



Original article

Physical preparation of the elderly for biopsychosocial rehabilitation in senior citizens' homes



La preparación física del adulto mayor para la rehabilitación biopsicosocial en las casas de abuelos



A preparação física do adulto maior para a reabilitação biopsicossocial na casa dos avós

Yirel Cárdenas Tejeda¹  0000-0003-2234-1001  yirelct@unica.cu

Niurka Tejeda García²  0000-0003-4858-1302  tejedaniurka0@gmail.com

Marilyn Beatriz Fabá Crespo²  0000-0002-3290-6515  mfabacrespo@gmail.com

Rubén Alexis Martínez Puig¹  0000-0003-3858-7196  rubenpuig6277@gmail.com

Asley Quincoses Genis³  0000-0001-7997-282X  asley@unica.cu

¹ University of Ciego de Ávila "Máximo Gómez Báez". Ciego de Ávila, Cuba.

² Higher Institute of Education Sciences, Huila Province. Angola.

³ University of Mandume Ya Ndemufayo. Higher Polytechnic Institute of Huila. Angola.

Received: 22/01/2025

Accepted: 17/03/2025

ABSTRACT

The physical preparation of older adults for their biopsychosocial rehabilitation in nursing homes is a complex process. Cuban nursing homes are social institutions that provide comprehensive care to older adults who lack parental support or family members who can care for them during the day.

From a functional perspective, they have difficulty performing daily activities. The objective of this article was to propose new relationships in the physical preparation of older adults for their biopsychosocial rehabilitation, based on the connection between the university and nursing homes as a social institution and the role of the Physical Education teacher in this context. Theoretical methods used were: historical-logical, analytical-synthetic, inductive-deductive, and systems approaches, documentary analysis; empirical methods such as observation, modeling, expert judgment, and group interviews, which allowed for a scientific approach to the topic at hand; and percentage calculation as a mathematical statistical method. The results of the diagnosis demonstrated the need to incorporate physical education teachers into the integrated work carried out in these spaces, with the aim of offering comprehensive care to older adults, justifying the construction of new relationships between the university and senior citizen homes as social institutions. A new role proposed for physical education teachers is to integrate them into senior citizen homes, strengthening the university-social institution relationship, promoting better performance of their physical functions, and consequently, adequate biopsychosocial rehabilitation of older adults.

Keywords: biopsychosocial rehabilitation of older adults; grandparents' homes; integration of Physical Education teachers; university-social institutions relationship.

RESUMEN

La preparación física del adulto mayor para su rehabilitación biopsicosocial, en las casas de abuelos, es un proceso complejo. Las casas de abuelos en Cuba son instituciones sociales que brindan atención integral a los adultos mayores carentes de amparo filial en absoluto o de familiares que puedan atenderlos durante el día, teniendo como característica, desde el punto de vista funcional, que se les dificulta la realización de las actividades cotidianas. El objetivo de este artículo consistió en proponer nuevas relaciones en la preparación física del adulto mayor para su rehabilitación biopsicosocial desde la vinculación universidad-casas de abuelos como institución social y las funciones del profesor de Cultura Física en dicho contexto. Se utilizaron métodos teóricos como: el histórico-lógico, analítico-sintético, inductivo-deductivo, enfoque de sistema, análisis documental; métodos empíricos, tales como: la observación, la modelación, el criterio de expertos y la entrevista grupal, que permitieron abordar con cientificidad el tema tratado; y el cálculo porcentual como método estadístico

matemático. Los resultados del diagnóstico realizado demostraron la necesidad de incorporar al profesor de Educación Física al trabajo integrado que se realiza en dichos espacios, con el propósito de ofrecer una atención integral al adulto mayor, que justifique la construcción de nuevas relaciones entre la universidad y las casas de abuelos como instituciones sociales. Se propone como nueva función del profesor de Cultura Física su integración a las casas de abuelos, potenciando la vinculación universidad-institución social, propiciando un mejor desempeño de sus funciones físicas y por consiguiente una adecuada rehabilitación biopsicosocial del adulto mayor.

Palabras clave: rehabilitación biopsicosocial del adulto mayor; casas de abuelos; integración del profesor de Educación Física; relación universidad-instituciones sociales.

RESUMO

A preparação física de idosos para sua reabilitação biopsicossocial em lares de avós é um processo complexo. Os lares de avós em Cuba são instituições sociais que prestam assistência integral a idosos que não têm apoio filial ou parentes que possam cuidar deles durante o dia e cuja característica, do ponto de vista funcional, é a dificuldade de realizar atividades cotidianas. O objetivo deste artigo foi propor novas relações na preparação física do idoso para sua reabilitação biopsicossocial a partir do vínculo entre a universidade-lar dos avós como instituição social e as funções do professor de Cultura Física nesse contexto. Foram utilizados métodos teóricos, tais como: histórico-lógico, analítico-sintético, indutivo-dedutivo, abordagem sistêmica, análise documental; métodos empíricos, tais como: observação, modelagem, julgamento de especialistas e entrevista em grupo, que permitiram uma abordagem científica do assunto tratado; e cálculo de porcentagem como método estatístico matemático. Os resultados do diagnóstico realizado mostraram a necessidade de incorporar o professor de Educação Física ao trabalho integrado realizado nesses espaços, com o objetivo de oferecer atendimento integral aos idosos, o que justifica a construção de novas relações entre a universidade e os lares de avós como instituições sociais. Propõe-se como nova função para o professor de Cultura Física a integração nos lares de avós, fortalecendo o vínculo entre a universidade e a instituição social, promovendo um melhor desempenho de suas funções físicas e, conseqüentemente, uma adequada reabilitação biopsicossocial do idoso.

Palavras-chave: reabilitação biopsicossocial de idosos; lares de avós; integração do professor de Educação Física; relação universidade-instituições sociais.

INTRODUCTION

The World Health Organization (WHO) reports that by 2050, for the first time in human history, the number of people over 60 in the world will exceed the number of young people. Perhaps it isn't noticed, but this historic reversal in the relative percentages of young and old people already occurred in 1998 in the most developed regions (WHO, 2022).

The social purpose of senior homes is the biopsychosocial rehabilitation of older adults, with comprehensive care provided by a multidisciplinary team, enabling them to reintegrate into their surroundings once the problems that led to their admission cease.

The background to the topic related to the physical preparation process of the elderly for their biopsychosocial rehabilitation, in grandparents' homes, is found in authors such as: Barrientos et al. (2024), who have developed different criteria. Its initial foundation was the creation of the first grandparents' home in Cuba, in 1970, in Havana, at the initiative of Raquel Pérez of the Department of Labor of the San Antonio de los Baños municipality. Subsequently, grandparents' homes were created in the municipalities of Guira de Melena in 1971 and Alquízar in 1972; they progressively spread throughout the country.

In the Extraordinary Official Gazette, no. 54 of 2014, the Procedure for the Granting of Income in nursing homes and homes is approved. Senior Citizens' Homes in Cuba, with a more up-to-date approach. Senior citizens' homes are open from 7:30 a.m. before midnight to 6:00 p.m., Monday through Friday, and on Saturdays from 7:30 a.m. until 12:00 p.m.; they are closed on Sundays because the goal is for seniors to remain in their environment, that is, with their family and community. To enter senior citizens' homes in Cuba, the following requirements must be met:

- Be 60 years of age or older and not suffer from any infectious diseases.
- Not have life-threatening pathologies that require hospital care, not present behavioral disorders as a result of psychiatric illnesses, and not present a total or partial lack of parental support.

Méndez *et al.* (2024) report that older adults generally require comprehensive rehabilitation services (biological, psychological, and social), including learning and home management. Activities aimed at health promotion, disability prevention, and maintaining functionality are also developed, as are educational activities with grandparents, family members, and employees; nutrition tailored to their needs is guaranteed; relationships are established and coordination is undertaken with other units of the national health system to improve the quality of services.

Focusing the attention of older adults through the Party's economic and social policy until 2030 is one of the main and essential objectives outlined in the conceptualization of the Economic and Social Model of the Party and the Revolution (see Guideline 69, Section VI, Social Policy). The National Program for Comprehensive Care for Older Adults, among its main objectives, includes education, promotion, and access to knowledge in various fields.

Although there are senior support organizations and programs in the province of Ciego de Ávila, offering opportunities to interact with seniors and implement these programs, the social and educational environment is not always conducive to the effects of change on seniors. For this reason, the Socio-Cultural Project "Living and Aging to the Fullest" was created with the goal of contributing to the physical improvement of seniors in the municipality of Morón. The Morón Municipal University Center must become the most important cultural and scientific center in the municipality, given its social mission.

The following limitations were noted among the diagnostic results:

- The activity plan designed for seniors' homes does not include activities aimed at the physical preparation of older adults, based on the functional development of their physical structure, which would enable them to perform their daily functions independently.
- Care for the elderly is not conceived in a comprehensive manner, as the role of the physical education teacher is not taken into account.
- Physical preparation for psychosocial rehabilitation is not conceived in the nursing home of the Morón municipality.
- The Municipal University Center plans activities for senior citizens where there is no representation from the nursing home.
- Actions to protect self-determination, preferences, and equal opportunities in the family life of older adults in nursing homes are insufficient.

Therefore, the objective of this article was to determine the relationships for the physical preparation of older adults for their biopsychosocial rehabilitation from the university-grandparents' homes connection as a social institution and the functions of the Physical Education teacher in caring for older adults in this context.

MATERIALS AND METHODS

The general methodological conception of the research was based on Materialist Dialectics as a general method of scientific knowledge and as logic for the application of specific methods of theoretical and empirical research. Part of the results of the doctoral thesis of the article's lead author is presented. This is part of the qualitatively theoretical contribution to the theory of Educational Sciences.

In this sense, a descriptive investigation was developed and was framed within the phenomenological-hermeneutic approach, which sought to discover the meanings of the phenomena experienced by older adults in biopsychosocial rehabilitation, through the analysis of their descriptions so that, from the hermeneutic, an interpretive meaning is given to what is expressed, which favors the description and interpretation of the phenomena from a critical-reflective analysis, from three categories: the textual, the symbolic and the contextual.

The aforementioned limitations highlighted the need for physical preparation of older adults for their biopsychosocial rehabilitation in the nursing home, based on a pedagogical approach that renews the relationship between the university and the nursing home as a social institution; and a resizing of the role of the physical education teacher in this biopsychosocial rehabilitation process, within the context of the community, transforming the alternatives implemented to date.

The historical-logical method was used to study the foundations of the research to understand the different stages of the development of senior homes and the specifics of the care provided in these spaces, their history, and their practical implications. The analytical-synthetic method enabled the processing and interpretation of the information, and the identification of the functions of the physical education teacher within the community context and in their relationships with other social institutions.

The inductive-deductive approach was used to characterize the problematic situation and to evaluate the level of implementation of the pedagogical diagnosis. The systemic approach allowed for the orderly understanding of the relationships established between the university and the nursing homes as a social institution.

The modeling allowed for the graphic representation of the new relationships between the university and senior citizen homes as social institutions and the determination of the roles of the Physical Education teacher in their intervention in the biopsychosocial rehabilitation of older adults.

Document analysis was used to study original documents from Cuban nursing homes, to identify the challenges facing older adults' physical preparation for biopsychosocial rehabilitation, and to search for and analyze information on the research topic. Observation was used from the identification of the problem to verify the physical preparation of older adults for biopsychosocial rehabilitation in nursing homes. Group interviews were used to determine the opinions of older adults, university administrators, and nursing homes in the Morón municipality regarding the services offered and established relationships. Expert judgment was used to assess relevance to the research topic and to identify new relationships in the physical preparation of older adults for biopsychosocial rehabilitation based on the university-nursing home relationship as a social institution, as well as the role of the Physical Education teacher in this context.

The research population consisted of five directors of nursing homes in the municipality of Morón; five directors of the University of Ciego de Ávila, directly involved in this topic due to their roles; three professors of the Bachelor of Physical Education program at the Morón Municipal Center of the University of Ciego de Ávila; three directors of the Comprehensive Care Program for the Elderly in the municipality of Morón. In addition, the 15 older adults currently hospitalized in the municipality's nursing homes and 15 specialists in the subject as part of the expert judgment method were considered the population of 15 older adults currently hospitalized in the nursing home in the municipality of Morón, and the 15 experts on the subject.

Sample was selected, which represented 100% of the population of older adults in nursing homes.

RESULTS

During the course of the research, results were obtained from the use of theoretical, empirical, and statistical-mathematical methods. Document analysis revealed that the original documents establishing the grandparents' homes assume the integrated work of the trio: health specialist, social worker, and physical education teacher.

However, observation of the situation has shown that, rather than a triad, it's a duo consisting of a health specialist and a social worker. From this development perspective, the role of the physical education teacher, their functions, and the system of activities they can implement are not defined for these settings.

Using historical-logical methods and analysis-synthesis, a study was conducted of the various criteria for providing differentiated care to older adults based on their pathologies. It was evident in practice that the biological aspects of musculature, joints, and physical functions are neglected, as well as the determination of the parameters to be evaluated based on the physical activity being performed.

It was noted that the 15 older adults interviewed stated they had no experience in this type of physical activity and expressed interest in participating in it, representing 100% of those interviewed; this figure was obtained from the percentage calculation. The results of the assessment demonstrated the need for older adults to be physically prepared for their biopsychosocial rehabilitation in senior citizen homes, with the inclusion of a physical education teacher.

The biopsychosocial approach is defined as the set of actions that promote and facilitate efficient, effective and timely care directed at people considered in their physical, mental and social integrity (Barrientos et al., 2024). They propose that a biopsychosocial evaluation is important because only when the biological, social and psychological facets are evaluated equally can their influences on human behavior be appreciated in the following aspects.

Biopsychosocial method

1. Biopsychosocial assessment
2. Design of the individual care plan
3. Impartation of therapies (physical therapies)

4. Monitoring the evolution
5. Reassessment and re-planning of objectives
6. Reports to family members and professionals

The authors of this article argued that it is a set of integrated rehabilitation actions for older adults, based on knowledge of their biological, psychological, and social characteristics, to design a plan of individual activities with a preventive, corrective, and compensatory nature for social integration, enabling them to function in their daily lives.

The authors of this article affirm that, when referring to the set of integrated rehabilitation actions, they recognize the necessary complementarity between each domain: the biological (given in muscle development, joints, nervous system and physical functions); the psychological (given in anxiety, stress, depression and pessimism or negativity); and the social (given in family life, the deinstitutionalization of older adults and socio-economic), as a whole.

The four relationships determined in this regard are referenced below. Essential relationships in the university-grandparents' homes link:

1. University-grandparents' homes relationship as a social institution
2. Relationship between Physical Education teacher, social worker, and health specialist
3. Relationship between physical education teacher and senior citizen in grandparents' homes
4. Physical Education teacher-family relationship in the community context

University-grandparents' homes relationship as a social institution

The university, as a socio-educational institution, includes among its social responsibilities the advancement, training, and scientific innovation, through its actions through the Faculty of Physical Culture and Sports Sciences and the Morón Municipal University Center, which offers this program, as part of its vocational training and its contribution to local development.

The social mandate of the university arises from the development needs of society, in which higher education institutions offer answers from their substantive development processes: teaching, work practice, research and university extension. By integrating the substantive processes of the

universities, the social charge becomes objective and the academic, research, labor and extension practices are revitalized, in the committed appropriation of the charges of their professional field.

The fulfillment of the university's social mandate is realized in the functions of preserving, developing, and promoting culture, directly related to the maturity and significance that the university achieves as a sociocultural institution in its interrelationship with society and, in particular, with nursing homes, from the functional and structural integration of university extension and its direct influence on the biopsychosocial rehabilitation process of older adults in nursing homes.

The interaction or connection between this institution and the society in which it is located occurs in different ways and with diverse structures, both within the university and within the social environment, as well as in its relationships with other social institutions such as nursing homes, since the integration of the Chairs for Senior Citizens created by the Higher Education system in Cuban universities.

Physical Education teacher-social worker-health specialist relationship

Since the original documents legalizing nursing homes as social institutions, the work of the trio of health specialist-social worker-physical education teacher has been present. However, in social practice, this work materializes in a partnership consisting of a health specialist and a social worker. This consistency is evident in the results of documentary analysis and literature reviews on the topic, which is generally approached from a medical rather than a pedagogical perspective.

In this communication, the following requirements are assumed as guidelines for said work:

1. It is a joint, multifactorial, and integrated effort, encompassing biological, psychological, and social aspects as part of the rehabilitation and social reintegration of older adults.
2. The diagnostic and preventive functions, as well as the development of the individual action plan, must be jointly coordinated by these three specialists.
3. The progress of integrative work with older adults should be advised and monitored; the biopsychosocial rehabilitation process for older adults and its outcomes should be jointly planned, guided, monitored, and evaluated.
4. Carry out actions that correspond to the individual and group strengths and weaknesses of older adults, ensuring their efficient biopsychosocial rehabilitation.

5. Joint training spaces for the three specialists in charge of rehabilitation must be guaranteed.
6. Provide comprehensive, systematic advice and monitoring of older adults' comprehensive outcomes, and frequently record their comprehensive assessment.
7. Inform the family of these processes and their results, so that they can contribute to an appropriate biopsychosocial rehabilitation process.

Physical Education teacher-elderly relationship in senior citizens' homes. The Physical Education teacher at the University

The physical education teacher is responsible for designing, programming, teaching, and evaluating learning related to physical activity and sports at the different educational levels. Physical education is a discipline that seeks to offer comprehensive education about the human body, contributing to health care. The subject of physical education seeks to educate individuals in the use of their own bodies, teaching them how to maintain their physical and physical health.

The Physical Education professor at a university has certain pre-established functions such as teaching, methodology, research, and extension. In addition, must have adequate training in pedagogy, which allows him to understand and resolve situations that arise within his professional practice.

The personality and character of a physical education teacher must be in keeping with a social being, capable of bringing the masses together, uniting opposing groups, and being open to criticism and changes in the updating of methodologies and strategies to improve and bring physical preparation for older adults' biopsychosocial rehabilitation closer to those who most need it. From the general functions and scope of action mentioned above, this research determines the specific functions that physical education teachers must fulfill within the university-grandparents' homes as social institutions.

Functions of the Physical Education teacher in the biopsychosocial rehabilitation of older adults in nursing homes

Diagnostic function: The diagnostic function of the physical education teacher in seniors' homes is essential and is the guiding factor in the biopsychosocial rehabilitation process of the elderly.

This function consists of a thorough and comprehensive study of each older adult's characteristics, including their biological, psychological, and social characteristics, in order to provide individualized treatment and care. Therefore, it is an ongoing, formative, participatory, and responsible role, focusing on individual and collective strengths and weaknesses. This role is present in the other functions defined as the Physical Education teacher's role, in the physical preparation of older adults for their physical rehabilitation.

The diagnostic function is systematic and multifactorial, integrating the health specialist, the social worker, and the physical education teacher to offer an integrated approach to assessing the older adult and making decisions. This will then lead to the development of an individual action plan as an essential means of biopsychosocial rehabilitation.

Within this role, the Physical Education teacher will characterize each older adult. This diagnosis will begin with an individual interview with the older adult and then an interview with their family. This role also includes the characterization, which the Physical Education teacher conducts jointly with the health specialist and social worker, of the strengths and limitations of each older adult's community and family environment.

The goal is not to characterize a diagnosis of the family and community, but rather to characterize the most significant aspects of the family and community context that impact the biopsychosocial rehabilitation of older adults. This allows for the development of a pedagogical concept and the planning of appropriate family and community counseling efforts.

Preventive function: The objectives of prevention in older adults generally depend on the individual's health status, functional capacity, and risk profile. The preventive role of the Physical Education teacher in preparing older adults for biopsychosocial rehabilitation includes physical preparation aimed at improving movement conditions and the individual's functional capacity; as well as enhancing structural and functional changes in muscles, joint mobility, and improved cardiorespiratory response, which ensure adequate oxygen supply to meet the increased metabolic needs caused by exercise; and preventing risk factors that limit the growth and quality of life of older adults, as a significant part of the population; and preventing adverse events in adults over 60 years of age, which coincide with: risk identification, interdisciplinary work in risk prevention, the development of preventive actions for ongoing practices, and supervision.

Promoter function: It is characterized by its self-care perspective and by including physical activity, physical exercise, body practices, and physical education among a range of intervention proposals to disseminate actions aimed at promoting healthy lifestyles for older adults in nursing homes.

Activities supporting health promotion include: the development of standards and interventions aimed at promoting healthy behaviors and environments; the development of sectoral and extrasectoral alliances for health promotion; the national planning and coordination of information, education, and social communication strategies to promote physical education among older adults; the reorientation of health services toward promotion; and the provision of advisory and technical support at subnational levels to strengthen promotional actions aimed at biopsychosocial rehabilitation; as well as the implementation of group workshops by territorial sector and educational establishments related to topics such as physical activity, physical education and physical exercise, anti-smoking behavior, dental health, alcoholism and drug addiction, social integration, among others.

Social facilitator function: Older adults, typically starting at age 60 for women and starting at age 65 for men, leave the workforce. This process of deinstitutionalization favors the emergence of social disorders that affect the psychological, such as: the loss of the circle of coworkers, friends, and colleagues who no longer see each other as frequently; it closes the context of socialization and social exchange they previously enjoyed.

Older adults are experiencing rejection and abandonment due to a lack of integration and sociability. This function contributes to social interaction and social interaction, as a determining factor in older adults' emotional processes; social exchange and interaction with other older adults in the community.

Function of the physical rehabilitator: physical rehabilitation, as a way to complete treatment, takes into account physical exercise as one of the most powerful means of patient recovery in this field. It is a question of completing what the physiotherapist would be unable to do because he requires other elements of physical exercise and knowledge of a more pedagogical nature that in his training are not studied, nor have any reason for being; work of the physical educator.

Depending on the type of pathology being treated, the type of exercise and its dosage (workload = intensity, volume, frequency, and duration) differ. Just like a drug, this natural medicine called exercise must be dosed according to the individual characteristics of the older adult.

Community function: The community role of the physical education teacher in the nursing homes is built on work with the family. It consists of harmonious and systematic coordination with the family, providing individualized attention and guidance based on the results of the diagnosis of their relative admitted to the nursing home. This role facilitates links with other social and business entities such as the Federation of Cuban Women, the Committees for the Defense of the Revolution, the Municipal Orientation and Diagnostic Center, polyclinics, museums, cultural centers, sports and recreational centers, and other production and service organizations located in the community.

Physical Education teacher-family relationship in the community context

The relationship between the university Physical Education teacher, the family and the community can be structured in the following aspects:

Promoting health: Physical education contributes to the physical and mental health of older adults and their families, and to disease prevention.

Developing social skills and environmental influences: Physical education can help older adults recognize and interact with others in a healthy way and acquire social skills in the new contexts of family and social life.

Communication between older adults in nursing homes and families: Physical Education teachers must contribute to the development of families and communities; however, communities also have an impact on the biopsychosocial rehabilitation of older adults in nursing homes and their influence on other social institutions within the community. Therefore, it is necessary for university Physical Education teachers to develop collaborative work with the community in a multifactorial manner (Figure 1).

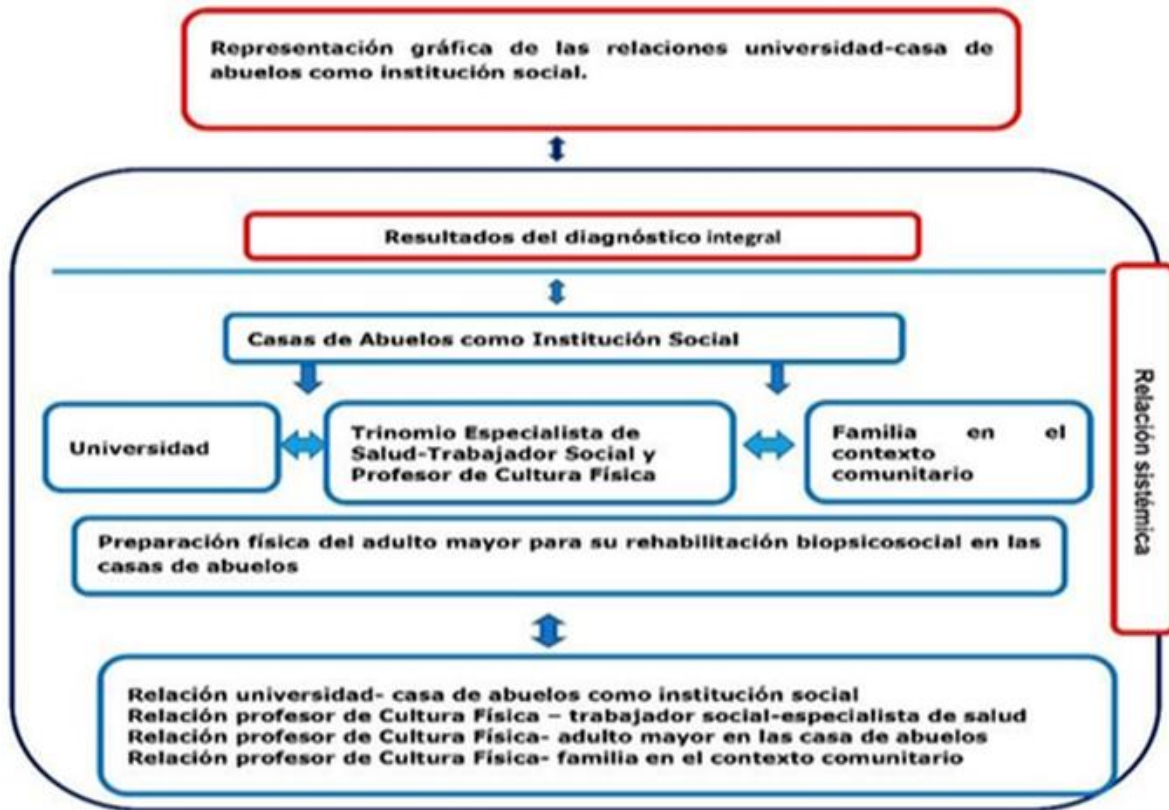


Figure 1. Graphic representation of the university-grandparents' homes relationship as a social institution

DISCUSSION

The development of scientific research has made it possible to assume that the physical preparation of older adults for biopsychosocial rehabilitation in nursing homes requires a deeper analysis of its development in Cuban Pedagogy. The study of the evolution of the development of the physical preparation of older adults for their biopsychosocial rehabilitation started from considerations from 1959 to the present, in which major transformations in education began, resulting in significant advances in the scientific basis of institutionalized work and from the community context with the older adult (Abril et al., 2022).

As part of the assessment of the results obtained and their comparison with other results in this same field of action, the biopsychosocial method defined by Barrientos et al. (2024) was taken into

account, by stating that a biopsychosocial evaluation is important, because only when the biological, social and psychological facets are evaluated equally, their influences on human behavior can be appreciated in the following aspects: biopsychosocial evaluation, design of the individual care plan, delivery of therapies (physical therapies), monitoring of progress, re-evaluation and re-planning of objectives and reports to family members and professionals.

From the above definition, it was obtained, from a theoretical perspective, through the inductive-deductive method, updated scientific information on the physical preparation of older adults for their biopsychosocial rehabilitation in nursing homes. It was also obtained information on what can be achieved in nursing homes when they become social institutions linked to the university. This information was then systematized through analysis and synthesis. This generated new knowledge, with positive repercussions for solving the complex sociohumanist problems currently facing Cuban society.

The determination, based on the modeling of the four essential relationships in the University-social institutions link, particularly grandparents' homes, leads to the updating of the procedures and actions of integrated work from the mutual institutional coordination, complementarity, and support that must be established in theory and materialized in social and pedagogical practice. The University-grandparents' homes relationships, as a social institution; the Physical Education teacher-social worker-health specialist relationship; the Physical Education teacher-senior citizen relationship in grandparents' homes; and the Physical Education teacher-family relationship in the community context constitute, from this perspective, novel relationships of ties from the institutional framework (Cárdenas Tejeda, 2025).

For a better understanding, it was necessary to define "relationships" as the correspondence established between two or more object elements, categories that are linked by some property. Cáceres and Verónica (2020) consider that the relationships between categories aim to find links, connections, and associations between them. The incorporation of these new relationships and the determination of the functions of the Physical Education teacher in grandparents' homes offered a more complete and comprehensive definition of the biopsychosocial method and its application in the physical preparation of older adults for their biopsychosocial rehabilitation.

The use of the system of methods used allowed the authors to consider that the elderly person is an active being who assumes an important role in his family and as a social being, hence the complexity

and importance of the development processes that operate in this age, knowing older adults means being receptive to their needs and possibilities, giving them the confidence and security to provide a space for personal fulfillment.

It is necessary to plan physical activities that counteract a sedentary lifestyle in accordance with one's state of health to contribute to maintaining a truly active psyche and body, capable of performing more intense activity and oriented towards assimilating certain models and values, to build satisfactory relationships with others and with oneself (Cárdenas Tejeda, 2025) .

The diagnostic, preventive, social facilitator and promotional roles of physical education teachers in nursing homes respond to individual demands in the biopsychosocial rehabilitation of older adults through the interdisciplinary integration of the work team, in reciprocal relationships where their contributions complement each other.

The Physical Education teacher is responsible for directly and systematically coordinating physical activity for older adults in senior homes with the multidisciplinary team, working with the university and social institutions.

In summary, the results of the diagnosis and the theoretical and methodological foundations for the physical preparation of older adults for their biopsychosocial rehabilitation in nursing homes allowed us to identify the following relationships within the university-social institutions nexus, particularly in nursing homes: the university-grandparents' homes relationship as a social institution; the physical education teacher-social worker-health specialist relationship; the physical education teacher-older adults relationship in nursing homes; and the physical education teacher-family relationship in the community context.

REFERENCES

- Abril Gil, G., Rojas Angel Bello, R. T., & Fabá Crespo, M. B. (2022). La preparación del adulto mayor con estilo de vida saludable desde la actividad física comunitaria. *Conrado*, 18(87), 223-232. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1990-86442022000400223&lng=es&lng=es

Barrientos, M., Casabona, E., & Cañizares Fernández, M. (2024). Rehabilitación física integrada con estimulación de la fluidez verbal en el adulto mayor cardiópata. ISSN: 19962452 RNPS: 2148. *PODIUM. Revista de Ciencia y Tecnología en la Cultura Física*. 19(3), e1651.
<https://podium.upr.edu.cu/index.php/podium/article/view/1651>

Cáceres, M., & Verónica, E. (2020). *Calidad de vida de los adultos mayores en el Centro de Salud San Jerónimo*. Universidad César Vallejo.
https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/61876/C%C3%A1ceres_MEV-SD.pdf?sequence=1

Cárdenas Tejeda, Y. (2025). *Estrategia de intervención comunitaria para la atención al adulto mayor en el Parque Humedal Grande del Municipio Morón, 2025*. Resultado de Proyecto de Investigación.

Girón Calvente, R. (2010). La actividad física para personas mayores. *EFDeportes.com, Revista Digital*. 15(147). <https://www.efdeportes.com/efd147/la-actividad-fisica-para-personas-mayores.htm>

Martínez, Jennyfer. (2022). Educación física como elemento socializador para el adulto mayor. Proyecto Curricular CÓDIGO: 2011220044 Universidad Pedagógica Nacional. Facultad de Educación Física. Bogotá, D.C,

Mosqueda Fernández, Andres. (2021). Importancia de la realización de actividad física en la tercera edad. *Dilemas contemporáneos: educación, política y valores*, 9(spe1), 00036.
<https://doi.org/10.46377/dilemas.v9i.2943>

Ministerio de Educación Superior de Cuba. MES. (2019). Instituto Superior de la Cultura Física. "Manuel Fajardo". Programas de la Disciplina Cultura Física Terapéutica y Profiláctica. La Habana. 2019. MES.

Organización Mundial de la Salud (2022). Publicaciones. Estrategia Mundial sobre régimen alimentario, actividad física y salud.
<http://www.who.int/ditphysicalactivity/strategy/eb11344/strategy-spanish-web.pdf>

Conflict of interest

Authors declare no conflict of interests.

Authors' contribution

The authors participated in the design and writing of the article, in the search and analysis of the information contained in the consulted bibliography.



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License