provide.

**Keywords:** Dance; education; prevention; cardiovascular diseases.

### INTRODUCTION

The tumultuous life and routines lived in search of survival, it has made men and women leave often to take care of their own health, leading them to really suffer early from serious illnesses and even death due to lack of attitudes preventive regular, one of which, the practice of dance (LEE, 2010).

There is a whole body of evidence and studies have shown that physical inactivity and sedentary condition pose a serious deterioration of normal bodily functions, especially when linked to other risk factors for chronic degenerative diseases and, consequently, to the emergence of cardiovascular disease (LAVIE et al., 2009; PENA et al., 2011).

serious medical problems, such as coronary artery disease, arising from risk factors such as hypertension, obesity, stress and other factors that develop are also directly and indirectly related to the absence of regular exercise and lifestyle adopted by individuals (EARTH, 2010).

One of the possible factors that lead to physical inactivity among individuals is the correct ignorance of how to exercise; the mode chosen, whether it can achieve the goal that the practitioner needs and also of what physical and organic benefits can be won from the regular practice of the activity, in this case, dance.

From this knowledge, guidance and monitoring of a professional physical education, it is essential for success and physical performance of the individual who initiates the physical practice, regardless of the chosen mode.

So one of the ways to obtain health would be to develop a philosophy of life focused on physical exercise. They should be part of the daily lives of individuals. It takes effort, discipline and persistence to keep the body healthy and in good shape. The practice of physical exercise should be continuous and targeted and seen as a good in our lives and the result of this effort will be a healthy, quality of life and well being.

To provoke a more significant impact on improving the overall health and reduce the risk of developing diseases and disorders, it is necessary to address the individual as a whole, trying to guide you to a style and healthy habits taking regular exercise physical in your routine life (TEODORO et al., 2010; et.al. PENA, 2011).

Among the many forms of existing physical activity to benefit the cardiovascular system, the dance also happens to be one of the options, opening the way for a new conception of life, where all regardless of their ages people can express their feelings and emotions through rhythmic body movement (MOSSMANN, 1995).

Dance, when well executed and guided, can bring numerous benefits to overall health. It is considered one of the oldest arts (MENDES, 1995) and summarized in rhythmical movements including steps performed to the sound and the beat of the music (BARBANTI, 1979).

Therefore, the aim of this study was to demonstrate the importance of dance practice as a physical exercise content for individuals, their physical and organic benefits as the aerobic fitness in the prevention of chronic degenerative diseases and cardiovascular diseases.

### METHODOLOGY

In this study, we used literature review by subject. Library were used as references, publications in English, Portuguese, Spanish and Italian scientific articles in the MEDLINE (PubMed), BIREME (LILACS) and SCIELO 2008-2014 and books published from 1982 to 2010 found in the Central Library and medicine at the Pontifical Catholic University of Rio Grande do Sul (PUCRS). The subject descriptors used for the research were: education, exercise and aerobic exercises, prevention, chronic degenerative diseases and control of cardiovascular diseases.

### THE CARDIOVASCULAR HEALTH

The cardiovascular system includes the body as a unit, giving muscles a continuous flow of nutrients and oxygen, allowing the maintenance of a high energy efficiency, where the metabolic products are removed from the local release of energy by circulation (GHORAYEB et al., 1999).

Thus, the basic function of the cardiovascular system is to provide blood flow necessary to maintain homeostasis of various body tissues (LEITE, 1996).

Human movement depends on the transformation of chemical energy of the nutrients into mechanical energy stored

in the cells, or moving - twitch and also the energy sources in aerobic and anaerobic metabolic processes. Aerobic metabolic point of view, the more efficient the cardiovascular system providing oxygen (O<sub>2</sub>) and distribute the blood flow to tissue, the better the functional capacity of the system, the better the oxygen transport efficiency and extraction thereof by tissues in metabolic activities when above resting levels (PORTO, 2005; LEITE, 1996).

Coming according to the above description, it should also be noted that the information about the physical and organic benefits from a regular physical training are improved overall physical capabilities, improved body weight, blood pressure and insulin sensitivity, or, physical exercise causes a series of physiological responses maintaining cellular balance and increasing the metabolic demands and body energy consumption (TEODORO et al., 2010).

#### BENEFITS PHYSICAL ORGANIC AS TO AEROBIC CONDITIONING IN RISK FACTORS FOR CARDIOVASCULAR DISEASE PREVENTION

The exercise program of aerobic predominance condition the cardiovascular system providing positive changes in relation to chronic degenerative disorders, reducing the likelihood to arise anomalies that may limit the individual's functional ability or even take it to premature death (LAVIE et al., 2009).

Aerobic exercise has been used and recommended both for prevention and for treatment of risk factors for degenerative diseases and consequently cardiovascular diseases. According to the principles suggested by the Brazilian Society of Cardiology (SBC) aerobic exercise should be practiced regularly, on a weekly basis for at least 3 times or every day of the week, with a minimum duration of 30 minutes to 60 minutes per session. The intensity of effort should be mild / moderate, with a control heart rate between 50-60% of maximum heart rate (MHR) (TEODORO et al., 2010).

COOPER (1982), defines the aerobic exercises as those low exercise and medium intensity that should be performed by a minimum of 30 minutes and a maximum of 60 minutes, occurring so the balance between consumption and supply of oxygen (Steady -state) that the body needs to perform the activity. Moderate exercise, of low intensity and long duration, have the property to use energy mainly obtained by the use of oxygen, characterized as aerobic, benefiting therefore the cardiopulmonary system (LEE, et al., 2010).

Even low-intensity exercise, practiced for a minimum of 15 minutes a day, was effective and directly associated with 20% reduction in the risk of cardiovascular mortality (WEN et al., 2011).

The use of a subjective perception of scale can be used to check the heart rate of the individual and control the intensity of effort at the beginning, middle and end of the activity, aimed at the control and prevention of sudden illness (HAYS et al., 2010 ; LAVIE et al., 2009).

The intensity by which it performs aerobic exercise is an essential factor for its possible benefits. Aerobic exercise works both the prevention and treatment of atherosclerosis and, for the intensity of the implementation of physical effort some evidence shows that high-intensity exercise, 75-80% of maximum heart rate, lasting 40 minutes, four times per week, lead to increased primary coronary risk, increased oxidative stress, reducing the vasodilation function of the body, increasing inflammation and platelet aggregation and is contraindicated in individuals previously afflicted with atherosclerosis (WEN et al., 2011; LEE, 2010).

#### DANCE LIKE CONTENT IN CARDIOVASCULAR DISEASE PREVENTION

Dancing basically involves movements and gestures, but certainly there is something more in this activity that gives it definite characteristics of its essence. How expressive art of feelings, emotions and organized and combined movements, offers pleasure and joy to the practice (BARBIRRA, 1993).

The movement transmits spiritual and material elements existing in each individual, expressing and releasing the search for values, these sensitized by sensitivity. It is the body and universal language always true, sincere and deep. It is the raw material of dance, which makes it become real and unmistakable (BRIKMAN, 1975).

Therefore, the movement in dance is not only a demonstration of body gestures and the perfection of his drawings and, yes, the transience and the traces they leave marks, impulse and restraint, immobility and action. The dance movement in the body to be worked, processed, configured so that, may arise dance (LABAN, 1990).

Anyway, the dance movement, concerns the way the body moves to dance. He is always under construction and organization, designating a shift, a transformation and identifying with the body boost, enabling the projection of the body in time and space (LABAN, 1990).

Thus, the dance is performed as regular and the necessary provisions of aerobic exercise exercise can contribute to improvement of physical organic individuals and therefore prevent the risk factors for cardiovascular diseases and degenerative diseases.

Dance can even contemplate skills and physical abilities, such as flexibility, rhythm, balance, agility, coordination, relaxation, localized muscle resistance, conditioning and improved the physical qualities and body movements, and provide motivation, pleasure and well-being to be performed and hence health benefits (RAMOA et al., 2014).

As an exercise modality dance can be performed with a systematic repetitions of oriented movements, with consequent increase in oxygen consumption due to peripheral cardiopulmonary and muscular work (DELBIN et al., 2009).

A series of rhythmic, elaborate steps according to certain style of music, lasting between 10 to 30 minutes moderate intensity and emphasis on continuous movements, determine the aerobic phase of the class. During this period also, the heart rate is checked so that you can control the limits for each individual (GUISELINI & BARBANTI, 1993).

To occur the acquisition of organic physical effects, as mentioned above, maintaining the heart rate is required within the training zone for 10 to 30 minutes of continuous moderate and dance. This time is necessary for the production of satisfactory stimuli in improving aerobic capacity and body composition (GUISELINI & BARBANTI, 1993; PORTO, 2005).

A practical manner in GUISELINI & BARBANTI (1993), is we use the Karvonen formula:  $HR_{max} = 220 - \text{age (years)}$

This equation indicates the average maximum heart rate per individual, and these should be individualized, that is, each practitioner must manage your stress through the result for each verification.

To understand how to individually control the heart rate ideal for safe physical exercise of an individual 40 years sedentary from the Karvonen formula, we have:  $220 - 40 = 180$  beats per minute (bpm). From this result, 50% of 180 is equal to 90 bpm, and 60% of 180 is equal to 108 bpm. That is, the heart rate safe for physical exercise for that sedentary individual is between 90-108 bpm (ARAÚJO, 1996).

With this parameter the training target zone between 90-108 bpm for an initial program, it becomes safer and healthier obtain organic physical gains without the practitioner's withdrawal. However, it is necessary to spend a few weeks to be modified the HRmax percentage control due to improved fitness of the practitioner.

Thus, the dance can be transformed into a vigorous activity that uses a wide variety of body movements bringing benefits to the practice. Also favors the socio-cultural, emotional and affective relationships, expressing intellectual emotions of the human being (NANNI, 1995).

#### FINAL

The physical exercise becomes one of the aspects which calls for the prevention of chronic degenerative diseases and cardiovascular diseases. Thus, a coherent proposal for primary prevention must have a physical activity planned, structured and repetitive, which has the ultimate aim of improving or maintaining physical fitness (PORTO, 2005).

Promoting health through supervised dance can help in the treatment of multiple risk factors for cardiovascular disease, ensuring that individuals practicing this activity can live integrated into society, physically and mentally active, developing autonomously and independently everyday tasks, improving the considerably their quality of life (Earth, 2010).

The care with aerobic performance are of utmost importance in order to obtain safe and effective results during dance practice.

That is, combined with the principles necessary for the development of an aerobic activity that benefits the cardiopulmonary system, it is important that health professionals guide, enlighten and provide necessary follow-up to individuals practicing so that they can achieve organic physical changes and consequently better quality of life.

It should be noted that the rhythms in dance that aim the precepts needed to aerobic exercise may be the most diverse. The choice of the waltz or, the zumba, can exemplify very different dance styles that meet the above requirements to a sedentary individual, if properly controlled.

Therefore, dance can be used as an exercise mode when well structured according to the principles required by aerobic exercises. Thus, you can benefit the cardiopulmonary system, providing changes in the lifestyle of those who practice it, preventing the risk factors for chronic degenerative diseases and cardiovascular diseases.

#### CONCLUSION

It follows that dance when practiced respecting the principles of continuous movement, long-term, minimum 10 minutes and maximum of 40 minutes with moderate light intensity, provides a perfect balance of state "Steady State" between the consumption and supply of oxygen in the body by increasing and improving organic fitness who practices, thereby preventing, risk factors that can culminate in heart disease.

For this activity to be controlled more effectively, calculations from the maximum heart rate, obtaining reliable results of the target zone training, ensure the practitioners physical and organic benefits that dance can provide.

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#### DANCE LIKE THE CONTENT OF PHYSICAL EDUCATION IN CARDIOVASCULAR DISEASE PREVENTION.

##### ABSTRACT

Aims: The tumultuous life and routines lived in search of survival, it has made men and women fail to take care of your health. Evidence shows that physical inactivity and sedentary condition pose a serious deterioration of normal bodily functions, especially when linked to other risk factors for chronic degenerative diseases and, consequently, to the emergence of cardiovascular disease. The exercise program of aerobic predominance condition the cardiovascular system providing positive changes in relation to chronic degenerative disorders and the dance becomes an option, opening the way for a new conception of life, where all people regardless of their age, can express their feelings and emotions through the rhythmic body movement. Methodology: Literature review by subject in MEDLINE (PUBMED), BIREME (LILACS) and SCIELO database, published from 2009 to 2014 and books published from 1973 to 2010. Objective: evidence about the importance of content as a dance exercise

modality, its physical benefits and organic as the aerobic fitness in the prevention of chronic degenerative diseases and cardiovascular diseases. Conclusions: It follows that dance when practiced respecting the principles of continuous movement, long-term, moderate light intensity, provides a perfect balance of state "Steady State" between the consumption and supply of oxygen in the body. For this activity to be controlled more effectively, calculations from the maximum heart rate, obtaining reliable results of the target zone training, ensure the practitioners physical and organic benefits that dance can provide.

Keywords: Dance; education; prevention; cardiovascular diseases.

#### DANSE COMME LE CONTENU DE L'ÉDUCATION PHYSIQUE EN PRÉVENTION DES MALADIES CARDIOVASCULAIRES.

##### RÉSUMÉ

Introduction: La vie tumultueuse et routines vécu à la recherche de la survie, a fait les hommes et les femmes ne parviennent pas à prendre soin de votre santé. Les données montrent que l'inactivité physique et l'état sédentaire constituent une grave détérioration des fonctions corporelles normales, en particulier lorsqu'elle est liée à d'autres facteurs de risque pour les maladies dégénératives chroniques et, par conséquent, à l'apparition de maladies cardio-vasculaires. Le programme d'exercice de la prédominance aérobique conditionnent le système cardio-vasculaire fournissant des changements positifs en ce qui concerne les maladies dégénératives chroniques et la danse devient une option, ouvrant la voie à une nouvelle conception de la vie, où toutes les personnes, quel que soit leur âge, peuvent exprimer leurs sentiments et leurs émotions à travers le mouvement du corps rythmique. Méthodologie: Revue de la littérature par sujet dans MEDLINE (PubMed), BIREME (LILACS) et SCIELO publiés 2009-2014 et des livres publiés de 1973 à 2010. Objectif: Mettre en évidence l'importance du contenu de la danse comme un mode d'exercice physique, leurs avantages physiques et biologiques que l'aptitude aérobique dans la prévention des maladies dégénératives chroniques et les maladies cardiovasculaires. Conclusion: Nous concluons que la danse lorsqu'elle est pratiquée dans le respect des principes de mouvement continu, à long terme, l'intensité lumineuse modérée, fournit un parfait état d'équilibre "état stable" entre la consommation et la fourniture d'oxygène dans le corps. Pour cette activité à contrôler plus efficacement, les calculs de la fréquence cardiaque maximale, obtenir des résultats fiables de la formation de la zone cible, vérifiez que les praticiens des avantages physiques et biologiques que la danse peut fournir.

Mots-clés: Danse; l'éducation; prévention; maladies cardio-vasculaires.

#### DANZA COMO EL CONTENIDO DE EDUCACIÓN FÍSICA EN LA PREVENCIÓN DE ENFERMEDADES CARDIOVASCULARES.

##### RESUMEN

Introducción: La vida tumultuosa y rutinas vivido en busca de la supervivencia, ha hecho que los hombres y las mujeres no toman el cuidado de su salud. La evidencia muestra que la inactividad física y la condición sedentaria plantean un grave deterioro de las funciones corporales normales, especialmente cuando está ligado a otros factores de riesgo para las enfermedades degenerativas crónicas y, en consecuencia, a la aparición de enfermedades cardiovasculares. El programa de ejercicio aeróbico de predominio acondicionar el sistema cardiovascular que proporciona cambios positivos en relación con los trastornos degenerativos crónicos y el baile se convierte en una opción, abriendo el camino para una nueva concepción de la vida, donde todas las personas independientemente de su edad, puede expresar sus sentimientos y emociones a través del movimiento del cuerpo rítmico. Metodología: Revisión de la literatura por tema en MEDLINE (PUBMED), BIREME (LILACS) y SCIELO publicados 2009-2014 y libros publicados entre 1973 y 2010. Objetivo: poner de relieve la importancia de los contenidos de baile como un modo de ejercicio física, sus beneficios físicos y orgánicos como la aptitud aeróbica en la prevención de enfermedades degenerativas crónicas y enfermedades cardiovasculares. Conclusión: Se concluye que la danza cuando se practica respetando los principios de movimiento continuo, a largo plazo, la intensidad de luz moderada, proporciona un perfecto estado de equilibrio "estado estable" entre el consumo y el suministro de oxígeno en el cuerpo. Para esta actividad que se desea controlar con mayor eficacia, los cálculos de la frecuencia cardíaca máxima, la obtención de resultados fiables del entrenamiento de la zona de destino, asegúrese de que los practicantes de beneficios físicos y orgánicos que la danza puede proporcionar.

Palabras clave: Dance; la educación; prevención; enfermedades cardiovasculares.

#### ADANÇA COMO CONTEÚDO DA EDUCAÇÃO FÍSICA NA PREVENÇÃO DE DOENÇAS CARDIOVASCULARES.

##### RESUMO

Introdução: A vida tumultuada e as rotinas vividas em busca da sobrevivência, tem feito com que homens e mulheres deixem de cuidar da sua saúde. Evidências demonstram que a inatividade física e a condição sedentária representam uma séria deterioração das funções corporais normais, principalmente quando ligadas a outros fatores de risco às doenças crônicas degenerativas e, conseqüentemente, para o surgimento de doenças cardiovasculares. Os programas de exercício físico de predomínio aeróbio condicionam o sistema cardiovascular proporcionando alterações positivas em relação às disfunções crônico-degenerativas e a dança vem a ser uma opção, abrindo caminhos para uma nova concepção de vida, onde todas as pessoas independente de suas idades, podem expressar seus sentimentos e emoções por meio do movimento corporal ritmado. Metodologia: Revisão de literatura por assunto nas bases de dados MEDLINE (PUBMED), BIREME (LILACS) e SCIELO, publicados de 2009 a 2014 e livros publicados de 1973 a 2010. Objetivo: evidenciar sobre a importância do conteúdo dança como uma modalidade de exercício físico, seus benefícios físico e orgânicos quanto ao condicionamento aeróbio na prevenção de doenças crônicas degenerativas e doenças cardiovasculares. Conclusão: Conclui-se que a dança quando praticada respeitando os preceitos do movimento contínuo, longa duração, intensidade leve moderada, proporciona um perfeito estado de equilíbrio "Steady State" entre o consumo e a oferta de oxigênio no organismo. Para que essa atividade seja controlada com maior eficácia, cálculos a partir da frequência cardíaca máxima, obtendo-se resultados seguros da zona alvo de treinamento, asseguram aos praticantes os benefícios físicos e orgânicos que a dança pode proporcionar.

Palavras-chave: Dança; educação; prevenção; doenças cardiovasculares.