Components of Care Models that Influence Functionality in People Over 65 in the Context of Long-Term Care: Integrative Literature Review

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Abstract. Introduction: We verified the existence of a greater number of people over 65 years of age, with associated multimorbidity and in need of care. Cares that in previous times were provided by the extended family, at home. Nowadays, with the need for women to enter the labor market and the transition to nuclear families, this assistance becomes complicated, which is why institutionalization has been increasingly used.

Institutionalization, in turn, often leads to the breakdown of social relationships among the elderly and, consecutively, to the loss of their own identity.

Objective: To identify the components of care models that influence functionality in the context of long-term care.

Methodology: Integrative Review of the Literature, for which research was done at EBSCO selecting the databases Cinahl, Medline.

Results: We selected 10 articles from which resulted, two systematic reviews of the literature; two cross-sectional studies; Two Descriptive Studies; a cross-sectional cohort study; a randomized controlled trial and an Opinion Article.

Conclusions: Identify essentially three models of care, being a model focused on self-care with a major focus on the person with impaired functionality, the chronic disease management model, more associated with the elderly with comorbidities, but with the ability to develop their daily living activities and the economic model in order to develop the improvement of the economic model of the health system itself. Among these various components, we can find both process and outcome indicators that first influence the quality of care itself and the functionality of people in the context of long-term care.

Implication in Professional Practice: With the applicability of these components, comes the permission to apply and structure care models and as a thread of all care process, such as the structuring of individual care plans, involving the patient himself., and abolishing the current working method that currently focuses much on the task method.

Keywords: Care model · Nursing · Self-care · Elderly · Long-term care

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1 Introduction

If we look at the path of humanity, it is easily said that today we live moments of glory when it comes to the longevity that a human being can live. We overcome infections and epidemics; we develop economically. However, the increase in average life expectancy cannot continue to be a mere trophy of health gains, but as a new challenge, and perhaps even a concern.

At the heart of this new challenge, I point out two phenomena that must be considered, the profound changes resulting from the demographic and epidemiological level, where we observe older populations with multimorbidity's.

Starting with the first, this demographic change is explained essentially by three sub-phenomena, namely the decrease in fertility rates, the isolated event of the increase in average life expectancy and migratory movements. According to data from PORDATA, fertility in Portugal decreased from 957 children for every 1000 women in 1961, to 379 children for every 1000 women in 2018, so soon we can see with these data a sharp decrease in live births in the last 50 years. These data, which in intersection with the increase in average life expectancy, which in Portugal, stood at 81.6 years in 2017 according to the latest Health Profile Report in Portugal, indicate a decrease in the population replacement rate, which at this moment in Portugal it stands at 2.1. Which is a cause for alarm because if we weigh this value, these two children serve to replace the parents and only those 0.1 are left to replace an individual who looks like before reaching reproductive age, so we conclude that Portugal is at the threshold of the population replacement rate and with a tendency to decrease, thus becoming an aging population. Currently, about 21.1% of the Portuguese population is over 65 years old, above the rest of the European Union, which stands at 19.4%. Accompanying this demographic change, we observe another phenomenon that is directly proportional, epidemiological changes.

To explain this epidemiological transition, we can indicate three key changes, in the health panorama, the replacement of communicable diseases by non-communicable diseases; the displacement of the morbidity and mortality burden from the younger groups to the older groups; and the transformation of a situation in which mortality predominates, for which morbidity dominates. Therefore, in the top 10 of the pathologies that kill the most in Portugal, we find in the first 5, cardiovascular diseases, such as stroke and ischemic heart disease, followed by pneumonia, diabetes, lung cancer and colorectal cancer. Therefore, within this panorama we find a very important change. With the increase in population aging, we observed an increase in diseases or chronic conditions, which will affect the quality of years that individuals have acquired with the increase in average Life Expectancy. In 2017, the 65-year-old Portuguese expected to live another 20 years. However, about 13 of those 20 years would probably be lived with some form of disability. Therefore, a change in the focus of care is necessary. Once the contagious infectious diseases are overcome, the living conditions of the young populations are improved, the need to care for the aging populations is raised, the need for self-care is raised [1].

We have now reached an era in which educating is fundamental before aging. Educate about the risk factors that we face daily such as food, tobacco and alcohol. Teach about the best lifestyle habits such as balanced diet and physical exercise. And later, after reaching the age stage of elderly people over 65 years old, the model that best influences the person's self-care should reign. Understanding care models not as descriptions of reality, but as instruments to reflect the practice. discerning its usefulness for guiding a quality care provision, these should focus on the self-care of the individual subject to care. Self-care that must meet principles such as individual aspects (self-confidence, empowerment, autonomy, personal responsibility, self-efficiency), as well as the community (community participation, involvement and empowerment).

As such, we identify the need to identify the components corresponding to the care models that influence functionality in people over 65 years of age in the context of long-term care.

2 Concepts

As the main concepts to be defined for the framing of this study, it is relevant to address the models of care, the self-care and the long-term care. The care models represent an important structure of knowledge in Nursing, translating, guiding and supporting care. Models whose focus should be on self-care, which, according to Orem, is a human regulatory function that individuals have to perform for themselves, or that someone else performs for them, to preserve life, health, development and well-being, being learned and executed deliberately and continuously according to the needs of individuals. This view is consistent with the growing need for long-term care, being included in a mix of health care and social support belonging to different sectors, in which the border between these two components of care is difficult to discern.

3 Methodology

After defining the theme to be addressed, the formulation of the problem was built through a starting question based on the PICO methodology. And, FINER criteria (Feasibility, Interesting, Novel, Ethical, Relevant) were also considered, in order to develop a good research question. That is, to be viable, interesting, original, respect ethical principles and be relevant to nursing practice. Thus, the following starting question was posed: "What are the components of care models (Intervention) that influence functionality (Outcomes) in people aged 65 and over (Population) in a context of long-term care (Context)?".

In order to respond to the objectives outlined for this integrative literature review, the descriptors that guided the research were (Aging OR Elderly OR Frail elderly) AND (long term care OR nursing home OR homes for the aged) AND (self care OR self management OR self care deficit), obtaining 486 articles in the MEDLINE database and

358 articles in CINAHL. After a temporal criterion between the dates from 01/01/2014 to 2019/12/31, where 156 articles were obtained in the MEDLINE database and 127 in CINAHL, where after the Full Text criterion, 121 articles were obtained in the MEDLINE database and CINAHL 96 articles. Resulting in total after searching 217 articles.

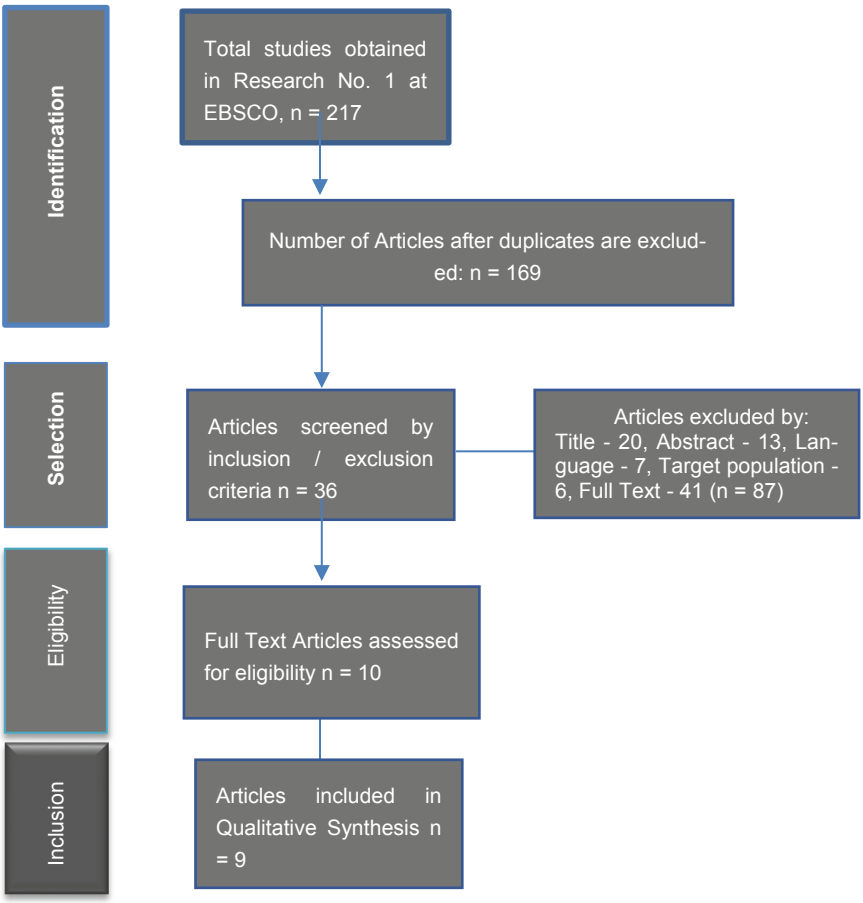

Fig. 1. Flow diagram describing the process followed in performing the ILR

4 Results

See Table 1.

Table 1. Summary table with articles obtained by research.

Author/Level of evidence	Aims	Results
Author: Petronilho, F., Pereira, C., Magalhães, A., Carvalho, A., Oliveira, J., Castro, P., Machado, M. (2017) **Methodology:** Descriptive and exploratory study **Level of evidence:** VI **Participants:** 891 dependent people	Assess the potential for rebuilding autonomy, and the evolution of commitment in bodily processes and dependence on self-care of dependent people admitted to the National Care Network. [2]	The potential for rebuilding autonomy is between low to moderate. There was a positive evolution in the commitment in the bodily processes and in the level of dependence in self-care. Greater potential for rebuilding autonomy is associated with less commitment to bodily processes and greater independence. [2]
Author: Metzelthin, S. F., Verbakel, E., Veenstra, M. Y., Exel, J. Van, Ambergen, A. W., & Kempen, G. I. J. M. (2017) **Methodology:** cross-sectional study **Level of evidence:** V **Participants:** 5197 Dutch dyads	1) compare characteristics of informal caregivers and recipients of care and results of caregivers - at home and at the ILTC; 2) to study the association between these characteristics and the caregiver's positive and negative results; 3) investigate the moderating effect of the configuration (at home vs. ILTC) on these associations [3]	Informal care does not stop with admission to ILTC (institutionalized long-term care) facilities. Both configurations need a care delivery policy, which is 1- adapted to the individual characteristics of the recipients and caregivers; 2- pays attention to the identified risk groups; and 3- reduces negative caregiver results and emphasizes positive results at the same time. [3]
Author: Bozkurt, Ü. Yılmaz, M. (2016) **Methodology:** descriptive study **Level of evidence:** VI **Participants:** 81 elderly people living at home	Determine the functional independence and quality of life of the elderly aged 65 or over in the elderly in the nursing home [4]	The results of the study show that support for physical functions in the elderly can be important in increasing quality of life and functional independence. Also, a holistic view of the need for cognitive and emotional support is just as important as it is for solving health problems. [4]

(*continued*)

Table 1. (*continued*)

Author/Level of evidence	Aims	Results
Author: Thingstad, P., Taraldsen, K., Saltvedt, I., Sletvold, O., & Vereijken, B. (2016) **Methodology**: Randomized and Controlled Study **Level of evidence:** I **Participants:** 397 elderly people with hip fractures	To evaluate the long-term effect of Integrated Geriatric Care (CGC) pre- and post-surgery on the ability to walk, self-reported mobility and gait characteristics in patients with hip fractures. [5]	The pre- and postoperative CGC showed an effect on gait up to 1 year after hip fracture. These findings include pointing out the importance of targeting the vulnerability of these patients early in order to avoid long-term decline in gait. As currently, the majority of patients with hip fractures are treated in orthopedic wards with a greater focus on fracture than fragility, these results are important to inform new models for the treatment of hip fractures. [5]
Author: Pego, M. Henriques, M. (2016) **Methodology:** Literature review **Level of evidence:** I	Identify, in the literature, the fundamental factors for the promotion of the elderly person's self-care, in the home context, in activities of daily living [6]	We conclude that there is a need to understand the phenomenon of inability to manage activities of daily living at its various levels: intrapersonal, interpersonal and contextual [6]
Author: Murphy, C. M., Whelan, B. J., & Normand, C. (2015) **Methodology**: Cross-Sectional Study **Level of evidence:** IV **Participants:** 3507 seniors over 65	The aim of this study was to provide a population-based estimate of the use of publicly funded formal home care by elderly people in Ireland and to identify the main characteristics of those using formal home care [7]	This study found that a very small proportion of the elderly use formal home care in Ireland. The three most important factors in the use of home care were difficulties with an IADL, old age and living alone. Although difficulty with an IADL is a predictor of care, almost half of all formal home care provided by the state was provided to individuals without difficulty with ADL or IADL. [7]

(*continued*)

Table 1. (*continued*)

Author/Level of evidence	Aims	Results
Author: Wallack, E. M., Wiseman, H. D., & Ploughman, M. (2016) **Methodology**: Cross-sectional study **Level of evidence:** IV **Participants:** 683 people over 50	The aim of this study was to determine which factors contributed most to healthy aging with multiple sclerosis (MS) from the perspective of a large sample of elderly people with MS. [8]	With this study, the authors concluded that social connections, attitudes and life perspectives, lifestyle choices and habits, health system, spirituality and religion, independence and finances. These themes had two common characteristics: multidimensionality and interdependence. Implications. Learning from the experiences of older people with MS can help young people and middle-aged people with MS plan to grow old in their own homes and communities. [8]
Author: Chang, H., Yang, L., & Lu, K. (2018) **Methodology**: Descriptive correlational study **Level of evidence:** VI **Participants:** 194 elderly people undergoing maintenance hemodialysis	To evaluate the importance of high Resilience and social support in the treatment of depression in elderly patients undergoing maintenance hemodialysis (HD). [9]	The severity of the symptoms of the disease and the ADLs were the main determinants of depressive symptoms. High resilience could alleviate depressive symptoms in elderly patients undergoing HD. [9]
Author: Zhu, H. (2015) **Methodology:** Opinion article **Level of evidence:** VII **Participants:** 3 most recent waves of China's Healthy Longevity research	Using Andersen's behavioral model of using health services, this study examines the roles of predisposing factors (demographic), facilitating factors (resources) and need (e.g., level of illness) in long-term care among older elderly people. from China. [10]	Given that the availability of informal caregivers - mainly family members - is in decline, it is crucial to provide financial assistance to elders, increase formal services, such as paid domestic services and community care services, and reduce the burden on family caregivers to reduce unmet needs of China's older elders. [10]

5 Discussion

The exponential aging of the population, asserts itself as evidence for placing challenges to society, demanding innovative responses, both in the model of organization of health care and social support, and in the model of organization of families, with centrality in effective articulation between professional support, improving the health condition of individuals and the appropriate role of family members in the process of taking care [2]. Since more than a decade ago, we have seen the increase and development of the National Network of Integrated Continuous Care (RNCCI), in which its main objectives, taking social and political importance, are self-care as the most relevant dimension. However, there are no indicators that would make it possible to assess the impact of care provided at RNCCI, on the health condition of dependent people and their families. Through the results they obtained, we can see that dependent people admitted to ECCI and UMDR, present similar results. It can be concluded that care provided at home is economically more sustainable compared to care provided in the context of hospitalization and that it is the preferred option of families, assuming institutionalization as a resource in the absence or scarcity of formal support. Thus, there were health gains for dependent people during the follow-up period, namely, improvement in the commitment to body processes and improvement in the level of dependency in self-care [2].

Another study, carried out in the Netherlands, focused on informal care, more specifically on informal caregivers. It showed that home care recipients were younger and in better health than caregivers at ILTC (Institutionalized long-term care). [3] With the data they collected showed that, although the subjective burden increased with the age of home care recipients, it decreased with age at the ILTC. This is due to the fact that informal caregivers at ILTC get more support from professional caregivers, who take on the most challenging, intensive and essential care tasks, while informal caregivers provide voluntary, less intensive and less cumbersome help leading authors to state that professionals should be made more aware of the risks of informal caregivers and provide tools and information to support and adequately involve them in the provision of care, with involvement, education and support being highly important so that they can persevere in their task of caregivers [3].

Two Turkish authors focusing their attention on quality of life and self-care related to population aging carried out a study in which they studied 81 elderly people in a home, where the main objective was to determine the degree of functional independence and the quality of life of individuals aged 65 or over living in a nursing home. [4] They concluded that supporting physical functions is important to promote quality of life and functional independence, however, these authors also point out based on the results that cognitive and emotional support is also extremely important for achieving the same goals. Thus, recommending the implementation of approaches to improve the cognitive functionality of the elderly in order to achieve a higher quality of life and functional independence [4].

Assessing the long-term effect of pre- and post-surgical comprehensive geriatric care (CGC) on the ability to walk, self-reported mobility and gait characteristics in patients with hip fractures. They showed that the patients who received the CGC had a higher gait speed, less asymmetry, better control and a more efficient gait pattern, also reporting better mobility in the 4 and 12 months following the fracture. [5] They concluded that the real importance in an orthopedic ward should be to reach the vulnerability or fragility of patients at an early stage to avoid long-term decline in gait, and not focus only on the fracture itself [5].

Focusing on the lack of integrated responses that focus on the multidimensionality of the human person, combining the health and social vision in one, thus being able to complete interventions so that the result is the maintenance of the elderly person in their home for as long as possible with the greatest possible physical autonomy, we can also conclude that there are three major groups of factors that influence the promotion of the elderly person's self-care, intrapersonal factors such as satisfaction with life, self-esteem and functional capacity, interpersonal factors, such as, understanding and valuing the needs of the people cared for by professionals, shared vision, clear goals and commitment, open communication, and contextual factors, such as adequate material and human resources, shared procedures and coherent work culture, shared records and communication systems, effective leadership and service management and multiprofessional training [6].

Another look at publicly funded formal home care services in Ireland in order to provide a population estimate of the use of formal home care by elderly Irish adults and to identify the main characteristics of those using home care, obtains the characteristics of the elderly who use home care are those who have self-reported difficulty with an AIVD, old age and living alone [7].

As well as the factors that most contributed to healthy aging in elderly people with multiple sclerosis identified two levels of factors: primary factors, most important for elderly people with multiple sclerosis, which include social connections, attitudes and life perspectives, choices and habits of lifestyle, and secondary factors that are less prominently displayed in the model, and include effective and affordable health care, spirituality and religion, independence and financial flexibility. [8] and a capacity for self-reliance would have a positive influence on the effects of the severity of symptoms of depression, while social support has not been shown to produce the same effect [9].

Finally, a Chinese study concentrated its study by examining the roles of predisposing factors, facilitating factors and the need for long-term care among China's elderly people. [10] Evidence that the significant factors for rural and urban residents were economic status, someone who is not a family member as the primary caregiver, the willingness of caregivers to provide care, timely medication, self-rated health and self-rated satisfaction of life [10] (Table 2).

Table 2. Results obtained after analyzing selected articles.

Model	Component
Self-Care [2]	- Inter and transdisciplinary team management [2] - Definition of Admission Criteria [2] - Improvement of Functional Aspects [2] - Individual care plan development [3, 5] - Individualization of care [3] - Improvement of body functions [4] - Improvement of higher-level cognitive functions [4] - Support emotional functions [4] - Support in vulnerability [5] - Increased IM Strength [5] - Self-management of activities of daily living [6, 7]
Management of Chronic Disease	- Care Paths [2] - Functional Independence [2, 4, 9] - Increased quality of life [4] - Management of chronic disease co-morbidities [4, 9] - Management of AIVDS [7] - Strengthening neighborhood networks [7, 10]
Economic	- Improvement of economic results [3] - Improving context and accessibility [6, 10]

6 Conclusion

As we can see through the different studies selected for this systematic review, they essentially identify three models of care, namely a model focused on self-care with a major focus on the person with reduced functionality, the chronic disease management model, more associated with the person elderly with co-morbidities, but with the capacity to develop their daily life activities and the economic model in order to develop the improvement of the economic model of the health system itself.

Due to the demographic and epidemiological changes that we observed in the world population, it is perpetual to state that the type of patient who will most seek care, will be characterized by the elderly patient with multimorbidity's. The need arises for long-term care (LTC) based on the Self-care model, which focuses on improving functional aspects, developing the individual care plan, individualizing care, improving body functions, improving cognitive functions higher level, to support emotional functions, to support the most vulnerable.

In Portugal we observe prolonged care, in the so-called Residential Structures for the elderly, or commonly referred to as homes. ERPIs were designed to respond to social needs and quickly, after opening, were filled in by sick, seriously ill elderly. What we have today is a network of homes for social situations full of patients with no capacity in the health field to respond to problems. Observing medication administration by untrained personnel, lack of stimulating activity for the elderly, among other things. Legislation itself is based on a social model when care and needs are health. Therefore,

home medical care and the determination of 1 nurse for every twenty residents is not mandatory, however, without mentioning how many nursing hours must be performed.

We see ERPIs as authentic deposits for the elderly. It is necessary to invest in a care model that guides the practice, and which translates into a set of operations that promote continuity of care and the improvement of the functional and health status of institutionalized elderly people. Like the Self Care model.

Implications in Professional Practice

In view of what was found and exposed, we can say that some of the structures currently used in Portugal in the context of long-term care, do not include many of these components of care models, or even a model itself. I speak of institutions such as ERPIs, residential structures for the elderly and CDs, day care.

With the applicability of these components, there is the permission to apply and structure care models and as a guiding thread of all the care process, such as the structuring of individual care plans, involving the patient himself, and abolishing the current working method that currently focuses a lot on the task method.

Then, there is a need for more studies about the needs and conditions of care in this type of health institutions, in order to allow, with greater accuracy, the development of care models for them.

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