

# PODIUM

Journal of Science and Technology in Physical Culture

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EDITORIAL LIBERCIENCIA

**Volume 18**  
**Issue 3**

**2023**

University of Pinar del Río "Hermanos Saíz Montes de Oca"







*Translated from the original in spanish*

*Original article*

## ***Physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease***

*Estrategia de orientación físico-terapéutica, para personas con cardiopatía isquémica  
crónica fase III*

*Estratégia de orientação fisioterapêutica para pessoas com cardiopatia isquêmica crônica  
fase III*

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**Received:** 06/02/2023.

**Approved:** 08/23/2023.



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## ABSTRACT

Physical-therapeutic exercises are significant for the rehabilitation of people with phase III chronic ischemic heart disease; hence, the importance of the research presented given the need to raise awareness of physical exercise as a regular practice to maintain favorable health. The objective of the research was to apply a physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease, supported by a model of the same nature, based on a prophylactic, preventive and health perspective. The theoretical methods of analysis-synthesis, induction-deduction and systemic-structural-functional were used. Empirical methods such as class observation, documentary analysis, interviews, surveys, the ten wishes technique, discussion groups and triangulation were used to contrast and interpret the information. The diagnosis revealed the limited preparation of the teachers and the lack of interest in the activities by some heart patients; the criteria of specialists were used to evaluate the results and the statistical-mathematical criteria for the percentage analysis and processing of tables and graphs. A model and a physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease were developed. It was concluded that the actions designed in the strategy facilitated the preparation of these patients, with a view to their social and work reintegration.

**Keywords:** physical-therapeutic exercises, cardiovascular disease, rehabilitation

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## RESUMEN

Los ejercicios físico-terapéuticos son significativos para la rehabilitación de personas con cardiopatía isquémica crónica fase III; de ahí, la importancia de la investigación que se presenta dada la necesidad de concientizar el ejercicio físico como una práctica regular para conservar una salud favorable. La investigación tuvo como objetivo aplicar una estrategia de orientación físico-terapéutica para personas con cardiopatía isquémica crónica fase III, sustentada en un modelo de igual naturaleza, basado en una perspectiva profiláctica, preventiva y salubrista. Se utilizaron los métodos teóricos de análisis-síntesis, inducción-deducción y sistémico-estructural-funcional. Se emplearon métodos empíricos como la observación a clases, el análisis documental, la entrevista, la encuesta, la técnica de los diez



deseos, el grupo de discusión y la triangulación para contrastar e interpretar la información. El diagnóstico reveló la limitada preparación de los profesores y el desinterés hacia las actividades por algunos cardiópatas; se utilizó el criterio de especialistas para evaluar los resultados y el estadístico-matemático para el análisis porcentual y procesamiento de tablas y gráficos. Fueron elaborados un modelo y una estrategia de orientación físico-terapéutica para personas con cardiopatía isquémica crónica fase III. Se concluyó que las acciones diseñadas en la estrategia facilitaron la preparación de estos pacientes, con vistas a su reincorporación social y laboral.

**Palabras clave:** ejercicios físico-terapéuticos, enfermedad cardiovascular, rehabilitación.

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## RESUMO

Os exercícios fisioterapêuticos são significativos para a reabilitação de pessoas com cardiopatia isquêmica crônica fase III; daí a importância da pesquisa apresentada dada a necessidade de conscientização sobre o exercício físico como prática regular para manter uma saúde favorável. O objetivo da investigação foi aplicar uma estratégia de orientação fisioterapêutica a pessoas com doença cardíaca isquêmica crônica fase III, apoiada num modelo da mesma natureza, assente numa perspectiva profilática, preventiva e de saúde. Foram utilizados os métodos teóricos de análise-síntese, indução-dedução e sistêmico-estrutural-funcional. Métodos empíricos como observação de aulas, análise documental, entrevistas, pesquisas, técnica dos dez desejos, grupos de discussão e triangulação foram utilizados para contrastar e interpretar as informações. O diagnóstico revelou o preparo limitado dos professores e o desinteresse pelas atividades por parte de alguns cardiopatas; Foram utilizados critérios de especialistas para avaliação dos resultados e critérios estatístico-matemáticos para análise percentual e processamento de tabelas e gráficos. Foram desenvolvidos um modelo e uma estratégia de orientação físico-terapéutica para pessoas com cardiopatia isquêmica crônica fase III. Concluiu-se que as ações desenhadas na estratégia facilitaram o preparo desses pacientes, visando sua reinserção social e laboral.

**Palavras-chave:** exercícios fisioterapêuticos, doenças cardiovasculares, reabilitação.



## INTRODUCTION

Physical-therapeutic orientation is one of the pressing problems that health and physical culture professionals must solve in 21st century education, specifically, due to the need to know and care for people with phase III chronic ischemic heart disease.

Orientation as a category is studied by pedagogy and psychology as a social process where the conscious nature of human development and its holistic, complex and dialectical nature are recognized. Authors such as Calviño (2019) and others have made valuable considerations in this regard and value guidance as a process, a function or an evolutionary capacity, an activity whose maximum aim is the development of the individual's potential.

Cardiovascular disease, although it establishes slowly and subclinically over decades, almost always manifests itself abruptly and unexpectedly. Within it, heart diseases of ischemic origin constitute a group that affect the coronary arterial blood vessels and cause ischemia and infarction of the myocardial tissue, which affects the quality of life in these people.

Chronic ischemic heart disease contributes to cardiovascular diseases being the leading cause of death in the world. The reduction in mortality in its acute phase has led to an increase in people with the disease who have a high cardiovascular risk, as well as maximum adherence to medical treatment. These people may present symptoms such as angina, heart failure and limitation in carrying out activities of daily living and work, with an emotional and stress burden typical of chronic pathological processes.

Currently, the regular practice of physical exercises is carried out for therapeutic purposes, both in the prevention, control and rehabilitation of chronic diseases associated with cardiovascular disorders, followed by its application in the arrest of myocardial ischemia. In this sense, the importance of diagnosis and functional evaluation of people with phase III chronic ischemic heart disease is highlighted.



In the physical-therapeutic exercise programs, in force for the rehabilitation of people with heart disease, authors such as Gutiérrez and Frómeta (2022) define theoretical and practical contributions that treat this disease, from the clinical point of view and up to Phase II, without consider the meaning of physical activity in the treatment of people with chronic ischemic heart disease phase III in their work conceptions (González, 2021). Hence the importance of raising awareness among these people about the need to make exercise a habitual and regular practice in their lives.

Physical activity used preventively for the treatment of ischemic heart disease can improve cardiovascular function (Martínez, 2022), act favorably on coronary risk factors, reduce the incidence of heart attack and reduce cardiovascular mortality (Chiacchio, 2023). The World Health Organization also insists on the importance of physical activity in this process.

In the results of research carried out, as well as the review of regulatory documents, it has been confirmed the existence of aspects that have not been sufficiently treated in the orientation of people with phase III chronic ischemic heart disease, which is manifested in the results obtained in years prior to 2019-2021 and reveals new needs in the guiding function of the Physical Culture professional.

Authors of the article consider, based on experience in the practice of the nursing profession for several years in the area of cardiology and with knowledge about the recovery of people with this pathology, that it is necessary to highlight the importance of physical-orientation therapy in the rehabilitation of these patients.

External manifestations were observed in the circle of grandparents of the "Antonio Maceo" sports complexes in Versalles and "Abel Santamaría" in Santiago de Cuba, where people recovering from phase III chronic ischemic heart disease go:

- The Physical Culture professional is currently not part of the multifunctional team for guidance to these beneficiaries.
- People who participate in cardiac rehabilitation programs are in phase II or convalescent, but not those who are classified in phase III.



- The multifunctional health area team does not consider the importance of physical activity in the treatment of people with phase III chronic ischemic heart disease.
- From the guiding logic of Therapeutic Physical Culture programs, the appropriation of essential integrative resources for a higher level of the health care mode of action that progresses only to phase II is not guaranteed in the professional of this specialty.

The research was carried out with the objective of applying a physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease, supported by a model of the same nature based on a prophylactic, preventive and health perspective. Its importance lies in the fact that it favors the preparation of teachers and technicians to carry them out. It has a satisfactory scope in improving the physical health of the subjects.

### ***MATERIALS AND METHODS***

The study of physical-therapeutic orientation for people with phase III chronic ischemic heart disease was developed with the use of the dialectical method that considers social phenomena in continuous movement. As part of this method, historical materialism was used to understand the importance of physical-therapeutic guidance for the social reintegration of the aforementioned patients.

Based on a diagnosis of the practice of physical exercise in the Guanabacoa municipality, a study was carried out in the "Antonio Maceo" sport complex in Santiago de Cuba, in which the characterization of the physical-therapeutic orientation and attention to people with phase III chronic ischemic heart disease were used as variables, with the dimensions of preparation of Physical Education teachers and the place of physical-therapeutic guidance in the care of these patients.

The population was made up of 22 people with cardiovascular diseases and seven graduates in Physical Culture. A sample of ten people with chronic ischemic heart disease in phase III revascularized (Stent placement) who had physical rehabilitation treatment during phase II of the disease, in the Cardiology Room of "Saturnino Lora" Provincial Clinical Surgical



Teaching Hospital of the city was intentionally selected. The seven Physical Culture Graduates who work in the Therapeutic Physical Culture program were also included (Table 1 and Table 2).

*Table 1. - Sample of people with Chronic Ischemic Heart Disease in Phase III*

<i>Sample of people with Chronic Ischemic Heart Disease in Phase III</i>					
<i>No.</i>	<i>Age</i>	<i>Sex</i>	<i>Toxic habits</i>	<i>Comorbidity</i>	<i>Revascularized</i>
1	49	F	Coffee	High blood pressure (HPA), Chronic Ischemic Heart Disease (CIC)	Yes
2	51	F	Coffee	Diabetes Mellitus, CIC	Yes
3	55	M	Coffee and smoking	Obesity, Diabetes Mellitus, CIC	Yes
4	60	M	Coffee and smoking	Osteoarthritis, CIC	Yes
5	62	F	Coffee and smoking	HTA, CIC	Yes
6	68	M	Alcohol and smoking	Diabetes Mellitus, CIC	Yes
7	70	M	Coffee	Asthma, CIC	Yes

*Table 2. - Sample of Graduates in Physical Culture*

<i>Sample of Graduates in Physical Culture</i>		
<i>Graduates.</i>	<i>Years of work</i>	<i>They work in the Therapeutic Physical Culture Program</i>
1	5	Yes
2	7	Yes
3	8	Yes
4	8	Yes
5	9	Yes
6	10	Yes
7	11	Yes

Theoretical methods of analysis-synthesis, induction-deduction and systemic-structural-functional were used.

The following empirical level methods were used: observation, document analysis, interview, survey, ten wishes technique and discussion group (for heart patients) and triangulation.





The following were specified as research indicators:

- Quality of physical-therapeutic guidance by Physical Education teachers.
- Effect of physical-therapeutic guidance on people with phase III chronic ischemic heart disease.

## RESULTS AND DISCUSSION

### *Main diagnostic results*

Observation: three classes received by people with phase III chronic ischemic heart disease were observed, with the objective of verifying the content, quality and preparation that the Therapeutic Physical Culture teacher has to teach the activities, as well as their level of effectiveness. The objectives were fundamentally of an instructive nature; the contents were specified in physical-therapeutic exercises resulting from the adaptations of the cardiopath's program; the methods were reproductive (repetition of movement), with the appropriate dosage of the physical load.

Individualization was done by the revascularization technique to which they were subjected, in addition to pulse and blood pressure control. The means crystallized into exercises to enhance aerobic endurance and strength and the evaluation focused on the results. It is appreciated that there is some care, in a general sense, in the practical activities, regarding the pathology and the type of revascularization to which each one has been subjected, but it is not consistent for the total.

Teachers are methodologically prepared to work with people with chronic non-communicable diseases, but not with phase III chronic ischemic heart disease; they must delve deeper into the work of the different exercises, take into account the pathology they present, the type of revascularization to which they have been subjected and look for new ways to influence the systematic practice of physical-therapeutic activities.



It was found that few activities related to the type of heart disease presented were used, the beneficiaries lost interest in the activity and talks were held to make them aware of the importance of practicing physical activities during the class to promote their state of health, although this topic must be explored further to help raise awareness about the benefits that physical-therapeutic activities bring them. No importance is given to complementary actions such as meetings, group reflections and educational activities, among others.

Not all heart patients have participated in programs where they have been guided how to perform different types of exercises, abdominal breathing, taking the training heart rate (FCE in Spanish) and what objective the counselors pursue in returning to work, social and family life. of the person with phase III chronic ischemic heart disease.

Document analysis: The current Study Plan of the subject Therapeutic and Prophylactic Physical Culture and the physical-therapeutic exercise programs for the sequelae of cardiovascular disease were studied, in order to determine to what extent, they address the problems of the person with phase III chronic ischemic heart disease. None of the programs available to the Graduate in Physical Culture to operate in the community address, in depth, the problems of these people, as they are designed for heart disease in general, and in ischemic disease only up to phase II.

The intensive cardiology system was also analyzed, which valuable contributions contrast with the limitation of its general theoretical conception, applicable more accurately to phase II, in which the patient is in the rehabilitation center.

Interview with Physical Culture teachers: An interview was carried out with the teachers with the objective of verifying the knowledge they have as those responsible for teaching the activities and their organization within the program, as well as what problems exist in their development and identification of the main causes that cause people with phase III chronic ischemic heart disease not to join. Three teachers work in the sports Complex, two of them with five years of work experience and one with 10 years, all of them graduated with a degree in Physical Culture through the course-by-meeting modality.



The teachers stated that they worked with four circles of older adults, where three of them belong to the community served by this Sports Complex, but that they have the characteristic of the maritime geographic position and there is necessarily a lot of delay with the transfer by boat, from a place to another.

The teachers commented that they work with the family doctor or nurse, at the beginning of reaching the community, to know the dispersion of chronic non-communicable diseases, since the organized activities were coordinated with them, to conceive participation in the physical-therapeutic activities.

They pointed out that the incorporation of people with phase III chronic ischemic heart disease into carrying out activities in their communities is scarce due to the lack of information about their importance and benefits; in addition to the resistance that still exists in society for considering exercises only as activities to lose body weight and that the health of patients with this pathology worsens.

They suggested that the family doctor went to the houses to incorporate people with stage III chronic ischemic heart disease into the practice and invite them to observe. The responses showed that they are not clear about the health benefit of exercise.

They also expressed that the classes are carried out with due methodological planning, that on some occasions the criteria, likes and preferences of people with phase III chronic ischemic heart disease are taken into account. They indicated the most frequent pathologies: bronchial asthma, diabetes mellitus and high blood pressure.

Interview people with phase III ischemic heart disease: The results allowed to assert the insufficiencies present in the orientation process for people with phase III chronic ischemic heart disease, then expressed, as the impossibility of leading an independent life, based on preventive, corrective and compensatory work on permanent residual capacities; the presence of fatigue, as a limitation of validity; the decrease in functional work capacity, conditioned by the repetitive practice of therapeutic, routine and meaningless physical exercises and the loss of psychological resources, expressed in complaints of anguish, grief,



sadness, worry, intolerance of frustrations, generalized anxiety, inadequate interpersonal relationships with family and other members of the community.

Survey of people with phase III chronic ischemic heart disease: The objective of this was to know the criteria on the importance of incorporating people with this pathology into physical-therapeutic activities. It was evident that the people included ranged between three females (two adults and one older adult between 56 and 60 years old) and four males between 50 (two) and 60 years (two).

Regarding the level of education, eight of them have less than 9th grade, two are between 9th and 11th grade, two have 12th grade and three are university students. Regarding occupation, it was found that three are housewives, four are retired, three are average technicians, one does not work and four are still working.

The most frequent diseases in these people were bronchial asthma, diabetes mellitus, high blood pressure and cervical osteoarthritis. The seven stated that they are unaware of the physical activities carried out in the community, as they only know that exercises are practiced.

The heart patients in the sample responded that they irregularly attend the Grandparents' Circle. Four of them, which represents 16.6%, stated that they do not have time, two stated that it is not good for their illnesses and one that he did not have support or motivation from his family.

The following table shows the lack of knowledge of these patients about the disease they suffer from (Table 3 y Table 4).

*Table 3. - Knowledge of the disease by people with phase III chronic ischemic heart disease*

<i>Knowledge of the disease</i>	<i>No. Patients</i>	<i>Percentage</i>
<b>Enough knowledge</b>	1	14.28%
<b>Little knowledge</b>	5	71.42%
<b>No knowledge</b>	1	14.28%
<b>Total</b>	7	100



In addition, they refer to other reasons for not practicing physical activities and exercises.

*Table 4.- Reasons for not practicing physical activities and exercises*

<i>Reasons</i>	<i>Amount</i>
<b>They think that because of their age they make a fool of themselves</b>	8
<b>They don't know its importance</b>	7
<b>Little free time</b>	7
<b>Diseases and other causes</b>	7

Survey to the family doctor: The objective was to know if the Physical Culture professional takes into account the medical indications for the participation of people with phase III chronic ischemic heart disease in organized physical activities.

The family doctor stated that the most common pathologies in people with phase III chronic ischemic heart disease (high rate in the community) include bronchial asthma, diabetes mellitus, high blood pressure, cervical osteoarthritis and obesity. Regarding the proposed medical-methodological indications, they agreed to point out that teachers are guided in working with people with phase III chronic ischemic heart disease, based on the control of heart rate, blood pressure and external changes, before, during and after physical-therapeutic activities.

The doctor agreed to highlight that these activities are a way to improve the health status of people with phase III chronic ischemic heart disease, it is possible to insert them into society and into their work life more prepared; he considered that these people do not master the care to be taken and the potential they offer to physical-therapeutic activities and stated that some of them know the effect of physical activities on the body, but they are the least.

Ten Wishes Technique: Their analysis confirmed the need to focus the intervention of these people beyond the physical-therapeutic perspective and towards the psychosocial and life perspective. The priority wishes were related to learning how to manage incorporation into working and active life, and helping family and friends.



Discussion group: As a result of the group discussion, the participants referred to the following needs:

- Educational resources must be available to improve the execution of the indicated tasks.
- Courses and workshops must be carried out to learn to modify attitudes, change lifestyles and plan one's own life, based on reintegration into the workforce and the community.
- Cultural and recreational activities must be carried out, depending on special educational needs.
- Continuous reflection should be sought in relation to physical preparation, to adapt physical-therapeutic exercises based on interests, health problems, aptitudes, character traits, conceptions, motivations and desires.

Triangulation of methods and sources: it was used to contrast and interpret the information obtained through an exhaustive bibliographic analysis and the results achieved with the application of the empirical methods described, the indicators were taken into consideration to assess the preparation of Physical Education teachers and the effect of physical-therapeutic guidance on people with phase III chronic ischemic heart disease.

The triangulation showed the need to continue the preparation of Physical Education teachers and the presence of needs from the physical-therapeutic perspective in heart patients due to negativity or resistance to the practice of physical activity, decreased functional capacity, decreased resistance to fatigue and the need to resize the Therapeutic and Prophylactic Physical Culture class, in correspondence with the new prevailing trends. The triangulation of methods and sources increased the validity of the findings obtained with the application of the other methods used.

#### *General assessment of the diagnosis*

The insufficiencies in the guidance through physical-therapeutic activities, as well as in the methodological guidelines and complementary actions, related to people with phase III



chronic ischemic heart disease, led to the poor preparation of the personnel who carry out the physical-therapeutic activities to the population suffering from this disease, in order to improve their health. There was also a lack of interest in the incorporation and participation of these adult and elderly heart patients in the grandparents' circles, in active working life, and insufficient knowledge about the benefits of their incorporation and participation in the guidance model at these ages.

The results obtained in the diagnosis justified the need to develop a model and a physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease.

The classes observed were characterized by irregularity, little systematicity, inadequate planning and the absence of a favorable emotional climate. There was limited involvement, complementarity, personal effort and responsibility of those involved, unilateral focus on the physical plane, absence of developmental learning and limited attention to individual differences from the collective learning effort.

The lack of awareness about the disease and its rehabilitation was proven, through feelings of inability to make attitudinal change oriented towards involvement, personal effort, mutual responsibility and self-management of their own independence. This was corroborated in the remaining empirical methods applied.

In general, Physical Culture teachers have knowledge about the work they do, but they can continue to deepen their preparation.

The analysis of the literature and the results of the methods applied in the diagnosis guided the research towards the development of a model and a physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease, which constitutes the proposed solution that was offered with the research.

Physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease.



Objective of the strategy: apply a system of actions for physical-therapeutic guidance for people with phase III chronic ischemic heart disease.

Based on the assessment of Spanish health specialists, the need for the developed strategy, given in seeking alternatives that allow the social, work and daily life reintegration of a greater number of people with phase III chronic ischemic heart disease, through a sound physical-therapeutic orientation. For its preparation, three phases were developed: Precision of the problem and prior theoretical study, diagnostic phase and the foundation and design of the strategy.

### *Strategy stages*

1<sup>st</sup>stage. Diagnosis of physical-therapeutic guidance for people with phase III chronic ischemic heart disease. This stage is prior and creates the bases for the execution of prevention or physical-therapeutic intervention that involves the application of scientific methods and techniques that guarantee an adequate diagnosis.

Objective of the stage: to carry out a comprehensive diagnosis, using methods and techniques to corroborate the need to implement a physical-therapeutic orientation strategy for people with phase III chronic ischemic heart disease.

The diagnosis was structured in two moments:

- The analysis of the bibliography and documents linked to the research process.
- In the application of methods and techniques to know the current state of physical-therapeutic guidance for people with phase III chronic ischemic heart disease, strengths and weaknesses were identified.

Actions.

1. Review of bibliographic references for cardiopaths on guidance for people with phase III chronic ischemic heart disease.
2. Establish the indicators to carry out the diagnosis.





- Associated pathology. If they are revascularized.
- Preparation of teachers.
- Educational actions.

### 3. Perform the diagnosis.

2<sup>nd</sup> stage: physical-therapeutic orientation for people with phase III chronic ischemic heart disease.

Objective: apply actions that contribute to physical-therapeutic guidance to people with phase III chronic ischemic heart disease. The basic action is the updating and sensitization of Physical Education teachers, family members, and technical health specialists about the value of physical exercise for people with this pathology. The following program was proposed (Table 5):

*Table 5. - Update and awareness program: Name: Importance of physical exercise in phase III chronic ischemic heart disease*

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*Training program: Name: Importance of physical exercise in chronic ischemic heart disease Phase III.*

Coordinator: MSc. Ana Luisa Tabares Stable.

Participating: Teachers of the Versalles and "Antonio Maceo" Sports complexes

Total hours: 72, total hours per frequency: 2, total frequencies per week: 6

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#### Introduction

Ischemic heart diseases constitute a group of diseases that affect the coronary arterial blood vessels and cause ischemia and infarction of the myocardial tissue. It is known to all that the cardiovascular system is of vital importance, since it conditions the fundamental activities of the body; such as their diet, the provision of oxygen, the expulsion of metabolic products and the distribution of hormones and other active substances.

Physical activity has been used as part of the rehabilitation of cardiovascular diseases throughout history, going through different stages (Williams et al., 2020). In recent years, various research have demonstrated the benefits it provides, with properly dosed and controlled together with a balanced diet and regulated risk factors.

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Objectives of the training action:

1. Transmit knowledge, skills and values to teachers, specialists and technicians, that allow them interpret the needs that arise in these subjects and know about their feelings, habits and way of behaving when faced with the disease they suffer from to achieve good physical-therapeutic guidance.
2. Provide elements that allow knowing the advantages to promote, prevent and guide people with phase III chronic ischemic heart disease from a physical-therapeutic, psychological and social point of view.

Skill system: argue, explain and apply.

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Theme No. 1-. Trends in cardiovascular diseases and their risk factors.	Content-. General aspects of cardiovascular diseases at an international, regional and local level. General considerations on the pathophysiology of cardiovascular diseases. Risk factors.
Theme No. 2-. Biological foundations of physical exercise in cardiovascular rehabilitation.	Content-. Biological load adaptation. Effect of physical exercise for patients with cardiovascular diseases.
Theme No. 3-. Methodological foundations of cardiovascular rehabilitation.	Content-. Cardiovascular rehabilitation. Conceptual theoretical framework. Principles of training for patients with cardiovascular diseases. Role of the physical exercise specialist.
Theme No. 4-. Pedagogical foundations of cardiovascular rehabilitation.	Content-. Objectives of cardiovascular rehabilitation. Prescription and planning of physical exercise for patients with cardiovascular diseases.

**ACTIONS OF THE TRAINING PROGRAM**

Educational technique	Time	Performers	Participants
1. Talk: cardiovascular diseases and their risk factors.	40-60 min, times a week	2 Doctor and nurse	Patients and families
2. Talk: cardiovascular diseases and their impact on the body.	40-60 min, times a week	2 Physical Education teacher, doctor, nurse and kinesiotherapist	Patients and families
3. Group discussion or interview: What do you think about toxic habits?	40-60 min, times a week	2 Physical Education teacher, doctor, nurse and kinesiotherapist	Patients and families
4. Talk: diet.	40-60 min, times a week	2 Physical Education Teacher and Nutritionist Doctor	Patients and families
5. Group discussion or interview: What did we do last week?	40-60 min, times a week	2 Doctor, nurse, kinesiotherapist and nutritionist	Patients and families
6. Talk: effect of sedentary lifestyle	40-60 min, times a week	2 Kinesitherapist, Physical Education teacher	Patients and families
7. Talk: benefits of physical exercises	40-60 min, times a week	2 Kinesitherapist, Physical Education teacher	Patients and families
8. Group discussion or interview: What did we learn about the benefits of physical exercise?	40-60 min, times a week	2 Kinesitherapist, Physical Education teacher	Patients and families
9. Cinema debate: lifestyle changes	40-60 min, times a week.	2 Doctor, kinesiotherapist nutritionist nurse, and	Patients and families
10. Group discussion or interview: lifestyle changes.	40-60 min, times a week.	2 Doctor, kinesiotherapist nutritionist nurse, and	Patients and families

Evaluation: everyone participates in methodological workshops at the end of the topics and the program.



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Stage exercises:

1. Warm-up: stretching and joint mobility.
2. Aerobic exercises: to expend the energy stored in the body by using fat as an energy source.
3. Strengthening exercises: without implements and with implements.
4. Adapted games: contribute to reducing stress.
5. espiratory exercises: contribute to better oxygenation by the patient.
6. Muscle relaxation exercises: allow physical and mental relief, avoid pain, contractions and muscle fatigue.

Multidisciplinary group: coordinator, specialists, Physical Education teacher, patients and family.

3<sup>rd</sup> stage: strategy evaluation.

Objective: evaluate the achievements obtained in the convalescent period and maintain them throughout the patient's life.

Actions

1. Verify compliance with the objectives and actions of each stage of the strategy.
2. To corroborate the application of investigative methods and techniques for the diagnosis of physical-therapeutic guidance for people with phase III chronic ischemic heart disease to contribute to their social and occupational reintegration.
3. To check teachers' mastery of physical-therapeutic guidance for people with phase III chronic ischemic heart disease.
4. Consider that all the documents proposed by the strategy have been consulted.
5. Verify compliance with the training program offered.



6. Evaluate the final result of the exercises applied.

The phases and stages of this strategy have a system character due to the close relationship between each of them and the actions that compose them. Initially, health professionals, especially those who interact in the treatment of patients with cardiovascular diseases, as well as the institutional management carried out sensitization and awareness work with those who, in some way, provide care at the health level of patients with cardiovascular diseases.

In a second moment, hospital centers and other health areas were included, so that everyone could collaborate with this effort. This constituted one of the main steps in the implementation of the strategy; other people also participated (cardiologists, doctor in charge of the rehabilitation room, patients, technicians, family members and others) who were linked to the management staff to guarantee the sanitary infrastructure and the materials necessary for the implementation of the strategy.

The implementation of the strategy involved updating the health professionals (doctors, technicians and Physical Education teachers) who applied it, their study and deepening had the purpose of providing them with knowledge about the risk factors of cardiovascular diseases and their treatment through physical exercise programs, based on the updating courses and educational techniques proposed. These elements allow all the factors to be able to be incorporated into the application of the strategy in order to develop it.

The application of the system of actions of the strategy was carried out with the participation of people with phase III chronic ischemic heart disease, in the context of the discussion group of patients and the teacher, in addition to the multifunctional group. A greater disposition for life was observed in the incorporated heart patients, they were enthusiastic, willing to participate, carry out the actions proposed by the teacher and the multidisciplinary team, it was observed that the activity carried out was pleasant, that they were satisfied with what they were doing, because they knew the meaning, usefulness and importance and that it provides vitality.



In addition, people with phase III chronic ischemic heart disease exchanged with the teacher about their ailments and how they could alleviate them, by putting into practice the physical-therapeutic guidelines and the actions in the strategy, they reflected on what was important not only at the moment of physical activity, but to generalize them and use them in their daily lives. They suggested other techniques to the teacher and said goodbye with expressions of enthusiasm and desire to attend the next activity.

After the intervention was carried out, it was found that people with phase III chronic ischemic heart disease, as the center of this work, transform and manage to satisfy their experiences in a positive way because they can implement it to change their way of acting, they become enthusiastic and worry about improve their health and incorporate themselves, this was evident in the participation of these people in different activities.

In the visits made to the Sports Complex, once the educational intervention was completed, it was possible to verify adequate attendance, punctuality, incorporation into the spaces where the physical-therapeutic actions are carried out; they were attentive to the guidelines and explanations given by the teacher, they participated with enthusiasm, joy and dynamism; they said goodbye with the collective willingness to attend again. They prepared and developed collateral activities.

The actions that are proposed are carried out through the problematic situation raised in this research and the results that were obtained with the applied techniques. These do not replace others that have the same objectives. The aim is to make the application of the strategy feasible in any place or territorial demarcation, if its fundamental premise is to satisfy the interests of people with phase III chronic ischemic heart disease who are in the community, in a friendly environment for their better social and work reintegration and incorporation into daily life.

The proposal made in this research responds to a problem of national and international interest, which is evident in works carried out by other researchers. This reality is addressed by Palacio (2021) in the Call for the 10th. International Scientific Conference of the University of Holguín when quoting Maroto:



In the last fifty years, multiple research works have shown that, regardless of the heart disease and its functional degree, cardiac rehabilitation improves the quality of life of the patient, who has greater physical capacity, a lower incidence of psychological deterioration (anxiety and depression) and a greater ability to respond to stress. In coronary patients, the percentage of complications, including death, decreases. (Palacio, 2021).

Spain also gives public health a priority among its public policies, which is why it presents a Strategy for Care of Patients with Chronic Diseases in the Community of Madrid, with the aim of responding with anticipation and professionalism, to a reality that affects many Madrid residents. This strategy proposes as a final objective to prevent healthy people from suffering from chronic diseases, slow the progression of these ailments and reduce their complications, while improving the quality of life of patients who already suffer from them and was presented at the Ministry of Health care by your counselor so that "(...) people receive adequate care, in the optimal place and by the best professionals" (Fernández, 2020).

In the health sector there are four Cuban journals among the most cited in Google Academic, the Cuban Journal of Public Health, Higher Medical Education, Acimed and Cuban Medicine of Comprehensive General Medicine, in the latter there are articles by Calvo et al. (2004) and Cisneros et al. (2013) who recognize the importance of physical exercises to reduce the risk factors associated with ischemic heart disease.

## CONCLUSIONS

The international recognition of physical-therapeutic activity to reduce the severity of ischemic heart disease has been demonstrated. The study carried out shows that the professionals and managers of Therapeutic Physical Culture, in the Sports Complexes, do not have a deep knowledge about the importance and role played by an adequate and comprehensive physical-therapeutic orientation for the rehabilitation of people with chronic ischemic heart disease phase III, so they must be part of the multifunctional team in an intersectoral and health context.



The physical-therapeutic orientation strategy for these people includes actions to guarantee the rehabilitation of these patients with a view to their social and work reintegration. The assessment of the specialists yielded positive results and the application of the strategy demonstrated its feasibility and compliance with the planned objectives. The guidance for professionals who care for people with phase III chronic ischemic heart disease must continue to be further developed.

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***Conflict of interests:***

The authors declare not to have any interest conflicts.

***Authors' contribution:***

The authors have participated in the writing of the work and analysis of the documents



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