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Geriatrics studies in Nigeria: systematic review and quality assessment protocol

Estudos de geriatria na Nigéria: revisão sistemática e protocolo de avaliação da qualidade

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Resumo

Introduction: Geriatrics, a specialized medical branch focusing on the health and well-being of older individuals, has gained increasing attention due to the global demographic shift towards an aging population. Despite the significant growth of the older adult population in Nigeria, limited empirical studies hinder the translation of research findings into health and well-being improvements for older adults in the region.

Objective: This systematic review will synthesize geriatrics research conducted in Nigeria over the past 6 decades, identifying temporal patterns and research priorities.

Methods: Four electronic databases will be searched to identify studies from published and grey literature on geriatrics in Nigeria between 1960 and 2023 and will be reviewed from inception to 2023: PubMed, MEDLINE, Google Scholar, and African Journal Online. The population of interest is older adults aged ≥60 years. The review team comprises primary investigators, content experts, and a subject librarian. Data extraction and analysis will be conducted independently by review authors, and statistical analysis will be performed by experts.

Expected results: Depending on the results, we anticipate that this systematic review will help clarify the state of geriatrics studies and services in Nigeria.

Relevance: The review will fill research gaps to inform policy directives and interventions in geriatric care by developing evidence-based clinical and policy documents to improve the health and well-being of older adults in Nigeria.

Keywords: aging, geriatrics, older adults; Nigeria.

Abstract

Introdução: A geriatria, um ramo médico especializado com foco na saúde e no bem-estar dos indivíduos mais velhos, tem ganhado cada vez mais atenção por conta de uma mudança demográfica global diante do envelhecimento da população. Apesar do crescimento significativo da população idosa na Nigéria, estudos empíricos limitados dificultam a tradução dos resultados das pesquisas em melhorias na saúde e no bem-estar dos idosos na região.

Objetivo: Esta revisão sistemática visa sintetizar a pesquisa em geriatria realizada na Nigéria nas últimas seis décadas, identificar padrões temporais e prioridades de investigação.

Metodologia: Pesquisas foram realizadas em quatro bases de dados eletrônicas (PubMed, Medical Literature Analysis and Retrieval System Online — MEDLINE, Google Scholar e African Journal Online — AJOL) para identificar estudos sobre geriatria na Nigéria, englobando literatura publicada e literatura cinzenta entre 1960 e 2023. Esses estudos foram revisados desde o início até 2023. A população de interesse é de idosos com idade ≥60 anos. A equipe de revisão é composta de investigadores principais, especialistas em conteúdo e um bibliotecário especializado no assunto. A extração e a análise de dados foram conduzidas de forma independente pelos autores da revisão, e a análise estatística foi realizada por especialistas.

Resultados esperados: Dependendo dos resultados, prevemos que esta revisão sistemática contribuirá para a compreensão do estado dos estudos e serviços de geriatria na Nigéria.

Relevância: A revisão irá, através do desenvolvimento de documentos clínicos e políticas baseados em evidências, preencher lacunas das pesquisas que informam as diretrizes políticas e as intervenções nos cuidados geriátricos, para assim melhorar a saúde e o bem-estar dos idosos na Nigéria.

Palavras-chave: envelhecimento, geriatria, idosos, Nigéria.

INTRODUCTION

Geriatrics, a specialized medical branch focusing on the health and well-being of older individuals, has gained increasing attention in recent years due to the global demographic shift towards an aging population.¹ Africa has experienced consistent growth in the number of older adults in the last 40 years, with the current estimate being 74 million people > 60 years of age, which is projected to increase to > 216 million by 2050.^{2,3} Nigeria, Africa's most populous nation and its seventh largest country in area, lacks data on older adults, with limited empirical studies that could be translated into health and well-being improvements for older adults in the region.⁴⁻⁶ Thus, geriatric research plays a significant role in advancing understanding of the unique health challenges and needs of older adults.⁷ However, empirical evidence on Nigeria's research gaps and priorities is scarce.

Furthermore, limited access to datasets, fragmented resources, conflicts in regional healthcare infrastructure, and socioeconomic inequality has greatly undermined the effective implementation of geriatric services in countries like Nigeria, where more than 60% of older adults reside in rural communities.³ Despite these great challenges, Nigeria has made significant progress in care and support for older adults. For example, geriatric centers affiliated to tertiary institutions have been established at the University College Hospital, Ibadan, the University of Port Harcourt Teaching Hospital, the Obafemi Awolowo University Teaching Hospital, and the University of Benin Teaching Hospital, all specializing in health care services and training. Several recreational programs for older adults also exist in different states, as well as an increasing number of nursing homes, and empirical studies have been conducted across regions.

To date, there have been few reviews of empirical studies on aging in Africa⁸ that included methodological and quality assessment, especially during the COVID-19 pandemic.⁹ The existing reviews have also pointed out significant gaps. First, the studies do not include an African database, several Nigerian-based studies were excluded, grey literature was excluded, and the study periods have only extended to December 2021. Therefore, this systematic review will synthesize relevant literature published over six decades (since 1960). This review adds to the existing literature by identifying temporal patterns in geriatrics research across Nigeria for more than 6 decades and will serve as a template for the development of novel clinical and policy documents for geriatric service in Nigeria.

Research questions

1. What trends can be found in geriatrics research across regions in Nigeria since 1960?

2. What are the research priorities focusing on geriatric services in the literature since 1960 (eg, health care, social services, mental health, and digital technology)?
3. What gaps exist in geriatric research since 1960?

METHODS

Systematic mapping, a kind of review that uses research design, sampling methodologies, data collection, and data analysis to describe the quantity and quality of literature, will be used for this review.¹⁰ It will follow the Search-Appraisal-Synthesis-Analysis Framework,¹⁰ which is designed to offer a methodical approach to searching the literature, choosing which articles meet pre-established eligibility requirements, adding or removing them, and compiling and evaluating the results of each included article.

Search strategy

We will search the literature with the support of a university librarian who is an expert in geriatrics, gerontology, and social sciences. We will search the following databases from 1960 until the present: PubMed, Embase, CINAHL, PEDro (physiotherapy evidence database), Cochrane CENTRAL, PsychINFO, and Web of Science. We will use a mix of keywords and medical subheadings (MeSH): "aged" OR "older adult*" OR "older people" OR "elderly" OR "senior citizen*" OR "ag*" OR "gerontology" OR "geriatrics" AND "Nigeria*," for each database listed above.

Systematic review team members

The primary investigators (AAL and CEO) will plan and oversee the creation of the manuscript, data extraction and analysis, the search strategy, screening of pertinent publications, formulation of the research questions, and the review process. OO and OJO will be included as content-expert review writers. Two review authors will separately screen the abstract of each article for inclusion; OO and OJO will independently perform the full-text screening and extract the data from the included articles. The literature search will be performed and search techniques for all included databases will be developed by a librarian who specializes in systematic review search methodology. AAL, OO, and CEO will finish the literature synthesis due to their experience with systematic and scoping reviews. OO and CEO will perform the statistical analysis.

Protocol and registration

This protocol, which has been registered in PROSPERO (CRD 42023446297), will be performed in accordance with Preferred Reporting Items for Systematic Review and

Meta-Analysis Protocol criteria (checklist included in the supplementary material). Any changes in this process will be noted and published with the results of the systematic review.

Eligibility criteria

To ensure a comprehensive and rigorous review, we will apply the eligibility criteria described below.

Inclusion criteria

Participants: This review will include studies that specifically focused on older adults in Nigeria.

Intervention(s)

Health care Access and Quality: This area might explore the availability and accessibility of health care services for older adults in Nigeria.

Chronic Disease Management: Older adults often face multiple chronic health conditions. The review might investigate interventions or exposures related to managing and treating conditions like diabetes, hypertension, arthritis, and other prevalent diseases in the geriatric population.

Mental Health and Social Support: Mental health issues and social isolation can be significant concerns for older adults. The review might focus on interventions that address mental health problems, loneliness, and social support systems.

Nutrition and Diet: Nutritional status is crucial for the health of older adults. The review could assess interventions or exposures related to nutritional support and dietary habits in Nigeria.

Exercise and Physical Activity: Physical activity plays a vital role in maintaining the health and independence of older adults. The review might investigate interventions that promote exercise and physical activity among seniors and their effects on mobility and overall health.

Elder Abuse and Neglect: A systematic review could also explore interventions aimed at preventing and addressing elder abuse and neglect in Nigeria, including awareness campaigns, legal protections, and support services.

Context

Inclusion criteria

1. Only original research articles and systematic reviews related to geriatrics studies and services in Nigeria will be included.
2. Studies published since 1960 will be included.
3. Studies focusing only on older adults (aged ≥ 60 years) in Nigeria and adults aged > 50 years with HIV/AIDS will be included.

Exclusion criteria

1. Other publication types, such as editorials, commentaries, and case reports, will be excluded.
2. Studies conducted in other countries or in unrelated settings will be excluded.

Outcome measures

1. Trends in geriatrics research: This variable focuses on the temporal patterns of geriatrics research output in Nigeria from 1960 to 2023. It involves assessing the number of publications per year or specific periods to identify overall trends in geriatrics research activity.
2. Focus on geriatrics studies: This variable examines the specific areas of focus within geriatrics studies as reported in the literature from 1960 to 2023. It involves identifying the predominant themes, topics, or research areas explored in geriatrics research conducted in Nigeria.
3. Scope of geriatrics services: This variable describes how the literature has portrayed the scope of geriatrics services in Nigeria during the study period. It includes evaluating the availability, accessibility, and quality of geriatrics services in various settings, such as hospitals, community centers, and long-term care facilities.
4. Geriatric care facilities: This variable assesses the availability and distribution of specialized geriatric care facilities in Nigeria. It involves identifying the types of facilities (eg, geriatric hospitals, nursing homes, and daycare centers) and their locations within the country.

These outcome variables will help provide a comprehensive understanding of the state of geriatrics studies and services in Nigeria, addressing the research questions and informing future policies and interventions in geriatric care.

Information sources and search strategy

Four electronic databases will be searched to identify studies from published and grey literature on geriatrics in Nigeria from inception until 2023. The population of interest will be older adults aged ≥ 60 years. The publication period will be from 1960 to 2023. The databases will include PubMed, MEDLINE, Google Scholar, and African Journal Online. The primary investigator, content experts, and the librarian collaborated to identify search phrases. The agreed-upon search terms include: "Elderly persons" OR "Older person" OR "Older people" OR "Older Adults" OR "Aged" OR "Ageing" OR "Aging" OR "Geriatric" AND "Nigeria". The search strategy

will be translated into the various syntaxes supported by each database. Subject headings (eg, MeSH), Boolean operators, proximity operators, truncation, and phrase searches will be employed as needed (Table 1).

Data management

The results of the database searches will be exported to Zotero 6.0 (a citation manager), and duplicates will be deleted. Following duplicate removal, the articles will be transferred to Rayyan, a web-based systematic review management application that will be used to screen the titles, abstracts, and full texts. Articles that have been included and excluded will be exported to generate the PRISMA flow chart and in-text citations.

Data extraction

We will employ a 2-stage screening process (title/abstract and full text) to select eligible studies. In both screening stages, 2 review authors will independently screen for studies relevant to this review's objectives using the selection criteria. There will be a pilot screening before the full-text screening. Two review authors (OO and OJO) will screen all papers separately; their findings will be compared and harmonized to maximize inter-reviewer agreement prior to the full-text screening procedure. Similarly, data extraction will be performed separately by 2 review authors (OO and OJO) and will be piloted on a small sample of selected articles using a standardized data extraction form made in Microsoft Excel.

Conflicts that arise as a result of this method will be resolved by a third review author (AAL). We will extract the following information from each study, as described by Lipsey & Wilson¹¹: citation information (first author, year, and country of publication), study design (cohort, case-control, cross-sectional, or longitudinal study), sample size, participant demographics (age, sex, race, and location), and implications (clinical and policy).

Risk of bias (quality) assessment

We will use the Prediction Model Risk of Bias Assessment Tool and the Newcastle-Ottawa Scale to assess the risk of bias in each included study. Study participation, attrition, risk factor measurement, outcome measurement, statistical analysis, and report completeness will all be assessed and graded as having a low, moderate, or high risk of bias. Two review authors (OO and JO) will examine the included articles independently, and any disputes will be resolved by a third author (AO). The Grading of Recommendations, Assessment, Development, and Evaluation method will be used to assess the overall strength of the evidence based on the risk of bias, quality assessment, and other factors and will be rated high, moderate, low, or very low. A summary of risk of bias, imprecision, and indirectness will be presented. For qualitative studies, we will utilize content analysis as proposed by Bardin, which is a method of describing communicated content for the purpose of interpretation. Thus, included qualitative studies will be thematically

TABLE 1. Key terms and MeSH terms.

Concepts	Key terms and MeSH terms
Older adults	"Elderly health" AND "Aging population" AND "Senior citizens" AND "Geriatric care" AND "Aging well" AND "Age-related diseases" AND "Elderly nutrition" AND "Elderly fitness" AND "Senior living options" AND "Elderly social activities" AND "Dementia care" AND "Alzheimer's disease" AND "Elderly mental health" AND "Elderly housing" AND "Elderly mobility aids" AND "Elderly caregiving" AND "Elderly medication management" AND "Retirement planning" AND "Elderly financial resources" AND "Elderly legal issues"
Ageing	"Aging process" AND "Healthy aging" AND "Aging population statistics" AND "Age-related changes" AND "Anti-aging strategies" AND "Longevity research" AND "Aging and disease" AND "Effects of aging" AND "Aging and mental health" AND "Aging and physical fitness" AND "Aging and nutrition" AND "Aging and cognitive decline" AND "Aging and memory" AND "Aging and sleep" AND "Aging and chronic conditions" AND "Aging and immune system" AND "Psychological aspects of aging" AND "Social implications of aging" AND "Successful aging" AND "Aging gracefully"
Geriatric	"Geriatric medicine" AND "Geriatric care services" AND "Geriatric assessment" AND "Geriatric health issues" AND "Geriatric syndromes" AND "Geriatric rehabilitation" AND "Geriatric nursing" AND "Geriatric pharmacology" AND "Geriatric mental health" AND "Geriatric nutrition" AND "Geriatric physical therapy" AND "Geriatric palliative care" AND "Geriatric end-of-life care" AND "Geriatric falls prevention" AND "Geriatric pain management" AND "Geriatric dementia care" AND "Geriatric social work" AND "Geriatric care coordination" AND "Geriatric care planning" AND "Geriatric care team"
Nigeria	"Nigeria" AND "Nigerian culture" AND "Nigerian history" AND "Nigerian government" AND "Nigerian economy" AND "Nigerian tourism" AND "Nigerian cuisine" AND "Nigerian music" AND "Nigerian art" AND "Nigerian literature" AND "Nigerian education system" AND "Nigerian healthcare system" AND "Nigerian infrastructure" AND "Nigerian languages" AND "Nigerian population" AND "Nigerian politics" AND "Nigerian sports" AND "Nigerian cities" AND "Nigerian natural resources" AND "Nigerian current events"

analyzed and categories will be coded. The authors will immerse themselves in the content and text of the included articles. In cases of disagreement, another reviewer will be consulted for a decision on the appropriateness of the content assigned to thematic categories.

Data analysis

Meta-analysis

Although it may be challenging to conduct a meta-analysis given the range of services of interventions for older adults, and the high probability of heterogeneous outcomes, we will group the included studies according to design (ie, case-control, cohort, cross-sectional, and longitudinal studies). In addition, due to demographic changes among older adults in Nigeria, we will conduct separate analyses in 20-year intervals between 1960 and 2023. We intend to place all the overall synthesized measures of effect size to be at the odd ratios (95% CI).

Narrative synthesis

The results of all included research will be analyzed using a narrative synthesis, and trends in geriatric research in Nigeria will be characterized according to thematic categories. The strengths and weaknesses of each methodological approach used in these studies will be extensively analyzed deductively and inductively.

Discussion and potential impact

This review of all geriatric studies from all 36 states (including the Federal Capital Territory) is the first of its kind in Nigeria. The few extant reviews on older adults in Nigeria have mainly focused on health conditions, such as dementia,¹²⁻¹⁴ and the Blueprint for health security in Nigeria by 2050^{15,16} highlighted the importance of describing trends in geriatric studies, as well as the impact of these studies on older adult quality of life in Nigeria. Therefore, the

findings of this systematic review will have a significant impact on health care policies, practices, delivery, training, and awareness in Nigeria. It can evaluate the effectiveness of current interventions, identify gaps in service provision, and highlight areas where improvements are needed. Policymakers can then use these findings to develop evidence-based policies and interventions to address the needs of older adults.

Supplementary material

Supplementary material is available at: <https://datadryad.org/stash/share/u96Pfz50Q64sDQzYBaMJendyb7qX0t-MZzJ8HdNLcb7w>

DECLARATIONS

Conflict of interests

The authors declare no conflicts of interest.

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Author contributions

ALA: conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing – original draft, writing – review & editing. CEO: conceptualization, data curation, formal analysis, investigation, methodology, resources, software, writing – original draft, writing – review & editing. OJO: data curation, formal analysis, investigation, methodology, resources, software, writing – original draft, writing – review & editing. OO: data curation, formal analysis, investigation, methodology, resources, software, writing – original draft, writing – review & editing.

REFERENCES

1. World Health Organization. Ageing and health. Available from: <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>. Accessed Nov 18, 2023.
2. Pillay NK, Maharaj P. Population ageing in Africa. In: Maharaj P. Aging and health in Africa. Boston: Springer; 2012. p. 11-51.
3. United Nations. Population division. World Population prospects 2021. Available from: [https://www.google.com/search?q=United+Nations+Population+Development%2C+2021&coq=United+Nations+Population+Development%2C+2021&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigATIHCALQIRigATIK-CAMQIRgWGB0YHjIKCAQQIRgWGB0YHjIKCAUQIRgWGB0YHjIB-](https://www.google.com/search?q=United+Nations+Population+Development%2C+2021&coq=United+Nations+Population+Development%2C+2021&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigATIHCALQIRigATIK-CAMQIRgWGB0YHjIKCAQQIRgWGB0YHjIKCAUQIRgWGB0YHjIB-CDE4MTNqMG05qAIAA&sourceid=chrome&ie=UTF-8)
4. Kalu ME, Oyinlola O, Ibekaku MC, Adandom II, Iwuagwu AO, Ezulike CJ, et al. A mapping review on the uptake of the COVID-19 vaccine among adults in Africa using the 5As vaccine taxonomy. *Am J Trop Med Hyg*. 2022;106(6):1688-97. <https://doi.org/10.4269/ajtmh.21-0515>
5. Gureje O, Oladeji BD, Abiona T, Chatterji S. Profile and determinants of successful aging in the Ibadan Study of Ageing. *J Am Geriatr Soc*. 2014 ;62(5):836-42. <https://doi.org/10.1111/jgs.12802>

6. Ogunniyi A, Adebisi AO, Adediran AB, Olakehinde OO, Siwoku AA. Prevalence estimates of major neurocognitive disorders in a rural Nigerian community. *Brain Behav.* 2016;6(7):e00481. <https://doi.org/10.1002/brb3.481>
7. Cadmus EO, Adebisi LA, Olowookere OO, Oluwatosin OG, Owoaje ET, Alonge TO. A descriptive study of the morbidity pattern of older persons presenting at a Geriatric Centre in Southwestern Nigeria. *Niger J Clin Pract.* 2017;20(7):873-8. https://doi.org/10.4103/njcp.njcp_362_16
8. Kalu ME, Ojembe BU, Akinrolie O, Okoh AC, Adandom II, Nwankwo HC, et al. Setting priorities for ageing research in Africa: A systematic mapping review of 512 studies from sub-Saharan Africa. *J Glob Health.* 2021;11:15002. <https://doi.org/10.7189/jogh.11.15002>
9. Kalu ME, Okeke C, Nwachukwu E, Okoh A, Akinrolie O, Ezulike CD, et al. Methodology and reporting quality of 544 studies related to ageing: a continued discussion in setting priorities for ageing research in Africa. *J Glob Health Econ Policy.* 2022;2:e2022010. <https://doi.org/10.52872/001c.36188>
10. Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Info Libr J.* 2009;26(2):91-108. <https://doi.org/10.1111/j.1471-1842.2009.00848.x>
11. Lipsey MW, Wilson DB. Practical meta-analysis. Thousand Oaks: Sage Publications, Inc.; 2001.
12. Adeloye D, Auta A, Ezejimofor M, Oyedokun A, Harhay MO, Rudan I, et al. Prevalence of dementia in Nigeria: a systematic review of the evidence. *J Glob Health Rep.* 2019;3:e2019014. <https://doi.org/10.29392/joghr.3.e2019014>
13. Angel JL, Vega WA, Gutiérrez Robledo LM, López-Ortega M, Andrade FCD, Grasso SM, et al. Optimizing dementia care for Mexicans and for Mexican-Origin US residents. *Gerontologist.* 2022;62(4):483-92. <https://doi.org/10.1093/geront/gnab075>
14. Oladeji EO, Ezeme C, Bamigbola S. A systematic review of the effect of arts-based interventions on patient care in Nigeria. *Cureus.* 2022;23(12):e32883. <https://doi.org/10.7759/cureus.32883>
15. Akinyemi RO, Cadmus EO, Adeniji O, Ajayi S, Farombi T, Omobowale OC, et al. Blueprint for health security in Nigeria by 2050: ageing and ageing-related diseases. *Afr J Med Med Sci.* 2019;48(Supplement 1):165-73.
16. Oyinlola O, Adebisi LA, Cadmus EO, Afolayan OK. Relationship between family dynamics, spirituality, quality of life and happiness among older adults in Nigeria. *Adv Gerontol.* 2023;36(1):48-56. PMID: 37192354.