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Methodological strategy for the preparation of physical culture professionals in stroke rehabilitation.

Estrategia metodológica para la preparación de profesionales de Cultura Física, en la rehabilitación de accidentes cerebrovasculares

Estratégia metodológica para a preparação de profissionais de cultura física na reabilitação do acidente vascular cerebral.

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ABSTRACT

Professional development is a necessity for Physical Education graduates due to the impact their work has on the health of the population that receives their services. In this sense, the training system that enables raising the relevance of teachers in the fulfillment of the state mandate they have has been a permanent challenge. For this reason, the creation of



mechanisms that allow to settle the theoretical and practical deficiencies that guarantee such purposes has been imperative, so the objective of this work was to develop a methodological strategy for the preparation of Physical Education professionals that influences their performance and guarantees care for patients with CVAs. The methodology used was based on qualitative research, with the descriptive method as a fundamental tool for the collection of information. The application of surveys, document analysis and specialized tests provided elements to support the need for the design of the proposed strategy. Its application led to actions for Physical Culture professionals, in order to care for patients with cerebrovascular accidents, through physical rehabilitation, which provided a new approach to its development.

Keywords: cerebrovascular accidents, methodological strategy, training of physical culture professionals

RESUMEN

La superación profesional constituye una necesidad para los egresados de Cultura Física por el impacto que tiene su trabajo en la salud de la población que recibe sus servicios; en tal sentido, ha sido un reto permanente el sistema de capacitación que posibilite elevar la relevancia de los profesores, en el cumplimiento del encargo estatal que tienen determinado. Por tal razón, ha sido un imperativo la creación de mecanismos que permitan saldar las carencias teóricas y prácticas que garanticen tales propósitos, por lo que el objetivo de este trabajo fue elaborar una estrategia metodológica para la preparación de profesionales de la Cultura Física que influya en su desempeño y garantice la atención a pacientes con accidentes cerebrovasculares. La metodología utilizada, se apoyó en una investigación cualitativa, con el método descriptivo como herramienta fundamental para la recopilación de información. La aplicación de encuestas, análisis de documentos y pruebas especializadas brindaron elementos para fundamentar la necesidad del diseño de la estrategia planteada. De su aplicación, se derivaron acciones para los profesionales de la Cultura Física, en función de atender a los pacientes con accidentes cerebrovasculares, a través de la rehabilitación física, ello aportó un nuevo enfoque en su desarrollo.



Palabras clave: accidentes cerebrovasculares, estrategia metodológica, preparación de profesionales de Cultura Física

RESUMO

O desenvolvimento profissional é uma necessidade para profissionais de educação física devido ao impacto que seu trabalho tem na saúde da população que recebe seus serviços. Nesse sentido, o sistema de formação que permita aumentar a relevância dos professores no cumprimento do mandato estatal que lhes foi atribuído tem sido um desafio permanente. Por isso, tem sido imperativo criar mecanismos que permitam, cada vez mais, superar as deficiências teóricas e práticas que garantem tais propósitos, pelo que o objetivo deste trabalho é desenvolver uma estratégia metodológica para a preparação de profissionais da Cultura Física que influencia seu desempenho e garante o atendimento aos pacientes que sofreram AVC. A metodologia utilizada baseia-se na pesquisa qualitativa, na qual o método descritivo é utilizado como ferramenta fundamental para coleta de informações. A aplicação de pesquisas, análise documental e testes especializados forneceram os elementos necessários para embasar a necessidade de desenho da estratégia proposta. A implementação da estratégia leva à necessidade de desenvolver ações que permitam melhor preparação dos profissionais de cultura física para o atendimento de pacientes vítimas de acidente vascular cerebral (AVC), por meio da reabilitação física. Pesquisas oferecem uma nova abordagem para a preparação de profissionais de cultura física.

Palavras-chave: Formação de profissionais de Cultura Física, Estratégia metodológica, Acidente vascular cerebral

INTRODUCTION

In Cuba there is a high prevalence of cerebrovascular diseases, including cerebrovascular accidents (CVA), which, according to the 2020 health statistics yearbook, are non-communicable, common diseases and the third cause of death in Cuba. According to the



statistical document itself, 10,008 deaths from this cause were reported in the country in 2019, for a rate of 89.1 per 100,000 inhabitants.

Addressing this problem requires constant training of specialists who treat these pathologies, particularly Physical Education teachers who work in therapeutic areas, so that the work they do flows with greater quality and effectiveness.

In accordance with what Fonseca et al. (2018); Rojas (2022) propose, raising the quality of educational work requires the active participation of the teacher or coach, hence the need for their improvement as a researcher of the problems of the classroom, school and community where they are located, to achieve the permanent improvement of pedagogical work, through the paths and methods of scientific work.

In order to improve the quality of training, various pedagogical variants have emerged that enable, among other things, these teachers to do a better job as rehabilitators and transmitters of knowledge to the families of those affected.

Oliveira et al. (2022) agree in their research that any renewal project that aims to improve the quality of education must recognize the need to involve the Physical Education teacher in the change, so that improvements in the pedagogical process are linked to their improvement in professional development.

The teaching practice that a Physical Education professional must carry out has diversified in recent years, based on the improvement of the study plans and the profile of the graduate. An appropriate route for solving these limitations is postgraduate training.

Postgraduate education in Cuba enables the specialization, reorientation and permanent and continuous updating of university graduates, as well as the enrichment of their cultural heritage, for better performance, based on the present and future needs of the economic, social and cultural development of the country. This continuous preparation is one of the main directions of work since through it the demands for improvement that the present demands are met, the requirements of society are anticipated and the capacities to face new social, productive and cultural challenges are created (Pérez, 2011).



For Mijans et al. (2018), improvement is a continuous and systematic process that allows teachers to effectively provide themselves with the knowledge necessary to assume the direction of student learning from a developmental perspective. To achieve these ends, instruments are used that involve student participation, autonomous learning and research.

An important tool is methodological strategies. According to the dictionary of the Royal Spanish Academy (2013), strategy refers to the art of coordinating actions and maneuvering to achieve an objective or process.

From this conceptualization, the postulate of Añorga (2012) is assumed, who considers that positive transformations in the intellectual, physical and spiritual development of man come from knowing, internalizing and becoming aware of their cognitive and affective problems, their skills and aspirations, with sufficient rationality and motivation for the profession and for life, according to a certain social context, evidenced in creative performance, to contribute with their competencies and intellectual production and/or material goods, to the behavior and functioning of their work-professional, family and community environment, through their satisfaction in the personal, professional, ecological, socioeconomic, and their own human virtues.

Many times, the application of methodological strategies proposes a change of roles and focus, which indicate that the teacher has the maximum responsibility of guiding the students' process towards achieving comprehensive development (Robledo et al. 2015). On the other hand, Davini (2015) considers that teachers must discriminate the most appropriate strategies according to the stage of training and that, in their programming, they can select, grade and organize the strategies to improve the teaching-educational process.

Consequently, the research presented here aimed to develop a methodological strategy for the training of Physical Culture professionals that would influence their performance and guarantee care for patients with CVA.



MATERIAL AND METHODS

Concern about the increasing incidence of CVA and the low availability of qualified personnel for the rehabilitation of those affected led to the study being carried out. Methods were used to certify the strengths and weaknesses in this area and to collect information related to the knowledge of Physical Culture professionals.

Surveys were applied to understand the level of preparation of professionals to carry out the rehabilitation of CVA patients; observation allowed to know their performance in therapeutic areas, particularly in working with CVA patients and to identify the techniques applied; interviews were conducted with specialists in rehabilitation rooms and with patients who suffered CVA, which demonstrated the number of CVA patients who were referred, the completion of treatments and the reasons for abandoning them.

Likewise, the verification of the patients' state of independence to carry out their daily activities was corroborated through the application of the Barthel index; the Ministry of Public Health's Training Program for Rehabilitators was reviewed, which provided important content for the development of the strategy.

Consultation with experts from the Public Health Sector and the Municipal Sports Directorate, and specialists from the University Center in Bahía Honda, improved the methodological aspects of the strategy.

RESULTS AND DISCUSSION

A total of 36 observations were made to different teachers in therapeutic areas that showed the treatment of pathologies such as bronchial asthma, arterial hypertension and heart disease mainly, and only two teachers developed rehabilitation for patients who suffered a CVA.

Interviews with rehabilitation specialists revealed that 56 CVA patients were referred in 2019; only 25% of them completed the rehabilitation treatment. On the other hand, they reported that time limitations due to the energy situation to carry out kinesiotherapy



(rehabilitation with physical exercises) had a negative influence, due to the daily number of patients to be treated.

The patients interviewed stated that the current transportation situation limited the possibility of systematically moving to rehabilitation rooms, the inconvenience caused by the long hours of waiting to be seen, and the need to bring services closer to the communities.

Of the 53 professionals surveyed, eight had previously been involved in rehabilitation processes for people who suffered a CVA, which showed that only 15% participated in some way in the process as a rehabilitation specialist; however, they indicated certain limitations that prevented them from efficiently developing this activity, among which the following stood out:

- They did not have a rehabilitative treatment program.
- The training they received in physical rehabilitation issues was very scarce.
- The preparation programs developed in the municipality presented inconsistencies in issues related to physical rehabilitation.
- The improvement of Physical Education teachers in therapeutic areas and classrooms was not aimed at providing differentiated care, in accordance with the special treatment required by each patient.
- The teachers failed to provide adequate guidance to the family on the necessary continuity of the rehabilitation process at home.

Based on these results, it was agreed that methodological improvement activities must be "(...) planned, permanent and progressive in a systematic way, and that their purpose must be to promote habits, skills and knowledge that facilitate the correct direction in the fulfillment of functions" (Delgado, et al., 2020).

Rationale for the methodological strategy

Despite the training actions applied, the technical force in charge of caring for patients who suffered CVA in the therapeutic areas of the territory did not have the necessary training to



carry out this work. Although the results obtained in the application of scientific methods showed that not all professionals had knowledge about CVA classifications, and in their treatment, only 15% participated as rehabilitation specialists.

Based on this, a methodological strategy was developed for the training of Physical Culture professionals, the influence on their performance and the care of patients with CVA. The intention of the strategy was not to train rehabilitation specialists. That is why it was based partly on the contents of the Rehabilitation Training Program of the Ministry of Public Health and not on the full application of this.

In this sense, the necessary contents were adapted, referring specifically to the rehabilitation of patients with CVA, and theoretical actions of the manipulations used in the rehabilitation of people suffering from this disease were combined with practical activities that allowed a better consolidation of the knowledge.

The methodological strategy was structured in three phases, according to the criteria of Borges et al. (2009). Its objective was to modify the preparation of Physical Culture professionals in the Bahía Honda municipality, and its characteristics were the flexibility that allowed responding to the demands presented and modifying the actions, according to the requirements; as well as the diversity to be applied by Physical Culture professionals, regardless of their experience as graduates or knowledge on the subject. These considerations strengthened the validity of the methodological aspects of the strategy and the performance of professionals in front of patients, to offer an adequate judgment of the impact of its application.

Phase I. Diagnosis

In this phase, the needs for improvement of Physical Culture professionals in topics related to the rehabilitation of patients with CVA were investigated, in order to determine the necessary methodological actions and to solve the demands raised. Likewise, the Barthel index was applied to determine the degree of independence of patients to carry out daily life activities.



Phase I Results



Figure 1. Initial survey

The graph shows that the 53 Physical Culture teachers raised the need for practical activities such as workshops, practical classes and, to a lesser extent, demonstrative methodological classes (48).

The practical activities addressed topics such as when to apply active manipulations, passive manipulations, and resistive exercises, among others. Knowledge of these aspects was of great importance because the rehabilitation process was linked to aspects of inclusion, where it is necessary to consider the needs and requirements of people with disabilities, in order to intervene, emancipate, integrate and improve their quality of life; in addition to generating links with the context and the family and preparing them for their reintegration into society (González and Macías, 2018).

Only 22 of the respondents expressed the need to implement conferences related to physical therapy, its effect on raising the level of independence in carrying out daily life activities of CVA patients and their reintegration into social activities.

General functioning was determined through various assessment scales (Barthel index) that revealed data on functional strength and limitations (Kaasa , et al., 1997). It was applied to 32 patients with CVA in different settlements of the municipality and showed that the



average of parameters reached 35 points, from the results table, which placed the patients in a state of severe dependence.

Phase II. Instrumentation

The first stage of this phase was characterized by proposing the methodological actions derived from the diagnosis and the components of each of them, which included the objectives, content, methods, means and procedures; they were selected and adjusted to the demands of Physical Culture professionals; the scientific-methodological actions to be applied, the scientific-research activities to be developed, as well as the rest of the complementary activities necessary for each group of teachers were highlighted.

In the second phase, the organization of the forms of improvement was declared with the hours dedicated to each one. It was convenient to start with a methodological meeting to ensure the starting level of the other actions to be developed, as well as the controls that demonstrated the appropriation of knowledge. The organizational forms of improvement declared in phase I were applied, to guarantee feedback.

Phase II Results

As a result of the demands of the professionals in the area, 15 methodological activities were applied, each of them with the declaration of the objectives, contents, methods and procedures that provided answers to the needs raised. Within these, three conferences were offered related to the etiological classification of CVAs and the types of treatments applied, the importance of neurological rehabilitation in injuries to the peripheral nervous system and the instruments to evaluate the evolution of patients.

12 practical activities were developed, including workshops, demonstration classes and practical classes, which encouraged the interaction of Physical Culture professionals with patients with CVA. In these activities, instruction was provided on the risk factors that can trigger CVA, their classification and what conduct to follow in each of them, what should be the use of the different manipulations in each stage of the treatment, and the usefulness and impact of kinesitherapy on the evolution of patients.



Phase III. Evaluation of the impact of improvement on professional performance

This phase reflected the results achieved by the professionals; a theoretical-practical exam was applied that demonstrated the appropriation of knowledge related to the rehabilitation process for patients with CVA.

Barthel index was applied again to compare the results with the initial test and to define whether the difference in the degree of independence of the patients when developing activities of daily living was significant and to be able to evaluate the skills of the Physical Culture professionals in the rehabilitation of the patients.

Phase III results

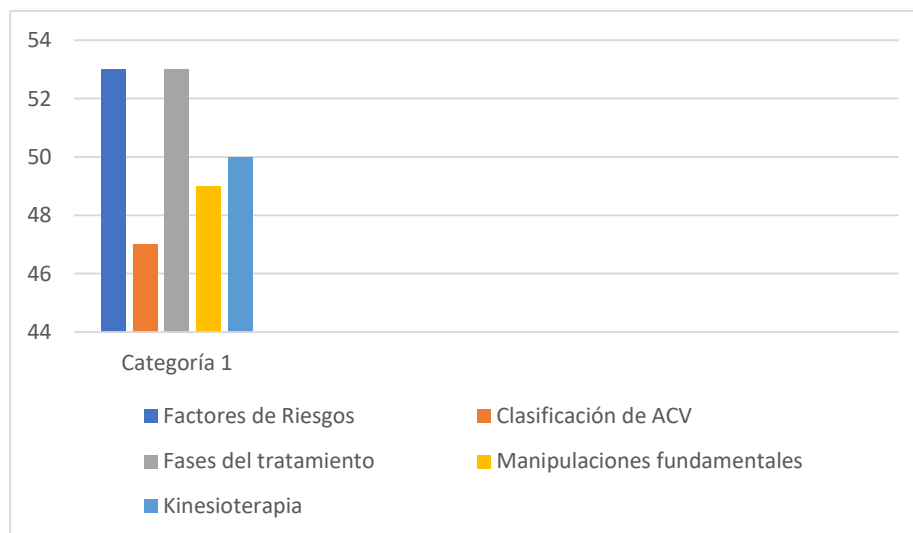


Figure 2. Results of the theoretical-practical exam

The graph showed the results obtained in the theoretical-practical exam, with significant advances in the knowledge of the professionals. The 53 respondents described risk factors that cause CVA, as reported in specialized bibliographies. Knowledge of these risk factors such as age, sex, genetic inheritance and race, among others, was of vital importance (George, et al., 2011).



Forty-seven of them (88.6%) correctly classified the disease, which allowed the type of conduct to be followed to be determined. All 53 patients recognized the phases of treatment and 49 (92.4%) clearly stated the manipulations to be used at each stage of the treatment. Knowledge of the manipulations for different cerebrovascular episodes contributed favorably to the recovery of psychological aspects and other organic functions such as bladder and bowel function (Kheder and Nair , 2011). Likewise, 50 (94.3%) applied kinesthetic activities and demonstrated their effects on the patients' evolution.

For the final Barthel Index results, the same procedure as at the beginning was carried out three months after applying the practical activities of the strategy, to compare both results. The results showed a total average of 70 points, which placed the patients in a state of moderate dependence, and demonstrated significant progress.

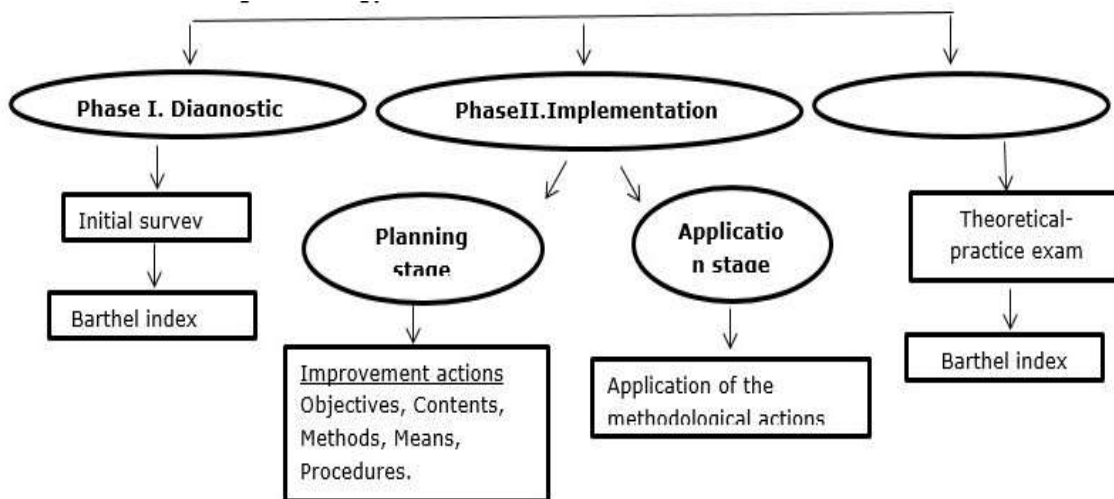


Figure 3. Structure of the methodological strategy

CONCLUSIONS

In the presented research, the starting point was the systematization of theoretical references on the application of methodological strategies for the preparation of Physical Culture professionals in the care of patients with CVA. A diagnosis was applied to check the level



of knowledge and deficiencies to efficiently develop the care of patients with CVA, in the therapeutic areas of the territory; based on this, a methodological strategy was designed as a fundamental tool for better professional performance.

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Conflict of interest statement:

The author declares that there are no conflicts of interest.

Author's contribution:

The author is responsible for writing the work and analyzing the documents.



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