Review Article
Artigo de Revisão
Artículo de Revisión

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

Profile and functional capacity of long-lived people: integrative review

Perfil e capacidade funcional de pessoas longevas: revisão integrativa

Perfil y capacidad funcional de personas longevas: revisión integradora

Francisco Antonio Pereira Leitão Júnior[I]; *Rachel Gabriel Bastos Barbosa*[I]; *Jamylle Lucas Diniz*[I]; *Wánderson Cássio Oliveira Araújo*[I]; *Marília Braga Marques*[I]; *Janaína Fonseca Victor Coutinho*[I]

[I]*Universidade Federal do Ceará, Fortaleza, CE, Brazil*

ABSTRACT

Objective: to describe the profile and functional capacity of long-lived persons found in the scientific literature. **Method:** this integrative review was carried out in March 2021 in the CINAHL, MEDLINE, LILACS, BDENF, SCOPUS and WEB OF SCIENCE databases, including studies conducted with people aged 80 years or more, institutionalized or in the community, using the Barthel, Lawton & Brody or Katz scales, with no time or language limits. The analysis was descriptive. **Results:** 16 articles were selected, most of them published in 2020, in English, by doctors, and in European countries. The long-lived persons were predominantly in the community, female and had comorbidities. The Katz scale was the most used to assess functional capacity in the long-lived persons, who displayed some degree of dependence in daily and instrumental activities. **Conclusion:** the long-lived persons were mostly in the community, women, with comorbidities, especially arterial hypertension, and were more dependent in instrumental activities.

Descriptors: Elderly; Aged, 80 and over; Longevity;Daily Activities; Health promotion.

RESUMO

Objetivo: descrever o perfil e a capacidade funcional de pessoas longevas encontradas na literatura científica. **Método:** revisão integrativa realizada em março de 2021, nas bases de dados CINAHL, MEDLINE, LILACS, BDENF, SCOPUS e WEB OF SCIENCE, incluindo estudos realizados com idosos de 80 anos ou mais, institucionalizados ou da comunidade, que utilizassem as escalas *Barthel*, *Lawton e Brody* ou *Katz*, sem delimitação de período ou idioma. A análise ocorreu de maneira descritiva. **Resultados:** selecionaram-se 16 artigos, a maioria publicada em 2020, no idioma inglês, desenvolvidos por médicos e em países europeus. Predominaram longevos da comunidade, do sexo feminino e com comorbidades. A escala de Katz foi a mais utilizada para avaliar a capacidade funcional dos longevos e estes possuíam algum grau de dependência nas atividades diárias e instrumentais. **Conclusão:** os longevos são, em sua maioria, da comunidade, mulheres, com comorbidades, principalmente hipertensão arterial, e apresentam maior grau de dependência nas atividades instrumentais.

Descritores: Idosos; Idoso de 80 anos ou mais; Longevidade; Atividades Cotidianas; Promoção da Saúde.

RESUMEN

Objetivo: describir el perfil y capacidad funcional de personas longevas que se encuentran en la literatura científica. **Métodos:** revisión integradora realizada en marzo de 2021, en las bases de datos CINAHL, MEDLINE, LILACS, BDENF, SCOPUS y WEB OF SCIENCE, incluyendo estudios realizados junto a personas mayores de 80 años internados o en la comunidad, utilizando las escalas Barthel, Lawton y Brody o Katz, sin límites de tiempo ni de idioma. El análisis se realizó de forma descriptiva. **Resultados:** Se seleccionaron 16 artículos, la mayoría publicados en 2020, en inglés, desarrollados por médicos y en países europeos. Predominaron longevos de la comunidad, del sexo femenino y con comorbilidades. La escala de Katz fue la más utilizada para evaluar la capacidad funcional de esos longevos y se vio que estos tenían cierto grado de dependencia en las actividades cotidianas e instrumentales. **Conclusión:** los longevos son, en su mayoría, de la comunidad, mujeres, con comorbilidades, especialmente hipertensión arterial y tienen un mayor grado de dependencia en las actividades instrumentales.

Descriptores: Personas Mayores; Anciano de 80 o más Años; Longevidad; Actividades Diarias; Promoción de la Salud.

INTRODUCTION

The number of individuals aged 80 years old or more, characterized as long-lived older adults, presents a considerable growth worldwide[1]. Due to the increase in life expectancy and to cultural changes, concern about the profile and functional capacity of aged individuals is gaining greater relevance.

In the health services, especially in the community and in Long-Term Care Institutions (LTCIs), geriatric assessment scales are used, such as Barthel, Lowton and Brody and Katz, which cover the Basic Activities of Daily Living (BADLs) (eating, going to the bathroom, self-care, walking and transfers, taking a bath, dressing and maintaining continence) and the Instrumental Activities of Daily Living (IADLs) (managing finances and medications, dealing with transportation, shopping, meals and house chores, using the telephone), in order to carry out clinical and functional assessments of the older adults and serve as an indicator of the health-disease process, essential for planning interventions and monitoring functionality[2].

Corresponding author: Jamylle Lucas Diniz. E-mail: jamylledz@hotmail.com
Scientific Editor: Cristiane Helena Gallasch; Associate Editor: Thelma Spíndola

Received: May 10th 2020 – Accepted: Sep 23rd 2021

Review Article
Artigo de Revisão
Artículo de Revisión

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

In the literature, there are review studies on the functional capacity of long-lived older adults, although they only describe the profile[3,4] and do not classify the aged individuals in terms of dependence and independence in performing daily and instrumental activities, which confirms the importance of this study. Studies of this nature are relevant, as they allow implementing measures aimed at monitoring long-lived older adults in order to promote functionality and quality of life.

Understanding the complexity of this process and how to seek alternatives to care for these aged individuals represents a challenge for society in general and for everyone who works in health services. Thus, once the diverse evidence on the profile of long-lived older adults and their functional capacity is summarized, actions to protect health and prevent harms resulting from risk behaviors can be implemented.

It is also ratified that knowledge regarding this issue in long-lived people will provide more adequate care and strengthening of the gerontological practice, since identification of the profile and assessment of functionality may indicate the prevention of future health-related complications, such as physical disability, frailty, institutionalization and early mortality.

From this perspective, the objective of this study is to describe the profile and functional capacity of long-lived people found in the scientific literature.

METHOD

This is an integrative review conducted by means of six methodological stages, namely: 1) identification of the theme and selection of the research hypothesis or question; 2) establishment of criteria for inclusion and exclusion of studies/search in the databases; 3) identification of the information to be extracted from the studies selected/categorization of the articles; 4) evaluation of the manuscripts included; 5) interpretation of the results; and 6) presentation of the review[5].

As a guide for the elaboration of the search strategy, the PICo[7] strategy was used (Population: long-lived older adults; Phenomenon of interest: functional capacity; and Context: community or Long-term Care Institutions). Thus, the starting point of the study is the following research question: Which is the profile and functional capacity of long-lived older adults found in the scientific literature?

The inclusion criteria were original articles carried out with older adults aged 80 years old or more, living in the community or in Long-Term Care Institutions (LTCIs) and which used the Barthel, Lawton and Brody or Katz scales. There were no time or language delimitations. The exclusion criteria corresponded to duplicate articles and to those that were not available in full.

The search was conducted by two researchers in a paired and independent manner during March 2021, in the LILACS (*Literatura Latino-Americana e do Caribe em Ciências da Saúde*), MEDLINE (Medical Literature Analysis and Retrieval System Online) via PUBMED, SCOPUS, CINAHL (Cumulative Index to Nursing and Allied Health Literature), BDENF (*Base de dados bibliográficas especializada na área de Enfermagem*) and Web of Science databases.

In order to expand the searches, the following controlled descriptors, selected through the Descriptors in Health Sciences (*Descritores em Ciências da Saúde*, DeCS) and the Medical Subject Headings (MeSH) and uncontrolled descriptors, combined with the Boolean operators AND and OR, were used as follows: ("*80 and over*" OR "*fourth Age*" OR "*long-lived*" OR "*oldest old*" OR "*older elderly*" OR "*centenarian*" OR "*super-aged*" OR "*super senior*") AND (*barthel* OR *katz* OR *lawton* OR *self-care* OR *autonomy OR independence* OR *dependence* OR "*functional capacity*") AND (*Homes for the Aged* OR *Nursing Homes for the Elderly* OR *Nursing Home* OR *community*).

In the stage corresponding to the search and selection of the review articles, the *Rayyan* app was used, which was developed by the *Qatar Computing Research Institute* (QCRI), as an auxiliary tool for archiving, organizing and selecting articles in each database[8].

Initially, a pre-selection of articles was carried out by reading the titles and abstracts and, when doubts arose regarding the content of the study, the article was pre-selected for full reading.

Thus, 12,086 articles were identified; 3,380 were excluded for being duplicates, leaving 8,706 for reading titles and abstracts. Of these, 103 studies were defined for full reading. After applying the inclusion criteria, 16 articles were selected to comprise the final sample. Figure 1 shows the flowchart corresponding to the search process, as per the recommendations in the items of the report for systematic reviews and meta-analyses, PRISMA[6].

Classification of the level of evidence included the following levels: Level I - evidence from systematic review or meta-analyses of randomized clinical trials; Level II - evidence derived from well-designed randomized clinical trials; Level III - evidence obtained from well-designed clinical trials without randomization; Level IV - evidence from well-designed cohort and case-control studies; Level V - evidence from a systematic review of descriptive and qualitative

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

studies; Level VI - evidence derived from a single descriptive or qualitative study; and Level VII - related to evidence from experts' opinion[5].

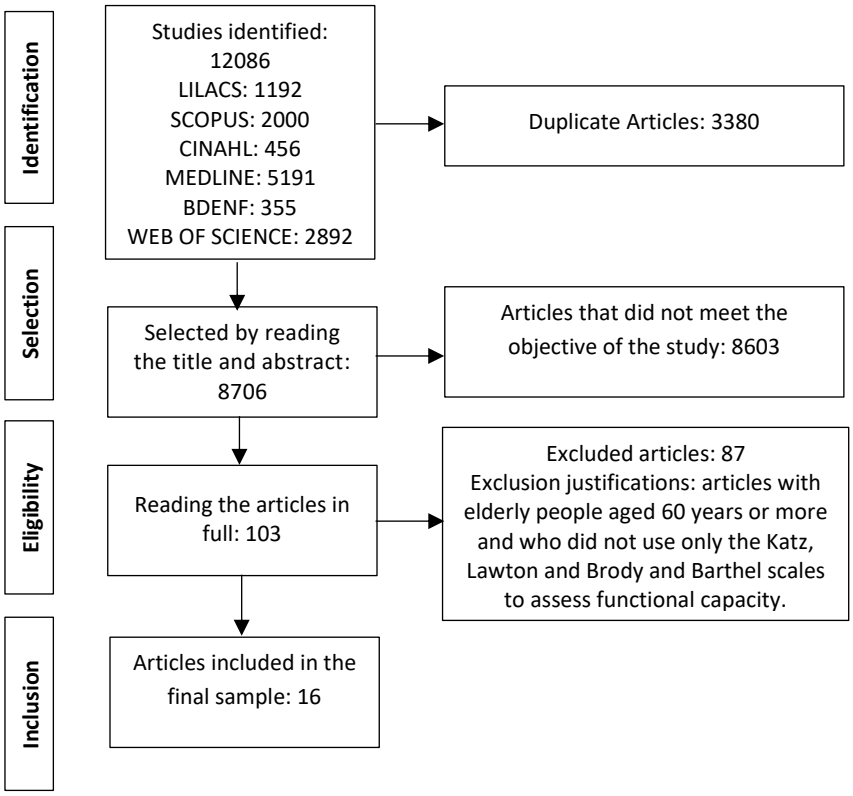

FIGURE 1: Flowchart of selection of articles included in the integrative review, as recommended by PRISMA. Fortaleza, CE, Brazil, 2021.

The results were descriptively analyzed and summarized in charts, comprising the following information: main author; year; country; title; design; sample; health conditions; level of evidence; functional capacity; instruments used in the assessment of functional capacity; and locus. Discussion of the data obtained was carried out in a descriptive manner, enabling the reader to assess the applicability of the integrative review developed, in order to achieve the objective of this study.

RESULTS

The final sample consisted of 16 articles, of which 37.5% (n=6) were in SCOPUS[9-14], 25% (n=4) in MEDLINE[15-18], and 18.75% (n=3) in LILACS[19-21] and Web of Science[22-24] each. According to the publication language, 68.7% (n=11) of the articles were published in English[9,10,12-15,17,18,22-24], 25% (n=4) in Portuguese[11,19-21] and 6.25% (n=1) in Japanese[16].

The theme began to be addressed in the year 2000, with predominance of articles published in 2020[9,19,22], representing 18.7% (n=3). Regarding the professional category, it was observed that 25% (n=4) of the studies were conducted by physicians[9,15,17,24], 6.25% (n=1) by nurses[22], a physiotherapist[20] and a physical educator[11], respectively.

When analyzing the geographic distribution of the selected articles in relation to the countries of origin, it is highlighted that 43.7% (n=7) were developed in European countries[9,14,15,17,18,23,24], 31.2% (n=5) in Asian countries[10,12,13,16,22] and 25% (n=4) in the American Continent[11,19-21].

Regarding the study designs, most of them consisted of cross-sectional studies[9-11,13-17,19,20,22,24] (n=12). Thus, regarding the levels of scientific evidence, most of the studies, 75% (n=12), were classified as Level VI, which is related to descriptive or quantitative studies. The sample consisted of community dwelling older adults[9-17,19-24], represented by 93.7% (n=15), with predominance of females[9,11,12,17-22].

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

With regard to the instruments used to assess the functional capacity of long-lived older adults, it was identified that 56.2% (n=9) were related only to the Katz scale[10-12,15,17,18,21,23,24]. As for the health condition of long-lived older adults, it is noteworthy that a large percentage of the articles reported that the aged individuals had some comorbidities, among them, 25% (n=4) presented arterial hypertension[12,15,19,20].

Regarding functional capacity, it was verified that most of the older adults presented some degree of functional dependence, both in the Activities of Daily Living and in the Instrumental Activities of Daily Living; however, when evaluated concomitantly with the BADLs and the IADLs, the long-lived individuals had more difficulties in the IADLs[9,13,14,20,22], such as shopping, managing their own money, using transportation means and doing house chores. It was also identified that most of the men tend to be more independent than the women. The characterizations of the studies selected are described in Figures 2 and 3.

Article No., main author, year, country	Design/Sample	Health conditions	Level of evidence
A9-Cecchi F. 2020. Italy	Cross-sectional/475 older adults-345 female	Not mentioned	VI
A10-Wu T. 2017. China	Cross-sectional/564 older adults	Not mentioned	VI
A11-Streit, AI. 2017. Brazil	Cross-sectional/23 older adults-19 female	Not mentioned	VI
A12-Zheng J. 2016. China	Does not mention the design/ 5,161 older adults-54% female	Hypertension (14%), diabetes (0.6%), heart disease (7%), stroke (2%), bronchitis (13%), cancer (0.4%), and Parkinson (0.8%)	-
A13-Kim H. 2012. Korea	Cross-sectional/708 older adults	Not mentioned	VI
A14-Motta M. 2008. Italy	Cross-sectional/346 older adults	Not mentioned	VI
A15-Heideken WP. 2006. Sweden	Cross-sectional/253 older adults.	More than half had high blood pressure	VI
A16-Gondo Y. 2005. Tokyo	Cross-sectional/235 older adults	Not mentioned	VI
A17-Strauss E. 2000. Sweden	Cross-sectional/502 older adults-Most were women	81% had some comorbidity	VI
A18-Jagger C. 2011. United Kingdom	Cohort/841 older adults-522 female	Not mentioned	IV
A19- Mendonça SS. 2020. Brazil	Cross-sectional/100 older adults-77 female	Hypertension (77.0%), depression (36.0%) and diabetes (34%)	VI
A20-Andrade LR. 2018. Brazil	Cross-sectional/ 63 older adults-59% were female	Arterial hypertension (19.6%) and arterial hypertension associated with arthrosis (5.4%)	VI
A21-Biolchi CSP. 2013. Brazil	Qualitative/ 09 older adults-Six were female	Not mentioned	VI
A22-Huang Z. 2020. China	Cross-sectional/228 older adults-82.9% female	Not mentioned	VI
A23-Nybo H. 2001. Denmark	Cohort/2,262 older adults	Not mentioned	IV
A24-Steen G. 2001. Sweden	Cross-sectional/395 older adults	Not mentioned	VI

FIGURE 2: Characterization of the studies selected for the integrative review according to the main author, year, country, title, design, sample, health conditions and level of evidence. Fortaleza, CE, Brazil, 2021.

According to the results, it was found that long-lived older adults are mostly from the community, female, present comorbidities, especially arterial hypertension, and have some degree of functional dependence in carrying out activities, especially in instrumental activities.

Review Article
Artigo de Revisão
Artículo de Revisión

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

Article No.	Functional capacity	Assessment instruments	Locus
A9	68 (14.9%) were classified as independent, whereas 389 (85.1%) were dependent. More than half was independent in the BADLs. As for the IADLs, heavy housework and shopping, they needed help. Functional autonomy was greater in men	Katz and Lawton and Brody	Community
A10	370 (65.6%) were dependent in the BADLs, and were more likely to be female	Katz	Community
A11	15 (65.21%) are independent in all functions and 8 (34.79%) are dependent in at least one function. Among the dependents, 7 are female and one male. Among the independents, there were 12 women and three men	Katz	Community
A12	3,870 had no functional limitation, while 1,291 (24%) had one (13%), two to five (11%) and all six ADL limitations (0.6%)	Katz	Community
A13	BADLs – 41.2% were independent and 58.8% were dependent. IADLs – 9.1% were independent and 90.9% were dependent. Females were more likely to be dependent in BADLs and IADLs	Katz and Lawton and Brody	Community
A14	27 (7.8%) were independent and 319 (92.2%) were dependent, 68 (19.67%) were moderately dependent and 251 (72.6%) were severely dependent.	Lawton and Brody	Community
A15	Half of the participants were independent. In general, men tend to be more independent.	Katz	Community
A16	42% were dependent and needed care from other people	Barthel	Community
A17	73% were independent. Women were more dependent than men	Katz	Community
A18	More than 90% were independent for the BADLs. Women were significantly more likely to be dependent.	Katz	Community and LTCI
A19	7% were identified with severe dependence, 61% with moderate dependence and 32% were independent	Barthel	Community
A20	BADLs - 59% were independent and 41% dependent. IADLs - 80.3% were dependent, 19.7% independent	Barthel, Lawton and Brody	Community
A21	BADLs - 51.8% were independent and 48.1% dependent	Katz	Community
A22	57% were independent in the BADLs and 5.7% in the IADLs	Katz, Lawton and Brody	Community
A23	50% of the men and 41% of the women were independent and 19% and 22% were severely dependent, respectively.	Katz	Community
A24	39% were independent and 61.01% were dependent	Katz	Community

FIGURE 3: Characterization of the studies selected for the integrative review according to functional capacity, instruments used and locus. Fortaleza, CE, Brazil, 2021.

DISCUSSION

In the study, there is evidence of research studies on the functional capacity of long-lived individuals published in the last year[9,19,22], highlighting how current the theme is. Predominance of articles developed in European countries is noticed, as they present great expansion in the number of aged individuals. The statistics indicate that there will be nearly half a million older adults in these countries by 2050 and reinforce the need to promote the emergence of public policies, directing them towards improving care at different health care levels, as well as improving the efficacy of financial and human resources management for the aged population[25].

While analyzing the articles, it was observed that the publications were mostly carried out by medical professionals[9,15,17,24], so that Nursing[22] only represented 6.25%. The articles selected show the health professionals' concern with the profile and functional capacity of long-lived aged individuals in the search for autonomy, independence and better quality of life. In addition, the reduced number of publications in Gerontological Nursing highlights the urgency of scientific production that can establish a foundation to enhance the quality of care aimed at the aged population.

The use of quantitative approaches[9-11,13-17,19,20,22,24] and of the cross-sectional type in the studies presented shows the scholars' intention to answer which factors analyzed influence the functional capacity of long-lived older adults. In the meantime, it is understood that researchers work with this approach because it is a recent topic and they try to understand the factors, situational diagnosis and prevalence of independent long-lived people in order to provide adequate knowledge for care planning[26].

Feminization is an evident phenomenon in old age and among older adults. A number of studies[9,11,12,17-22] evidenced a higher frequency of female individuals. This data can be explained by the lifestyle adopted by women and by a higher

Review Article
Artigo de Revisão
Artículo de Revisión

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

mortality rate in males. It is noteworthy that women have greater loss of muscle mass with aging, which is characterized as a possible factor causing the reduction in functional capacity. A study carried out in Italy evaluated the functional capacity of 475 long-lived individuals living in the community and observed that women were more dependent in all the activities[9].

The aging process can compromise the older adults' functional capacity, and one of the factors that exert a major influence on dependence is the presence of a Chronic Non-Communicable Disease (CNCD). A study carried out in Brazil with community-dwelling aged individuals identified that more than 70% of the older adults presented some CNCD, such as systemic arterial hypertension, stroke, osteoarticular disease and dementia, and reported that these require specific care since, in addition to the disease, they present a state of dependence for daily and instrumental activities[19]. A study mentions that the fewer comorbidities the older adults have, the lower their dependence on activities of daily living and, consequently, the lower their functional capacity[27].

Regarding the assessment of functional capacity, it was found that long-lived older adults have a tendency to present some degree of dependence, whether in the BADLs or in the IADLs. Functional disability is related to dependence, comorbidity and frailty in the older adult. The assessment of the older adults' functional capacity to carry out specific interventions and their monitoring is essential in the prevention of dependence and, consequently, improves performance in the Basic and Instrumental Activities of Daily Living[2].

The evaluations carried out on the functional capacity allow knowing the profile and the global performance of the older adults, which assists in establishing behaviors aimed at delaying or preventing disabilities. A cross-sectional study carried out in China with centenarians suggests that long-lived individuals can live to older ages with adequate functional capacity, especially in performance of the BADLs[22].

However, long-lived people presented greater difficulties in the IADLs[9,13,14,20,22], which can be justified because these activities require greater physical and cognitive efforts to be performed, such as in household activities, shopping and money management. In addition, fear of falling can also appear, due to the older adults' insecurity in carrying out these activities, and even some caregivers believe that, because of their age, they should avoid performing such activities alone, which leads to greater functional declines.

The identification of functional capacity is an important health indicator for the long-lived older adults, being influenced by multi-factorial circumstances such as demographic, social, economic, epidemiological and behavioral circumstances. Thus, it is relevant to develop and implement actions and strategies that enable maintenance or independence of the functional capacity of the older adults, especially the long-lived, such as the use of innovative technologies, wearable devices, reduction of architectural barriers and increase in physical exercise, as well as adequate environmental, social and cultural conditions.

A number of research studies[9-17,19-24] showed greater dependence on the activities of community-dwelling long-lived older adults. Most of the times, community-dwelling older adults have a caregiver who provides care when they already have some degree of disability; therefore, caregivers are essential components in health care, mainly in chronic situations of physical disabilities[28]. However, the functional capacity of institutionalized older adults must also be considered since, due to the institutionalization process, it can increase losses in terms of autonomy and independence.[29].

The scales for assessing functional capacity were diversified, which shows lack of standardization in their use. The importance of using scales to investigate functional capacity provides a broad and necessary geriatric assessment to carry out work proposals and activities with these individuals, such as early identification of health complications and correct referral to the support services.

The Barthel, Lawton and Katz scales are easy, simple and cost-free instruments that analyze the older adults' functional capacity, as a health and well-being indicator, being able to determine whether the person can live alone[30]. Thus, it is understood that it is necessary to invest more in research studies on this topic and enhance the use of these scales in the health services to determine the degree of independence of these individuals.

The results indicated allow for greater knowledge related to the study theme, highlighting the profile and functional capacity of long-lived people. Thus, it is necessary to improve provision of care by health professionals according to the singularities of this population, as well as the targeting of intersectoral actions that can positively and longitudinally impact on the well-being of this population, as this still represents a challenge.

From this perspective, it is essential that multidisciplinary health teams with support networks encourage health promotion activities in order to maintain the autonomy and independence of long-lived older adults. The older adults' functional difficulty or disability is associated with the prediction of frailty, dependence, comorbidities and institutionalization, resulting in complications over time and generating long-term care and high costs[31].

Review Article
Artigo de Revisão
Artículo de Revisión

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

Study limitations

Despite the methodological rigor employed in the development of this review, the exclusion of articles not published in full stands out as a limitation of this study. Therefore, more recent research studies that are not yet available in the literature may present important information that was not traced in the findings of this paper.

CONCLUSION

By conducting this integrative review, the study objective was achieved, which was to describe the profile and functional capacity of long-lived people. Thus, it was evidenced that the year 2020 presented the highest number of publications, with a significant amount of research in European countries and in the English language. The predominance of observational studies of the cross-sectional type carried out by physicians stands out. The long-lived older adults were mostly from the community, female, presented some comorbidity, especially arterial hypertension, and had certain degree of dependence on the activities of daily living, mainly on the instrumental activities. Men were more likely to be more independent than women.

As this is an ascending theme, future research studies are needed to identify the factors that lead to disabilities and describe the functional capacity of hospitalized long-lived aged individuals, in order to compare with those living in the community and in institutions, as well as studies involving the use of other instruments that assess functional capacity, in addition to the need to strengthen multidisciplinary care practices.

REFERENCES

1. Fernandes DS, Gonçalves LHT, Ferreira AMR, Santos MIPO. Functional capacity assessment of long-lived older adults from Amazonas. Rev. Bras. Enferm. [Internet]. 2019 [cited 2021 Feb 05]; 72(2):49-55. DOI: https://doi.org/10.1590/0034-7167-2017-0798.
2. Jankowska P, Jankowski K, Rudnicka DE. Functional capacity of elderly and its assessment. JEHS [Internet]. 2018 [cited 2021 Feb 05]; 8(7):509-15. DOI: http://dx.doi.org/10.5281/zenodo.1344436.
3. Manso MEG, Camilo CG, Javitti GC, Benedito VL. Capacidade funcional no idoso longevo: revisão integrativa. Kairós [Internet]. 2019 [cited 2021 Fev 07]; 22(1):563-74. DOI: https://doi.org/10.23925/2176-901X.2019v22i1p563-574.
4. Lourenço TM, Lenardt MH, Kletemberg DF, Seima MD, Tallmann AEC, Neu DKM. Capacidade funcional no idoso longevo: uma revisão integrativa. Rev Gaúcha Enferm [Internet]. 2012 [cited 2021 Fev 07]; 33(2):176-85. DOI: https://doi.org/10.1590/S1983-14472012000200025.
5. Mendes KDS, Silveira RCCP, Galvão CM. Integrative literature review: a research method to incorporate evidence in health care and nursing. Texto contexto – enferm. [Internet]. 2008 [cited 2021 Feb 12]; 17(4):758-64. DOI: https://doi.org/10.1590/S0104-07072008000400018.
6. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. PLoS Med. [Internet]. 2021 [cited 2021 Apr 20]; 18(3):e1003583. DOI: https://doi.org/10.1371/journal.pmed.1003583.
7. Oliveira Araújo WC. Health information retrieval: construction, models and strategies. ConCI. [Internet]. 2020 [cited 2012 Aug 9]; 3(2):100-34. Available from: https://seer.ufs.br/index.php/conci/article/view/13447.
8. Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan-a web and mobile app for systematic reviews. Syst. Rev. [Internet]. 2016 [cited 2021 Mar 2]; 5(1):210. DOI: https://doi.org/10.1186/s13643-016-0384-4.
9. Cecchi F, Pancani S, Molino-Lova R, Castagnoli A, Paperini R, Boni G, et al. Independent functioning in nonagenarians living in a rural italian community: the Mugello study. JAG [Internet]. 2020 [cited 2021 Mar 2]; 39(3):259-268. DOI: https://doi.org/10.1177/0733464819858575.
10. Wu T, Lu L, Luo L, Guo Y, Ying L, Tao Q, et al. Factors associated with activities of daily life disability among centenarians in rural Chongqing, China: a cross-sectional study. Int. J. Environ. Res. Public Health [Internet]. 2017 [cited 2021 Mar 2]; 14(11):1364. DOI: https://doi.org/10.3390/ijerph14111364.
11. Streit IA, Fortunato AR, Hauser E, Mazo GZ. Functional capacity and level of physical activity in centenarians of Florianópolis, Brazil. J. Phys. Educ. [Internet]. 2017 [cited 2021 Mar 2]; 28:e2815. DOI: https://doi.org/10.4025/jphyseduc.v28i1.2815.
12. Zheng J, Liu J, An R. Functional limitation and cognitive impairment among 80+ year old chinese. Australas J. Ageing [Internet]. 2016 [cited 2021 Mar 2]; 35(4):266-72. DOI: https://doi.org/10.1111/ajag.12341.
13. Kim H, Lee T, Lee S, Kim K, Lee S, Kam S, et al. Factors associated with ADL and IADL dependency among Korean centenarians: reaching the 100-year-old life transition. Int. J. Aging Hum. Dev. [Internet]. 2017 [cited 2021 Mar 2]; 74(3):243-64. DOI: https://doi.org/10.2190/AG.74.3.e.
14. Motta M, Ferlito L, Magnolfi SU, Petruzzi E, Pinzani P, Malentacchi F, et al. Cognitive and functional status in the extreme longevity. Arch Gerontol. Geriatr. [Internet]. 2008 [cited 2021 Mar 2]; 46(2):245-52. DOI: https://doi.org/10.1016/j.archger.2007.04.004.
15. Heideken PV, Gustavsson JM, Lundin-Olsson L, Kallin K, Nygren B, Lundman B, et al. Health status in the oldest old. Age and sex differences in the Umeå 85+ study. Aging Clin. Exp. Res. [Internet]. 2006 [cited 2021 Mar 2]; 18(2):116-26. DOI: https://doi.org/10.1007/BF03327426.

Review Article
Artigo de Revisão
Artículo de Revisión

DOI: http://dx.doi.org/10.12957/reuerj.2021.59737

16. Gondo Y, Taketo K, Kobayashi E, Inagaki H, Sugiura M, Masui Y, et al. Functional status of very old people in urban area: the Itabashi Oldest-Old Study I. J-STAGE [Internet]. 2005 [cited 2021 Mar 2]; 42(2):199-208. DOI: https://doi.org/10.3143/geriatrics.42.199.
17. Von Strauss E, Fratiglioni L, Viitanen M, Forsell Y, Winblad B. Morbidity and comorbidity in relation to functional status: a community-based study of the oldest old (90+ years). J. Am. Geriatr. Soc. [Internet]. 2000 [cited 2021 Mar 2]; 48(11):1462-9. DOI: https://doi.org/10.1111/j.1532-5415.2000.tb02638.x.
18. Jagger C, Collerton JC, Davies K, Kingston A, Robinson LA, Eccles MP, et al. Capability and dependency in the Newcastle 85+ cohort study. Projections of future care needs. BMC Geriatr. [Internet]. 2011 [cited 2021 Mar 2]; 4(11):21. DOI: https://doi.org/10.1186/1471-2318-11-21.
19. Mendonça SS, Marques APO, Nunes MGS, D'Angelo ER, Leal MCC. Functional capacity in the oldest old: cross-sectional analysis based on a decision model. Geriatr. Gerontol. Aging [Internet]. 2020 [cited 2021 Mar 2]; 14(1):52-60. DOI: https://doi.org/10.5327/Z2447-212320202000049.
20. Andrade LA, Reis LA, Novais MM, Queiroz DB, Oliveira LC, Araújo CM. Relações da autopercepção de saúde, capacidade funcional e condições de saúde de idosos longevos residentes em domicílio em Jequié-Ba. Estud. interdiscipl. Envelhec. [Internet]. 2018 [cited 2021 Mar 2]; 23(1):75-86. DOI: https://doi.org/10.22456/2316-2171.61163.
21. Biolchi, CS, Portella, MR, Vargas, AC, Silveira, MM, Colussi, EL. Functional capacity of a group of elderly centennial. Kairós [Internet]. 2013 [cited 2021 Mar 2]; 16(3):213-26. Available from: https://revistas.pucsp.br/index.php/kairos/article/view/18545.
22. Huang Z, Chen Y, Zhou W, Li X, Qin Q, Fei Y, et al. Analyzing functional status and its correlates in Chinese centenarians: A cross sectional study. Nurs. Health Sci. [Internet]. 2020 [cited 2021 Mar 2]; 22(3):639-47. DOI: https://doi.org/10.1111/nhs.12707.
23. Nybo H, Gaist D, Jeune B, McGue M, Vaupel JW, Christensen K. Functional status and self-rated health in 2,262 nonagenarians: the Danish 1905 Cohort Survey. J. Am. Geriatr. Soc. [Internet]. 2001 [cited 2021 Mar 2]; 49(5):601-9. DOI: https://doi.org/10.1046/j.1532-5415.2001.49121.x.
24. Steen G, Sonn U, Hanson AB, Steen B. Cognitive function and functional ability. A cross-sectional and longitudinal study at ages 85 and 95 in a non-demented population. Aging (Milano) [Internet]. 2001 [cited 2021 Mar 2]; 13(2):68-77. DOI: https://doi.org/10.1007/BF03351528.
25. Eurostat Statistics Explained [site de Internet]. Ageing Europe - statistics on population developments; 2021. [cited 2021 Mar 10]; Available from: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Ageing_Europe_-_statistics_on_population_developments.
26. Rezigalla AA. Observational Study Designs: synopsis for selecting an appropriate study design. Cureus [Internet]. 2020 [cited 2021 Mar 10]; 12(1):e6692. DOI: https://doi.org/10.7759/cureus.6692.
27. Legrand R, Manckoundia P, Nuemi G, Poulain M. Assessment of the health status of the oldest olds living on the Greek Island of Ikaria: a population based-study in a blue zone. CGGR [Internet]. 2019 [cited 2021 Mar 10]. DOI: https://doi.org/10.1155/2019/8194310.
28. Nunes DP, Brito TRP, Duarte YAO, Lebrão ML. Caregivers of elderly and excessive tension associated to care: evidence of the Sabe Study. Rev. bras. Epidemiol. [Internet]. 2019 [cited 2021 Apr 17]; 21(2). DOI: https://doi.org/10.1590/1980-549720180020.supl.2.
29. Macêdo LPV, Vieira GACM, Costa MML. Relation between the functional capacity of the elderly and institutionalization: an integrative review. Rev. Pesqui. (Univ. Fed. Estado Rio J., Online) [Internet]. 2018 [cited 2021 Apr 17]; 10(2):542-48. DOI: https://doi.org/10.9789/2175-5361.2018.v10i2.542-548.
30. Pashmdarfard M, Azad A. Assessment tools to evaluate Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) in older adults: a systematic review. Med. J. Islam. Repub. Iran [Internet]. 2020 [cited 2021 Apr 10]; 34:33. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7320974/.
31. Hoogendijk EO, Romero L, Sánchez-Jurado PM, Flores Ruano T, Viña J, Rodríguez-Mañas L, et al. A new functional classification based on frailty and disability stratifies the risk for mortality among older adults: the FRADEA study. J. Am. Med. Dir. Assoc. [Internet]. 2019 [cited 2021 Apr 15]; 20(9):1105-1110. DOI: https://doi.org/10.1016/j.jamda.2019.01.129.