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**Social Determinants of
Active Ageing**
Building Resilience and Empowerment

Edited by Andrzej Klimczuk



Social Determinants of Active Ageing - Building Resilience and Empowerment

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Aims and Scope of the Series

Education and Human Development is an interdisciplinary research area that aims to shed light on topics related to both learning and development. This Series is intended for researchers, practitioners, and students who are interested in understanding more about these fields and their applications.

Meet the Series Editor



Katherine Meltzoff received her BA in Psychology from Trinity College, in Connecticut, USA and her Ph.D. in Experimental Psychology from the University of California, San Diego. She completed her postdoctoral work at the Yale Child Study Center with Dr. James McPartland. Dr. Meltzoff's doctoral dissertation explored neural correlates of reward anticipation to social versus nonsocial stimuli in children with and without autism spectrum disorders (ASD). She has been a faculty member at the University of California, Riverside in the School of Education since 2016. Her research focuses on translational studies to explore the reward system in ASD, as well as how anxiety contributes to social challenges in ASD. She also investigates how behavioral interventions affect neural activity, behavior, and school performance in children with ASD. She is also involved in the diagnosis of children with ASD and is a licensed clinical psychologist in California. She is the Assistant Director of the SEARCH Center at UCR and is a faculty member in the Graduate Program in Neuroscience.

Meet the Volume Editor



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Perspective Chapter: Sociocultural Characteristics Influencing Furniture
Preferences by Older Citizens

by Michalis Skarvelis and Ioannis Bothos

Preface

This edited book, *Social Determinants of Active Ageing – Building Resilience and Empowerment*, addresses major challenges identified in the active ageing framework introduced by the World Health Organization and revised by the International Longevity Centre - Brazil [1, 2]. Active ageing is understood here as the process of improving the quality of life as people age through the optimization of opportunities, divided into four fields. The authors of this collection present studies focused on the following pillars: health, lifelong learning, participation, and security. The scope of this collection extends to the global, national, regional, and local implementation of age-specific and intergenerational initiatives aimed at achieving the United Nations Sustainable Development Goals.

The presented collection covers six chapters prepared by 10 authors from Australia, Greece, Indonesia, Pakistan, Portugal, and South Africa. The volume comprises articles that offer both research and practical recommendations encompassing diverse disciplines such as demography, critical studies, educational gerontology, geropsychology, gerontechnology, geographical gerontology, longevity studies, public health, social policy, social work, and sociology.

The chapters included in this volume are divided into four sections. The first section, “Health”, covers a chapter concentrating on topics such as improving quality of life, quality care, formal and informal care models, and mortality.

The second section is “Lifelong Learning”. It covers studies on knowledge transfer, skill acquisition and maintenance, cognitive engagement through learning activities, the influence of tradition and culture on social determinants of active ageing, and promoting wellness.

The third section, titled “Participation”, covers a few case studies. The research presented in the selected chapters focuses on social and community integration, engagement, and the barriers thereto. Moreover, stereotypes related to age, age discrimination, and intergenerational relationships are analyzed in-depth.

The last section, “Security”, examines topics both at the macro and local levels. On the one hand, there is a focus on social protection, policy structures, ageing policies, and laws. On the other hand, there is a discussion on more personal and physical aspects of safety, enabling environments, ergonomics, and universal design.

The volume was intended to be a crucial resource for both academic and professional communities interested in advancing knowledge of diverse populations in various contexts, including public policies, public services, education, and labor markets. In addition, the book contains concepts and studies that may be helpful for students of demography and practitioners of various fields of social sciences, as well as those working in government, business, and nonprofit organizations.

I would like to thank each author personally for their contributions to this book. Together, we underline the importance of social determinants in building resilience and empowerment. I would also like to thank Dominik Samardzija and Filip Lovricevic of IntechOpen, who, through excellent organizational skills, helped with the editorial and publication process.

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- [1] World Health Organization. Active Ageing: A Policy Framework. Geneva: World Health Organization; 2002

- [2] International Longevity Centre Brazil. Active Ageing: A Policy Framework in Response to the Longevity Revolution. Rio de Janeiro: International Longevity Centre Brazil; 2015

Section 1

Health

Chapter 1

Perspective Chapter: Improving Quality of Life in the Oldest Old – Household Models of Care

Leigh Wilson

Abstract

As the global population ages, caring for the oldest old in our communities is becoming more difficult. Research suggests that people prefer to age in place (i.e. in their own home), however there are still occasions where older people need to access residential aged care. Models of aged care provision have changed significantly over time, as a result of societal changes, policy directives and aged care research. This chapter presents the results of a literature review investigating the models of Aged Care, and how the newer household model impacts upon the quality of life of older people living in aged care facilities.

Keywords: oldest old, household models of care, ageing, policy, quality care

1. Introduction

Population ageing is happening both globally and rapidly. The World Health Organisation suggest that by 2030 one in six people will be aged over 65 years [1]. In addition to the increasing volume of the ageing population is the increase in longevity, with older people now living into their late 90s and 100s [2]. Robine and Cubaynes report that there will be approximately 25 million centenarians globally by the year 2100 [3]. Providing appropriate care for these generations of oldest adults is increasingly becoming the topic of research and government policy [1]. The World Health Organisation comment on the need to an effective public health approach to cater for the needs and experiences of older people. This includes factoring diversity, gender, environmental context, and cultural practices into aged care provision [1].

The way members of the older generation are cared for as they age differ significantly between culture. In Asian countries for example, families place a heavy emphasis on filial piety, the expectation that children will care for their ageing relatives as they age [4]. Similarly in many European countries it is customary for older residents to live with their children and their younger families, providing childcare and advice for new parents [5]. These elders are revered by their families as pillars of wisdom and advice in the local community [5]. This differs from Western countries such as Australia where older residents have traditionally (prior to 1997) moved initially into

hostel care and then as they aged, into residential care facilities (previously termed nursing homes) for the last years of their lives [6].

Societal changes have had an enormous impact on the way older people are cared for in both Asian, European, and Western societies. Increasingly both partners are required to work, leaving little time to care for elders [4]. In addition, divorce rates are higher, non-marriage is increasing and fewer children are living with their parents. These demographic changes are global, however are particularly evident in Asian countries [4]. The reduction in familial care provision, and the increased reliance on government supported care place a large burden on the economic resources of a country. The economic burden of aged care is one that is impacting on all countries, irrespective of their traditional aged care services and is a direct result of an increased ageing population and societal change. In the late 1990s it became evident that it is no longer possible for current aged care systems to address and respond to, the growing demand for aged care services. In response to this, in 1997 Australia developed its 'Ageing in Place Strategy'. Similar models of 'integrated aged care' were developed in Asia and Europe. These models of care were developed to assist people to continue to live in their own home, retaining independence, but with additional external support systems to assist people as they age [6].

Research undertaken by the Australian Institute of Health and Welfare (AIHW) suggests that most Australian people aged over 65 years would prefer to age in place [7]. This was for reasons of familiarity with local services and transportation, connection to friends and family, and an emotional attachment to the area [7]. Previous research in Asia has shown that older adults that age in place have a higher quality of life and are happier than those who live in institutions [8]. There are however situations where older adults require assistance with day to day activities on a more regular basis and therefore need supervised care. Residential aged care facilities provide supervised aged care around the clock, including medication administration, support with activities of daily living, assistance with specialised tasks and services (such as podiatry, physiotherapy etc.). The Royal Commission into Aged Care Quality and Safety was implemented in Australia in 2018. This investigation was to investigate how aged care services could be improved. The Commission found that Australia's changing demographics significantly influence the demand for and provision of aged care and made a number of recommendations for changes to the way care is delivered [9]. One of these key recommendations was to 'place people at the centre of their own care and allow autonomy wherever possible thereby delaying the impairment of their capacity to live independently [9]. This recommendation is supported by research into the lives and capacity of the oldest old residing in 'Blue Zones' (areas where many of the residents live to 100 years and beyond) [10]. In these areas, people are central to their own care and lifestyle, and support to undertake a healthy diet, daily exercise and social connection is pivotal to their successful longevity [10].

One of the relatively new models of care for older adults which places them at the center of their own care is that delivered using a 'household model'. The Household Model of care is one that provided fully supervised aged care around the clock to a small 'household' of residents (usually 10–20) rather than a large group [11]. Each household consists of a communal kitchen, dining room, and lounge with separate bedrooms for everyone. Residents in this setting have autonomy to go out, undertake activities as they wish, however have access to supervision and assistance when required. The social connections developed within the household provide a strong support network and contribute to enhanced social wellbeing [11].

2. Methods

This scoping review was conducted using the methodological framework as described by Arksey and O'Malley [12]. The results are reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA ScR) checklist [13]. We did not include the optional element of stakeholder consultation as it was beyond the scope of this research.

2.1 Research questions

The research questions for this review were:

1. What are the traditional models of care for the ageing?
2. How does the household model of care differ to traditional models of aged care?
3. What models of care best suit the oldest old (those aged over 90 years)?

2.2 Study identification and selection

The search strategy for this review was developed by the researcher and a librarian and was conducted between September and December 2024. The search included five databases: PubMed, Medline via OVID, Scopus, CINAHL and Web of Science. Searches were conducted using a Boolean search strategy in which the key concepts of aged care, ageing, care facilities, care models and associated truncations and

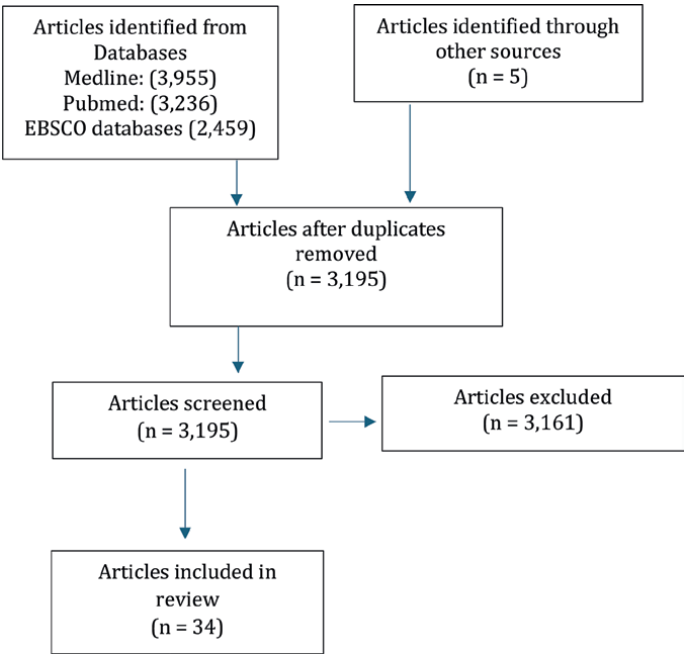


Figure 1.
PRISMA flowchart of search strategy.

variations were included. Manual searching of references and other papers was also undertaken. The search period undertaken was between 1950 and 2024.

Studies were included if they were: published in English and focused on models of care for older people. Studies that focused on clinical care, workforce challenges or models of emergency care were excluded (**Figure 1**).

2.3 Characteristics of chosen articles

While there were many studies identified in the search strategy the bulk of these were not related to models of care per se, rather to aspects of clinical care and the challenges of caring for aged residents from either a caregiver or nursing staff perspective. These articles were excluded.

There were 34 articles included in the scoping review (**Table 1**).

Author and year	Study aims	Design/methods	Population	Main findings
Melchiorre et al. [5] 2022	To explore preferences in aged care provision	Qualitative interviews	120 older people who lived at home in Italy	Integrated models of care with support are preferred
Malhotra et al. [8] 2019	To explore aged care services in Singapore	Review of policies and services in Singapore	Singaporeans aged 60 years and older	Improve age friendly work policies to encourage working
Ahmed et al. [11] 2019	To investigate quality of life in residents of a household model in the UK	Qualitative interviews	14 residents mean age 85 years	The independence and autonomy in the household model improves quality of life and ability to age positively.
Shekani [14] 2024	To investigate traditional cultural models of care in Pakistan	Qualitative interviews	10 daughter care providers	Care provided as part of kinship is considered important in south east Asian countries
National Academy of Science [15] 2022	To investigate the evolution of nursing home care, and new models of care.	Descriptive investigation into care models and their outcomes	All models of nursing home care	Newer models of care are likely to provide better long term health outcomes and QoL.
Ogden and Adams [16] 2009	To investigate the evolution of the USA aged care system and look at new models of care	Descriptive into historical care models	Nursing home care models in the USA	The ageing of the population requires a new focus on the provision of aged care.
Seniors Rights Service [17] 2024	To investigate the history of aged care in Australia	Descriptive into historical care models	Aged care models and services in Australia	Promotion of the household model of care is beneficial for residents in aged care services
Chenoweth & Kilstoff [18]	To explore strategies for structural reform and improve quality of care models.	Qualitative observation and interviews	Three nursing homes in Australia	Organisational support is critical to ensure effective structural change

Author and year	Study aims	Design/methods	Population	Main findings
Dargavel & Kendig [19] 1986	To investigate the best models of housing care for the aged in Australia	Review of the Aged Care Act and types of housing and care models (Position Paper)	Aged care in New Zealand, Denmark, France, USA and Australia	It is critical to define the difference between independent living and aged care and make care available to all.
Royal Commission into Aged Care Quality and Safety [20] 2021	To investigate the provision of Aged Care in Australia and provide recommendations for change	Review of Aged Care data and outcomes in Australian Aged Care Facilities	Australian Aged Care Facilities	There is a wide gap in service provision and quality care that can be addressed through new models of care and policy development.
Verbeek et al. [21] 2009	To investigate a home like environment on the quality of life of older people with dementia.	Longitudinal quasi experimental study in the Netherlands	2 different dementia care settings at baseline, 6 months and 12 months follow up,	Comparable groups are needed for comparison in two different settings. Small living units are rarer in the Netherlands.
D'Cunha et al. [22] 2023	To explore the experiences of residents in new small-scale home model of care for people living with dementia.	Qualitative descriptive study	Interviews with 14 residents families and staff in one facility in Australia	Small scale residential aged care provide an alternative model that provides more personalised, person centred care.
Brennan and Doan [23] 2022	To investigate the relationship between small scale environment and positive behaviours and QoL in aged care residents	Environmental assessment and mapping to behaviour	29 small scale aged care environments in Japan	A small scale environment encourages more social interaction and improves positive behaviours in people with dementia.
de Boer et al. [24] 2018	To investigate the difference in traditional care models and green care farms in dementia care	Two observational studies	Traditional nursing homes and small scale nursing home environments	The small scale nursing home environments are more beneficial in terms of socialisation and access to outdoor spaces.
Blackler et al. [25] 2023	To examine the aged care environment in two countries (Australia and UK).	Qualitative methods	Aged care facilities in UK and Australia both small scale and traditional	Small scale environments where people are more independent are better at making people feel at home.
D'Cunha et al. [26] 2023	To investigate how to integrate care in a village setting within a suburban community.	Qualitative analysis	Australian Dementia care facilities and staff	Inclusivity, enablement, and dignity of risk are essential principles for residents to live meaningful lives free from stigma in a village without external boundaries

Author and year	Study aims	Design/methods	Population	Main findings
McGann et al. [27] 2024	To investigate the QoL benefits of traditional, medium and small care models in aged care.	Mixed methods using spatial analysis of environment and observation of residents use of space.	3 residential aged care facilities one each traditional, medium and small scale.	The Small Household case study demonstrated exemplary design and high-quality outcomes for residents.
Pywell et al. [28] 2023	Aimed to review long term care facility design	Systematic review of small medium and long term care models	3 care types Traditional. Medium care and small scale	Long term care design has impacts on residents health outcomes including mental health.
Nelson [29] 2016	Investigate the role of the household model in optimising residents QoL and social connectedness	Mixed methods study	Review of architectural design, social factors in an aged care facility in the USA.	Recommendations for living and safety issues in household models of care including aspects that impact on QoL.
de Boer et al. [30] 2017	Aimed to review quality of life in residents of green care farms	Cross sectional design of three facility types	Traditional, small scale facilities and green care farms for people with dementia.	Quality of care was similar however people in small scale and green care farms had better QoL indicators.
de Boer et al. [31] 2017	Aimed to review quality of life in residents of green care farms	Cross sectional design of three facility types. Questions on cognition, ADLs social engagement	Traditional, small scale facilities and green care farms for people with dementia.	Higher quality of life scores were reported for residents of green care farms in comparison with residents of traditional nursing homes.
Shannon et al. [32] 2024	To investigate transition from a traditional model of care to a clustered model of care.	Qualitative methods using interviews and observations	Transition of residents to a new model of care in New Zealand	Small scale environments enable normal living and participation in community activities.
Dyer et al. [33] 2018	To investigate outcomes and costs of clustered models of care with standard models of care.	Cross sectional retrospective analysis of linked healthcare data.	17 aged care facilities in four Australian states	Clustered domestic models of residential care are associated with better quality of life and fewer hospitalisations for residents, without increasing whole of system costs.
Gellert et al. [34] 2022	Investigated outcomes in the oldest old living in aged care during Covid-19	Retrospective data analysis of admissions and outcomes in Germany	412,101 residents aged 80 years and older	Males were hospitalized more often aged 80–89 years, but less often aged 90–99 and 100+ years. Female centenarians died more often compared with female noncentenarians.

Author and year	Study aims	Design/methods	Population	Main findings
Longstaff et al. [35] 2022	Identify examples of the small house model of LTC in Canada and internationally and describe the key characteristics, including design, number of residents, philosophy and approach to care, services provided, staffing level, and funding approach	Systematic review of the literature	Six house model types were identified	Some studies reported improvements in resident QoL and quality of care while others did not identify any significant differences between the small house model and the traditional approach.
Araujo et al. [36] 2016	Investigate successful ageing strategies and care models in those aged 100 years and older.	Data collected as part of the Oporto Centenarian study in Portugal.	140 centenarians living in Portugal.	Successful ageing is associated with social connections, cognition and independence in ageing.
Fastame [37] 2022	Investigate habits and lifestyle in centenarians in Sardinia.	Quantitative study of cognition, life satisfaction, food habits and physical health.	29 octogenarians and 28 gender matched centenarians living in Sardinia.	Both groups reported that life satisfaction was associated with outdoor activities, independence, and perceived physical health.
Borras et al. [38] 2020	Investigation into successful ageing paradigms in the oldest old.	Review of factors associated with longevity	Articles related to longevity and associated factors	Resilience is an innovative trait that should be included along with other factors that enhance QoL and contribute to successful longevity.
Bhardwaj et al. [39] 2020	Investigated environmental correlates of longevity	Survival analysis of people aged 75 years and older relating to lifestyle factors	Mortality data was examined between 2011 and 2015	People who walked, participated in outdoor activities and had strong social connections had a better QoL and lived longer than those who did not.
Li et al. [40] 2014	Investigated lifestyles of Chinese elderly	Census based survey	878 centenarians aged 100–117 years	Strong social connections, harmonious environment, nutritious diet and adequate physical exercise were associated with longevity and better QoL.

Author and year	Study aims	Design/methods	Population	Main findings
Ratnayake et al. [41] 2022	Investigated ageing in place and whether it is the best approach for the oldest old.	Descriptive study of ageing in place program	Review of Program under implementation	While ageing in place is encouraged, some people end up more isolated and could be better served by small scale household models of care to reduce social isolation.
Seeman et al. [42] 2024	Investigated design principles for aged care facilities in Australia.	Report of design and current methods.	Reviewed design of aged care facilities	Recommendations for household and cluster models of care as beneficial for long term health outcomes in aged care facilities.
Proffitt [43] 2017	Investigated the benefits and challenges associated with household models of care.	Qualitative analysis using interviews	42 participants, floor plans were analysed and concepts developed	The household model was similar in terms of cost but better in providing optimal health outcomes for residents, with improved psychosocial factors and behaviours.
Testa et al. [44] 2019	Investigated models of care transition from aged care to hospital	Integrative review of the literature	Looked at continuity of care and ways to improve this.	Residents of aged care facilities where household models were implemented were less likely to need transportation to hospital for acute care than those in traditional nursing home settings.

Table 1.
Articles included in review.

3. Results

3.1 History and traditions of aged care

Traditionally caring for aged family members was the responsibility of younger family members, commonly daughters or daughters in law [14, 15]. In societies where strong kinship and filial piety are social norms, and/or where government support services are poor the responsibility of caring for the aged has been the responsibility of families [4, 14]. In other settings almshouses or ‘poorhouses’ were responsible for the care of the aged, disabled and mentally unwell [16]. Post World War II and as the population began to age the need for dedicated aged care services emerged. Initially large hospitals provided care to those who were infirm or at the end of life. In Australia, for example large institutions such as The Benevolent Society provided

care for older people as early as the 1800s, however as hospitals began to focus more on acute care in the 1940s and '50s, nursing homes (both private and publicly funded) for the aged began to emerge [17].

3.2 Traditional models of care

Traditional nursing home care generally consisted of 'hostel care', designed for people with low care needs, and 'nursing home' care that supported people with high care needs, mobility issues or dementia [15]. These nursing homes were generally privately run by for-profit organisations, and in Australia for example, were not subject to regulation or legislation prior to 1963. In the United States of America (USA), the design of nursing homes was based on the regulatory model of an institutionally based setting, following the publication of standards and guidelines for health care facilities in 1947. In Western countries such as Australia and the United States of America, nursing homes followed a 'medical model', with a central nurses' station, long corridors with rooms of either single or multiple capacity, and routine determined by the care staff. This design was developed to aid the care workers and did not provide an environment that was optimal for the aged care resident.

3.3 Aged care reform

Organisational reform in aged care has long been difficult because of independent providers associating reform with a reduction in profit [18]. In countries such as Australia, the USA, and the United Kingdom (UK) the reform process has been slow due primarily to a lack of government policy. This enabled private providers to manipulate the health system, which had detrimental impacts on aged care residents [19]. The quality of aged care services has been highlighted in several countries and through the media [18, 19]. Globally, aged care reform has been driven by the increasing need for quality aged care services and the burgeoning cost of providing aged care to an increasingly ageing population. In Australia, recent investigation into the provision of aged care services has led to recommendations highlighting the need for '*small-scale congregate living which facilitates the household model of care*' [20]. Small scale models of care are less frequently found than larger, traditional, and more institutionally based models of care. In Europe Sweden and the Netherlands, and in the USA smaller models of care have been implemented in some areas [21]. Typically, small scale residential aged care models accommodate between 10 and 15 residents and aim to respect residents' privacy, autonomy and preferences [22]. Small scale environments that feel like home have the potential to increase social interaction, promote a higher quality of life, increase engagement with activities and improve staff satisfaction [23, 24].

3.4 Facility design

There is a large body of literature examining the influence of the environment on residents in aged care facilities [21–33]. Much of this research has been undertaken in older people with dementia [21–24, 26, 30–32]. The recent shift to providing a more 'home-like' environment for residential aged care relies not only on models of care but building design. In their 2024 study, McGann and colleagues highlighted the importance of building design in contributing to quality of life (QoL), social interaction, mood, and function in older people [27]. Investigating three different models of care

(traditional, medium household and small household) McGann compared the use of space through a process of spatial analysis through observation. The researchers identified six key design concepts and 14 design factors that contribute to an aged care residents' quality of life. These include; the personalization of space, access to outdoor areas, homely gestures and decorations, domestic lighting and small scale environment.

Pywell et al. [28] highlighted the differing types of small-scale care facilities including; the Small House model, the Green House model (set in farming locations), the Small Household model and the Cottage Model amongst others [28]. These care models are different by design but typically house between eight to 15 residents. Private bedrooms are a feature of small-scale models of care, with a communal kitchen and eating area, and access to an outdoor area. The Green Care Farm Model for example provides 24-hour care for people located in a farm setting where residents can participate in agricultural activities, tend to vegetable gardens or interact with farm animals [30, 31].

3.5 Household models of care

Much of the research into household models of care has been undertaken in people with dementia [21–24, 26]. Recent studies into household models of care in older people who are not necessarily living with dementia are fewer in number, however, provide strong evidence for the benefits of small-scale household living [11, 27, 28]. Shannon and colleagues highlight the importance of ensuring the care provided to older residents is 'person centered' and the environment feels like 'home'. This is especially important for residents who have limited or no family who visit on a regular basis [32]. Similarly, the composition of the 'household' has an impact on the QoL of the resident. Ensuring residents are located with others who have similar likes and social backgrounds provides a more 'home like' experience in the aged care facility.

Dyer and colleagues undertook an economic analysis of clustered (household) models of care compared to traditional models of care [33]. This research examined of four clustered, and 13 standard aged care facilities to investigate quality of life, medical service use and residential and care costs. The results suggest that smaller aged care models are associated with fewer resident hospitalizations, an increase in resident quality of life and no additional cost to the healthcare system [33].

3.6 Caring for the oldest old

As the global population ages, the population of people aged 100 years and over is increasing [3]. Caring for centenarians living residential aged care settings has not been studied specifically, however there is evidence to suggest that those aged 100 years and older tend to live longer and with lower morbidity, in aged care than their younger counterparts [34]. Research suggests that social connections, having a purpose, engagement with the natural environment, healthy food, regular physical exercise and daily activity are associated with longevity [2, 30–33]. Studies undertaken in areas termed 'Blue Zones' (where people regularly live to 100 years and older) such as Japan, Italy, Sardinia, Spain and Loma Linda in the USA have highlighted the importance of strong social support networks in very old people [2, 10, 38–40]. These social connections contribute to an increase in quality of life and overall mental wellbeing, particularly in collaboration with a healthy diet, exercise and a sense of purpose [39].

4. Discussion

This review highlights the changes in aged care service provision over time and identifies recent changes in the recommendations for aged care delivery. It is evident that smaller scale models of care provide an opportunity for residents living in aged care settings to maintain social connection, activities of daily living in an environment that simulates a 'home like environment'. Whilst there has also been a focus on ageing in place, for the oldest old this can often be isolating, particularly where access to services such as transport and healthcare are limited [41]. Research investigating factors associated with longevity suggest that alongside genetics, living a healthy lifestyle, with purpose and strong social connections, supports a longer healthier life [10, 36–40]. As the aged population continues to grow globally, the household model of aged care offers older people a sense of community, and the ability to age with dignity in a home like environment. Given that people are living longer because of improved healthcare and social environments, the likelihood of needing care outside the home as one ages is increasing.

5. Conclusion

This chapter has briefly examined the history of aged care services and the most recent recommendations for aged care service delivery. Globally, models of aged care are changing based on the rapidly ageing population and the need for appropriate and quality care. Although traditionally, caring for older family members was undertaken by the family (usually daughters or daughters in law) due to economic and structural changes in society this is not now always possible. Most governments advocate for 'ageing in place', that is, enabling a person to age well in their own home. This can be economically costly, and often results in social isolation for the resident, particularly where they have limited transportation options, or have mobility issues [41]. That said, there are new guidelines for the planning and construction of aged care facilities [42].

Ageing in a residential aged care facility is often required as people are unable to care for themselves safely in their own home. Given the increase in the older population, aged care service provision is only likely to increase. Based on the literature reviewed, small household models of care, that use a person-centered approach, are the most appropriate to care for older people with or without dementia. That said, there are new guidelines for the planning and construction of aged care facilities that include the rationale for smaller scale living, with very little impact on cost [42, 43]. Recent research has suggested that household models of care may reduce the amount of hospitalisation of older people from aged care and improve their transition into acute care [44]. Given this, guidelines will enable future aged care providers to best facilitate care and environments to support older people. Providing a sense of 'home' in a small-scale setting where residents have autonomy, privacy, respect and are empowered to make their own choices enhances their sense of identity and purpose. This ensures that older people have a high quality of life and a strong sense of wellbeing into very old age.

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Section 2

Lifelong Learning

Promoting Wellness in the Aged through Indigenous Instrument Performance

Ntshengedzeni Evans Netshivhambe

Abstract

This study explores the role of indigenous musical instruments in promoting active ageing, cognitive function, and overall wellbeing among older adults. It argues that the performance of indigenous music serves as a source of entertainment by fostering longevity and enhances the quality of life for ageing individuals. Through interviews with 20 ageing musicians, alongside analyses of live performances and a review of relevant literature, the study examines how engagement with indigenous music cultivates happiness, resilience, and a sense of purpose. The findings reveal that playing these instruments stimulates cognitive functions developed over years of practice, offering a non-medical intervention for maintaining mental acuity and emotional health. In contexts where older adults often face neglect and heavy caregiving responsibilities, indigenous music emerges as a culturally rooted tool for fostering active ageing and improving life outcomes.

Keywords: active ageing, playing indigenous instruments, ageing populations, lifespan enhancement, cognitive stimulation, ageing well-being

1. Introduction

Recent studies have increasingly shifted focus towards enhancing the overall wellbeing of the ageing population, moving beyond merely addressing the diseases commonly associated with ageing towards active ageing [1–3]. Researchers are determined to explore preventative approaches that promote a healthier lifestyle, which may help mitigate the beginning of certain age-related illnesses. One area gaining particular attention is the role of musical activities in improving mental and physical health among seniors. Research suggests that engaging in musical practices, especially those involving indigenous instruments, can have a profound impact on reducing stress and improving overall wellbeing in older adults. This study aims to investigate the influence of playing indigenous instruments as part of active ageing practice that promotes the longevity and mental health of senior citizens, particularly in relieving stress-related problems [4]. The research draws on interviews, analysis of traditional songs, observations of musical performances, and a thorough review of existing literature. I argue that engaging in indigenous musical practices among the ageing

population can significantly enhance their wellbeing and can serve as a preventative measure against stress-related conditions and diseases linked to depression. Through these activities, seniors may experience improved quality of life, emotional resilience, and increased longevity. Developing technical proficiency over time and learning new songs through indigenous instrument playing has been shown to enhance cognitive performance in seniors, improving their brain and memory capacity and mental agility [1, 5]. The argument made in this research uses a case study focused on indigenous instrument players from the northern region of South Africa. The research findings state that engagement with music provides a creative passage and a therapeutic means of coping with common mental health challenges associated with the ageing population in South Africa. Many seniors who actively participate in playing indigenous instruments have reported improvements in mental clarity and resilience, managing to avoid illnesses, such as depression, dementia, memory loss, and anxiety, which are often linked to isolation, boredom, and a lack of social interaction.

The purpose of this research is to investigate how playing indigenous instruments, as practised by some senior citizens in South Africa, serves as an effective means of active ageing that can assist in managing stress-related issues through musical engagement. Indigenous music, deeply rooted in culture and community, offers the ageing population a sense of purpose, connection, and emotional release, helping to alleviate the psychological burdens they face [6, 7]. Many seniors in South Africa confront significant social and economic challenges. With the country's struggling economy, widespread unemployment, and pervasive inequality, all of which affect the black community in particular, older adults often bear the brunt of managing these systemic problems. Many senior citizens, especially those from marginalised backgrounds, rely heavily on social grants for survival [8], largely owing to their lack of formal employment and the attendant security of pensions or retirement benefits [9]. In such an environment, where social and economic difficulties compound the pressures of ageing, playing indigenous instruments serves not only as a cultural and artistic endeavour but also as a vital tool for emotional and mental wellbeing [10]. Houston and McGill [11] argue that music enhances quality of life by providing emotional relief, often linked to the pleasure of giving or receiving joy. This study further examines the role of these musical practices in fostering resilience among the ageing population, demonstrating how they navigate the complex challenges posed by the broader societal and economic landscape while maintaining their mental health and wellbeing [2]. Even for those seniors who may have worked during their lives, the lack of access to medical insurance and pension savings leaves them without financial security in retirement [12]. As a result, many must rely solely on government grants to support not only themselves but often their entire families. These economic hardships place immense pressure on seniors, severely impacting their mental and emotional wellbeing. The constant struggle to make ends meet, compounded by the stress of caring for family members, often leads to heightened levels of stress, depression, and, in many cases, premature death.

In this research, I argue that many of the ageing population who have embraced the tradition of playing indigenous instruments have found a powerful means of coping with stress-related problems. For them, playing these instruments serves as a form of entertainment and as an essential source of stress relief amidst their persistent social and economic difficulties. Through engaging in this cultural practice, they find emotional solace and a renewed sense of purpose in their lives. The findings of this study reveal that the ageing population who regularly plays indigenous instruments is more likely to experience improved mental health and increased longevity compared

to those who lack any meaningful activity to occupy their time. By participating in these musical traditions, seniors are able to stay mentally and emotionally engaged, reducing the risks of loneliness, depression, and cognitive decline [1]. Without such outlets, this population group is often left vulnerable to the negative effects of isolation and inactivity, which can hasten the deterioration of their health. This research demonstrates the significant role that indigenous music can play in enhancing the quality of life for the South African ageing population, offering them entertainment and a vital lifeline for emotional and mental wellbeing.

2. Methodology

This research employed a qualitative methodology, utilising an open-ended interview structure with 20 ageing performers of indigenous instruments to gather in-depth data from 13 female and 7 male participants. The focus was on the ageing population who regularly play various indigenous instruments, allowing for rich insights into their experiences of active ageing and the impact of musical engagement on their wellbeing. Interviews included personal histories with music for each performer, their motivations for playing, and their perspectives on how these activities influence their cognitive and emotional health. These open-ended interviews provided participants with the freedom to share their stories in detail, revealing a nuanced understanding of how indigenous music functions as a beneficial tool in their health and wellbeing. Interviews were conducted in the northern part of South Africa after 2023. The selected performers have been playing indigenous instruments since childhood.

Observation of live performances of indigenous music was used for analysing the technical proficiency of the players, highlighting the relationship between sustained musical practice and cognitive abilities, particularly in terms of memory retention and relocation. The research explored how players recall complex musical patterns and adapt their techniques, providing insights into how these activities may enhance memory functioning in the ageing population who play indigenous instruments. Song analysis and the process of learning new songs were explored to understand how indigenous music contributes to cognitive stimulation. The study sought to establish a connection between musical learning and the maintenance of cognitive health, especially in preventing memory-related conditions common in ageing populations [1]. Group performance discussions were utilised as an additional data collection method. The collaborative nature of the group performances was examined as a potential factor in reducing feelings of isolation and depression among seniors. A thorough literature review was conducted to contextualise the research findings within existing scholarship.

3. Literature review

3.1 Music, poverty, and ageing: Innovative solutions for South Africa's ageing through indigenous practices

There is an extensive body of research focused on the wellbeing and health of the ageing population. However, much of this research has predominantly concentrated on the treatment and management of diseases commonly associated with ageing,

such as diabetes, heart conditions, and arthritis. While these physical ailments are critical to address, it is important to note that many studies overlook the broader picture of holistic health, which includes mental and emotional wellbeing based on being an active participant in a social setting, such as when playing an instrument, dancing or singing. Mental health issues, such as depression, anxiety, dementia, and cognitive decline are often attended to by health professionals, like clinical psychologists and therapists, who offer treatments ranging from counselling to medication [13–16]. However, access to these professional services is typically limited to those who can afford them, particularly in wealthier population groups or among wealthy individuals [17]. The reality is that in many developing regions, such as across a lot of Africa, the majority of the ageing population, especially those from marginalised or economically disadvantaged communities, do not have the financial resources to access these forms of care [18–20]. In South Africa, for instance, the costs of therapy, medication, and regular medical check-ups can be prohibitive for most elderly people in the black community [21]. This financial barrier means that while the affluent may benefit from advanced healthcare services to manage age-related illnesses, a large proportion of the ageing population in poorer communities are left without adequate support [17, 21].

Both wealthy and poor elderly individuals are susceptible to the same physical and mental health conditions. However, the solutions available to address these issues are not equitably distributed. In regions where healthcare infrastructure is limited and poverty rates are high, there is an urgent need for alternative, accessible ways to enhance the wellbeing of the ageing. McLaren et al. [22] argue that “access to health care is particularly salient in places where policies have historically privileged certain groups over others, leaving behind large gaps in health status that current policy must take into account.” This disparity highlights the importance of exploring culturally rooted, affordable, and sustainable methods of supporting the health of the ageing population in economically disadvantaged communities. Indigenous practices, such as playing traditional instruments, dancing or playing traditional games, offer a potential pathway for promoting mental and emotional wellbeing among the ageing population who lack access to formal healthcare services [1, 5]. These cultural practices can provide a beneficial enabling force, fostering a sense of community, purpose, and mental engagement that helps alleviate symptoms of stress, depression, and cognitive decline. As a result, exploring non-medical interventions such as indigenous music becomes crucial in regions where conventional medical treatments are out of reach for most ageing population due to poverty and distance problems [22].

For many African communities, particularly in South Africa, engaging in musical activities has proven to be a powerful preventative measure against mental health challenges such as anxiety, depression, and stress. The therapeutic effects of music, especially indigenous music, provide the ageing population with an outlet for emotional expression, helping to mitigate the psychological toll of daily struggles. The growing prevalence of stress-related mental health problems among South Africa’s ageing population can be traced to a wide range of socio-economic issues. Problems such as chronic unemployment, widespread inequality, persistent poverty, and social imbalances, have created an environment where depression and anxiety are common among seniors. This also includes issues such as the old-age citizens caring for multiple generations of family, often due to children moving to other cities for work. Other challenges related to illegal migration, rampant corruption, and other political and economic uncertainties have exacerbated the sense of instability and

hopelessness within these communities. Since the dawn of democracy, South Africa has faced numerous social challenges that, rather than improving, seem to be worsening, particularly for the poor and marginalised sectors of society [23, 24]. While the end of apartheid brought political freedom, the economic and social promises of the new democracy have largely remained unfulfilled for many black South Africans. Instead of experiencing upward mobility and improved living standards, many have found themselves further impoverished as socio-economic disparities widen.

The ruling party, which has governed South Africa for nearly 30 years, has failed to deliver on key promises to reduce unemployment, combat inequality and close the economic gaps within the country [17, 24, 25]. Economic mismanagement, corruption, and inadequate policy implementation have hindered efforts to uplift the poor and provide equitable opportunities for all. This failure has left the ageing population, many of whom rely on government social grants, vulnerable to the mental and emotional effects of financial hardship, social isolation, and uncertainty about their future [26, 27]. Activities such as music have become essential for many seniors, offering a sense of community, cultural connection, and emotional release. Through playing indigenous instruments or participating in communal musical activities, most of the ageing population who play these instruments find they are able to alleviate stress and reduce the emotional burden of their circumstances [28]. Music helps them from a mental health perspective, buoying their mood will assist in mitigating the effects of more physical ailments. As economic conditions remain harsh and social problems persist, the role of music as a preventative and healing practice in African communities continues to grow in importance, providing a lifeline for those most affected by the failures of the system [29].

3.2 The government's exploitation of poverty to garner public support

For the past 30 years, the governing party in South Africa has relied heavily on the support of poor communities to maintain power, using social grants as a strategic tool to secure votes – a concept that Bauhr [30] refers to as “vote buying”. Social grants, such as child support, disability allowances, and pensions, have become a lifeline for millions of South Africans, many of whom live in conditions of extreme poverty and unemployment [27]. Unfortunately, the ruling party has exploited this dependency, often using the threat of withdrawing these vital grants to coerce recipients into voting for them. This manipulation preys on the vulnerability of the poor, who have no alternative means of social security in the absence of stable employment or sufficient economic opportunities [31, 32]. The impact of unemployment is particularly severe, with its effects extending across multiple generations within families. While uneducated individuals have historically faced limited job prospects, recent years have seen unemployment increasingly affecting even educated youth and adults. Despite obtaining qualifications, many young people find themselves without job opportunities, as the government struggles to create enough employment to meet the demands of a growing population. This has exacerbated the dependence on government-issued grants, creating a situation where entire families, often spanning three generations, rely on social welfare for survival.

What distresses the ageing population more about their living conditions, and which compounds their suffering, is the ongoing struggle of their children and grandchildren. The sight of younger generations grappling with unemployment, poverty, and a broken education system that does not lead to meaningful opportunities only deepens the pain of these senior citizens [33, 34]. This situation has a direct

and negative impact on the aged's own circumstances because they have to then assist. Many have witnessed their children, despite their best efforts to secure an education, remain trapped in a cycle of joblessness and hopelessness [35]. The lack of job opportunities for the youth, even those who hold qualifications, has become a source of immense distress for seniors who had hoped that their children's education would be the key to a brighter future [36, 37]. This generational struggle has left many from the ageing population in South Africa feeling helpless and disillusioned [38]. They are not only dealing with their own financial insecurity but are also burdened by the emotional and psychological toll of watching their families continue to suffer. They are not only dealing with their own financial insecurity but are also burdened by the emotional and psychological toll of watching their families continue to suffer. This makes the subsequent financial burden on them more pressing than the emotional distress. The promise of a better South Africa has not materialised for them, and instead of enjoying their later years in peace and security, they remain engulfed in the very struggles they had hoped would end, if not with the dawn of democracy, then with the peace of knowing their children are cared for in a society that was intended to improve upon the previous dispensation. Poverty, inequality, and unemployment continue to define the lives of their descendants, and for many seniors, this is a painful reminder that the legacy of apartheid still casts a long shadow over their families, leading to sustained financial distress [39].

In many households, where unemployment spans generations, seniors have become the primary breadwinners, despite their advanced age and limited means [40]. But their government pension grants are insufficient to cover the needs of entire families. The constant pressure to provide for both children and grandchildren has led to high levels of stress, anxiety, and depression among the ageing population [31]. Many senior citizens within South Africa's poor black communities face a range of stress-related issues (including depression), which significantly impact their wellbeing and can reduce their life expectancy. However, those who have some form of activity in their lives, and specifically those with a history of playing indigenous instruments (for the purposes of this research), often find that engaging with music offers them a crucial outlet for coping with the harsh realities of poverty and social ills [2, 41]. For these seniors, playing indigenous instruments and singing are more than just forms of entertainment; they serve as powerful tools for emotional expression and stress relief. By channelling their struggles into music, they can externalise their feelings of hardship, transforming their pain or stress into a form of healing and emotional release [29]. This process of musical expression has been shown to help alleviate symptoms of stress and depression, providing them with a much-needed sense of control and relief in the face of adversity [42].

4. Findings

4.1 Healing melodies: The role of traditional music in supporting mental health for South Africa's ageing population

Music, particularly traditional indigenous instruments, has long played a significant role in South African society, especially within rural communities, those born in musical families are naturally drawn to playing well into their old age [43–46]. In these community settings, music was a form of entertainment and a vital component of social cohesion and mental wellbeing. Music was used to unite people, heal the

land, and mentally stabilise the community, playing an essential role in managing stress and maintaining a sense of collective harmony [7, 44]. For many seniors, this connection to music is deeply rooted in their upbringing and their experiences in rural communities, where communal music-making and song were integral to daily life and cultural identity which is built through negotiated choices [47].

For many seniors who find themselves migrating from rural to more developed semi-urban or urban areas, this tradition of indigenous music-making has often lost its appeal or significance [9]. In urban spaces, the pressures of modern life, coupled with the loss of communal support systems, have made it more difficult for seniors to find opportunities to engage in their traditional musical practices. Many ageing musicians who actively play indigenous instruments are based in rural areas and attribute their environment as the nurturing ground on which their cultural practices continue to flourish [48]. The sense of community that once encouraged group participation in music-making is harder to cultivate in fragmented urban environments, where individuals often face social isolation and the challenges of adapting to a rapidly changing society [49, 50]. As a result, many seniors who once found solace in their indigenous musical traditions now struggle to maintain these practices in spaces that do not foster the same cultural connections or community participation that they enjoyed in rural areas (Netshivhambe, 2023d). This shift has led to a diminished role for traditional music in the lives of many older South Africans, despite the profound psychological and emotional benefits it offers. The lack of a conducive environment for music in urban areas, combined with the pressures of daily survival, has made it more difficult for seniors to use music as a tool for coping with the stresses of poverty, unemployment, and dislocation. This underlines the importance of creating spaces – both physical and social – where seniors can reengage with their cultural practices, particularly through music, as a means of promoting mental health and wellbeing. By reintroducing and supporting these traditional forms of expression in urban spaces, communities can help seniors reconnect with a source of strength, healing, and resilience that has been a part of their heritage for generations [51].

For many seniors residing in rural spaces, who remain connected to their cultural customs and grounded in their identity, engaging in traditional music activities is not only a way to preserve their heritage but also a powerful tool for improving both social and mental wellbeing. These individuals continue to craft indigenous instruments, play them, and perform for themselves and their communities, not just as a form of entertainment but as a means of nurturing the soul. Music is more than just a pastime; it provides comfort to them in difficult times. The act of playing indigenous instruments – whether for themselves or for others – serve as a reminder of their cultural roots and the collective strength of their communities. It allows them to express their emotions, reflect on their lives, and experience a sense of unity and connection to their ancestors, and the land they come from. Even those who do not actively play indigenous instruments themselves often find solace in listening to others [1, 52]. For many, the sounds of traditional music evoke a deep sense of belonging, transporting them back to their cultural roots [44–46, 53]. The melodies and rhythms that resonate through indigenous instruments can serve as a source of healing, providing comfort in the face of personal and societal struggles [54]. When people hear these familiar sounds, they are reminded of their identity, their history, and the resilience that has been passed down through generations. This connection to one's heritage, especially in a world where cultural dislocation and identity crises are prevalent, has a profound impact on mental health. It fosters a sense of pride and empowerment, helping the ageing population to feel grounded despite the socio-economic challenges they may face.

For seniors, especially those living in marginalised communities, this engagement with traditional music offers a way to transcend the hardships of their everyday lives. The music becomes a refuge and a space where they can temporarily escape the stresses of poverty, unemployment, and isolation [55]. The process of music-making and listening is more than just a cultural practice – it is a lifeline that sustains mental health and fosters resilience in the face of adversity, promoting wellbeing amidst the difficulties of daily life. Indigenous instrument performance offers a more flexible and personal alternative. Indigenous instrument playing is often a solitary activity, allowing the performer to engage with their music at any time, in any place, without the constraints of group coordination. Playing indigenous instruments or engaging with traditional music provides an outlet for expressing their emotions, alleviating stress, and breaking free from the burden of worry that often consumes their minds [2].

4.2 Beyond the airwaves: How indigenous instruments offer healing where radio fails

For those seniors who do not actively play music themselves, community performances or even listening to indigenous music on the radio can serve as a source of solace, as Hays & Minichiello [2] postulate that many people engage with music for emotional reasons. However, access to such performances or radio airplay of indigenous music is often rare, especially as the modern music industry increasingly prioritises contemporary and popular music styles that cater primarily to the younger generations [56]. This shift has made it more difficult for many seniors to find music that resonates with their personal experiences or evokes the sense of cultural connection that traditional indigenous music provides, which is one of the reasons why they resort to playing indigenous instruments for themselves [57]. Indigenous music, for many senior citizens in South Africa, is deeply intertwined with their cultural identity and personal history [58]. It is the music they grew up listening to, the melodies and rhythms that have shaped their lives, and the communities they belong to. For seniors, indigenous music is often the only genre that truly speaks to them, offering a sense of joy and connection that they struggle to find in the ever-changing landscape of the modern music industry, which tends to focus on youth-centric trends [2].

In contrast to the more contemporary, globally influenced music that dominates radio airwaves, and which is driven by the desire for financial reward, indigenous music carries with it a cultural weight that links seniors to their past and their heritage [59]. The connection with traditional music is crucial for their mental wellbeing, as it not only allows them to feel grounded in their identity but also offers emotional solace in times of hardship. The lack of representation of traditional music in mainstream media, particularly on the radio, leaves many seniors feeling marginalised, excluded and disconnected from the music that once defined their cultural experience [45]. This absence highlights the need for a greater emphasis on the inclusion and promotion of indigenous music particularly in urban spaces where the ageing population is not able to connect with their traditional sound through playing indigenous instruments. Indigenous music offers healing for the older generations who face isolation and disenfranchisement in the face of rapid societal changes. Indigenous music serves as a crucial source of comfort, mental health support, and cultural continuity for many of South Africa's senior citizens within the black community. Whether through active participation in playing instruments or simply listening to familiar melodies, indigenous music provides them with a means of coping with the

emotional toll of poverty and social exclusion, offering a sense of joy and connection that is increasingly hard to find in today's fragmented world.

For many senior citizens in South Africa, radio is not their primary source of music that resonates with their emotions, even though many of them turn to radio when they are alone at home, going about their daily routines. While radio serves as a companion for some, especially when they lack other social or cultural activities, it often fails to cater to the musical preferences that truly connect with their sense of identity and emotional needs [60]. Most radio stations in South Africa prioritise music that appeals to younger audiences, focusing on contemporary genres and youth-centric trends. This shift leaves a significant gap for seniors, as the music played on the radio no longer speaks to their personal experiences, cultural heritage, or the deep emotions they carry. In time slots where youth-targeted music is not playing, radio stations often fill the space with talk shows or programmes that aim to entertain or inform senior listeners while listening [61]. However, these talk shows may not offer the same emotional or cultural connection as traditional indigenous music, which many seniors value. As a result, when nothing on the radio catches their attention or provides the comfort they seek, those who have indigenous instruments often turn to their own music for the peace they desire [48, 56]. By picking up their instruments and playing, they find an alternative form of emotional expression that helps them cope with the loneliness, stress, and boredom that may come with their isolation [2]. Playing indigenous instruments allows them to reengage with their cultural roots, offering a means of mental and emotional distraction from the worries and difficulties of daily life [56].

This act of playing indigenous instruments becomes a personal coping mechanism, a form of self-soothing, and a way to prevent their minds from wandering into negative thoughts. It offers a moment of control over their emotional state, providing a sense of empowerment that is often absent in other areas of their lives, particularly given the socio-economic challenges they face. Playing an indigenous instrument not only helps them occupy their time, but it also serves as a reminder of their heritage, offering comfort and a sense of connection that they may not find through radio programming or other forms of entertainment. In many ways, the act of playing indigenous instruments offers something far more meaningful and emotionally satisfying than what mainstream radio can provide. While talk shows and radio programmes aim to engage seniors in conversation, they cannot replace the personal, introspective, and culturally enriching experience of creating and listening to traditional music. For seniors, the music they play on their indigenous instruments carries with it the weight of their lived experiences, their history, and their identity, offering them a unique form of relief from the daily struggles they face.

5. Discussion of results

5.1 Breaking stereotypes: Gender and wellbeing through indigenous instrument performance

The research included a diverse group of indigenous instrument players from the Limpopo province, located in the northern region of South Africa. Instruments played by men and women were both observed in this research since gender matters always inform traditional indigenous instrument playing [62, 63]. Ekong and Ufford-Azorbo [64] argue that the traditional gender distinctions in playing indigenous

instruments become less pronounced in urban areas compared to rural settings. In urban spaces, these stereotypes are less strictly observed, unlike in traditional rural communities where they tend to be more rigidly maintained. A total of 20 indigenous instrument players were interviewed including 13 female and 7 male participants, and their music performances were observed in both one-on-one and group settings as part of the data collection process. The findings from the data analysis revealed that many of the indigenous instrument players reported feeling that their overall health and wellbeing were both positively influenced by playing these instruments [1]. Several participants explicitly credited their improved physical and mental health to their engagement with traditional music, suggesting that playing indigenous instruments provides emotional relief and tangible physical benefits [2, 65]. For example, some players, particularly women who play the *Lugube* instrument – a traditional stringed instrument – shared that playing the instrument helped them remain energised and mentally focused; even when walking long distances. This experience was emphasised by more than 10 participants, all of whom confirmed that playing the *Lugube* had a calming and cantering effect on them, making it easier to focus on the music and the varying melodies rather than the physical strain of their surroundings. They described how they could traverse significant distances without feeling the fatigue that would otherwise accompany such journeys, because the joy from music-making makes them forget about many things. Most elderly people in rural communities tend to prefer walking over using transportation (**Figure 1**).

Hays and Minichiello [2] postulate that “Music can serve as a distraction and, at the same time, can create a congenial workspace within people’s lives.” The act of playing the instrument acted as a mental and emotional distraction, removing any stress or concerns they may have been experiencing at the time, and allowing them to



Figure 1.
A notable example of a female performer is Munzhedzi Nthambeleni Mushiana, who played the Tshihwana, an indigenous instrument, at a 2023 indigenous instrument concert in Thohoyandou, Limpopo Province, South Africa.

immerse themselves in the music. The repetitive practice of playing different variations of songs also provided cognitive stimulation, keeping their minds active and alert [54]. Many indigenous instruments traditionally played by women are closely linked to themes of loneliness and the marital challenges they face. These instruments often serve as a source of comfort and emotional release, especially when dealing with issues related to in-laws. Additionally, they reflect the hardships women may endure throughout their lives, acting as a painful reminder of the isolation that can persist even in their later years [54]. Koskoff [63] argues that when women play indigenous instruments they play from the “contexts of sexual and social marginality”.

5.2 From isolation to belonging: Indigenous music as emotional support for ageing communities

Similarly, men who play the *Mbila* and *Dende* instruments reported comparable mental and emotional benefits. Instruments traditionally associated with men often convey stories of their societal roles, such as protecting and providing for their families. These instruments serve as a narrative of a man’s responsibilities and contributions, becoming a symbolic reflection of his achievements and legacy as he grows older [54, 56]. These instruments, typically associated with male players, helped performers manage stress and achieve a state of relaxation while playing. Both *Mbila* and *Dende*, like the *Lugube*, require the musician to focus on intricate rhythms and melodies, which, in turn, helps to redirect attention from daily worries or anxiety. The performers noted that the act of playing these instruments provided a mental “release”, allowing them to channel their emotions into the music rather than dwelling on the pressures of their everyday lives, such as economic hardship or social isolation. The data suggests that the physical and mental benefits of playing indigenous instruments are a form of cultural expression and serve as a practical tool for improving the wellbeing of the players [6, 66, 67]. The combination of rhythmic repetition, the emotional release of playing music, and the technical challenges associated with mastering these instruments all contribute to a form of self-care and stress relief that is deeply ingrained in the traditional practices of the ageing population who play indigenous instruments in the Limpopo community. The findings also highlight how these instruments play a crucial role in maintaining cognitive health and emotional stability, particularly in the face of the socio-economic difficulties that many of these players experience (Figure 2).

The research underscores the profound impact of indigenous music on the wellbeing of South African seniors, particularly in the context of Limpopo province for the ageing population who play indigenous instruments. The players’ experiences suggest that these traditional instruments offer more than just cultural value – they provide a meaningful way for players to combat stress, manage mental health challenges, and stay physically active [67]. Through their music, these seniors not only preserve their heritage but also improve their quality of life in a way that is holistic and deeply satisfying. One of the participants in this study, a member of the Tsonga community, shared an insightful example of how indigenous instruments can be used to foster emotional wellbeing in a communal setting [68]. This senior community practitioner is an active member of a local old age centre, where she regularly uses her musical skills to engage and uplift her peers by playing her indigenous instruments. She entertains the senior citizens in the centre for the ageing and she offers them a valuable form of emotional stress relief by performing older songs that remind them of their good old days with indigenous instruments. Her music serves as a form of resilience



Figure 2.
An example of a male performer is Musisinyani Mackson Mavunda, who played the Dende, an indigenous instrument, during a 2023 indigenous instrument concert in Thohoyandou, Limpopo Province, South Africa.

and a remedy to the feelings of isolation, anxiety, and stress that often accompany old age, particularly among people who may face economic hardships or experience the physical and emotional toll of ageing [69].

This participant explains that playing indigenous instruments provides a unique space for emotional expression, allowing seniors to connect with their emotions in a healthy and constructive way [65]. In her view, music has the power to alleviate feelings of loneliness and depression, two common challenges for many senior citizens, especially in environments where they may have limited access to social activities or mental health support [2, 52]. She described how, through the act of playing and sharing indigenous music, she creates a sense of community and belonging, which in turn helps to reduce stress and increase the overall wellbeing of the group. Her efforts highlight the broader potential of indigenous music as a tool for communal healing and mental wellness, especially for vulnerable populations like older people [29]. Hendricks et al. [52] argue that “music is capable of producing a relaxed mood, positive stimulus for mood change, and stress reduction,” and that this is important for the ageing population. By actively engaging other seniors through music, she fosters a sense of unity and shared cultural identity, which are essential for emotional wellbeing. This process of collective participation in music-making not only enhances the mood and mental state of the ageing but also strengthens social bonds within the community, providing a support system that helps to buffer the negative effects of stress, isolation, and depression [52, 66]. The use of indigenous instruments as a bridging tool within the old age centre also speaks to the importance of preserving cultural traditions in contemporary contexts. The participant’s role in this setting not only brings joy and emotional relief to her peers but also ensures that the cultural legacy of indigenous music is passed down and maintained within the community [65, 69]. This approach underscores the natural therapeutic potential of using

traditional music as a means of addressing the psychological and emotional needs of seniors as well as their need for cultural connection and continuity. The findings of this study highlight the need for integrating traditional music practices into programmes aimed at supporting the mental health and social engagement of the ageing, thereby ensuring that they can experience a higher quality of life, regardless of the socio-economic difficulties they face.

5.3 Rhythms of resilience: How indigenous music empowers seniors to thrive

Another group of indigenous instrument players, based in the Thohoyandou area in the Venda region of the Limpopo province in South Africa, provided compelling insights into the social and emotional benefits of playing traditional music. This group gathers weekly at an art centre to play indigenous instruments, but their meetings serve a broader purpose than simply practising music. The group aims to foster a sense of community, encourage one another to remain positive, and create a supportive environment for seniors while playing indigenous instruments. They actively encourage other senior citizens who play indigenous instruments to join them and be part of an active group, offering a welcoming space where people can connect and share their passion for music, combatting isolation and loneliness [1, 52, 70]. During interviews with some members of this group, it became clear that many of them are deeply passionate about indigenous music and view it as an essential part of their lives and wellbeing. These ageing musicians expressed how playing indigenous instruments helps them stay active, both mentally and physically, and serves as a tool for maintaining good health [2, 70, 71]. The group's members are not only using music as a personal coping mechanism for stress and anxiety, but they also believe in the power of communal music-making to uplift and sustain their spirits. The regular meetings provide them with an opportunity to socialise, learn new songs and form strong bonds with others who share their experiences and values, reinforcing their cultural identity and sense of belonging [2].

Listening to or performing music can be a means of discovering new works, satisfying intellectual curiosity and learning new material to play that contributes to a sense of a person's wellbeing and provides meaning and purpose in life [2].

To further enhance this sense of community among ageing performers of indigenous instruments, I arranged a public concert that brought together indigenous instrument players from various regions, covering three ethnic groups that are found in the Limpopo region of South Africa [51]. This concert was a highly anticipated event and proved to be exceptionally exciting for many of the participants. Many reported that it was the first time they had played in a public space alongside others from different areas, which created a powerful sense of solidarity and shared purpose. Among all the indigenous instrument players who attended the concert, only two had officially released albums of their music. The concert provided a platform for them to showcase their musical talent and allowed them to engage with their peers in a way that reinforced their commitment to preserving and celebrating their cultural heritage [72]. One significant takeaway from this experience for many was the strong desire for more such performances. Many expressed how meaningful these public performances are for them [69]. Many seniors who performed at this concert noted that indigenous music is the only form of music with which they truly resonate. These performers feel disconnected from the modern music that dominates radio airwaves,

as it does not speak to their experiences or provide the emotional comfort that traditional music does. For these seniors, indigenous music is not just entertainment – it touches their souls and offers them a sense of emotional fulfilment and belonging that they do not find in contemporary genres. The sense of joy and pride that they derive from playing and listening to indigenous music is important, and for them, it is a vital part of their wellbeing.

The group's performances at the organised concert were characterised by a wide variety of indigenous instruments, showcasing the rich diversity of traditional music in the region. The joy and enthusiasm with which the performers played were evident, and the energy in the air was contagious. This not only highlights the intrinsic value of indigenous music but also underscores its potential to promote mental and emotional health, especially for seniors who may be grappling with stress, isolation, and other challenges associated with ageing [2]. The group's experience reinforces the idea that communal participation in indigenous music can play a crucial role in improving the wellbeing of senior citizens. The act of coming together to perform and celebrate their cultural heritage creates a sense of purpose, belonging, and emotional fulfilment that is often lacking in the lives of many seniors. The findings of this study suggest that such group activities are essential not only for cultural preservation but also for enhancing the quality of life for the ageing population, enabling them to stay active, connected, and emotionally balanced as they navigate the challenges of old age (Figure 3).

The image above captures a group of senior citizens joyfully performing in an organised public concert, playing indigenous instruments with enthusiasm and pride. This scene exemplifies the profound impact that engaging in traditional music can have on the emotional wellbeing of senior citizens. The joy expressed through their music is not just a fleeting moment – it is a source of happiness that permeates



Figure 3.
An example of a Tsonga performance group showcasing their talents with indigenous instruments took place during a 2023 indigenous instrument concert in Thohoyandou, Limpopo Province, South Africa.

their daily lives and contributes to a positive outlook on their overall wellbeing. The act of playing indigenous instruments allows these seniors to experience a deep sense of emotional fulfilment, which in turn enhances their mood and encourages a more positive attitude towards the challenges they face in their everyday lives [1]. The music provides a sense of relief from stress, anxiety, and the social difficulties that often accompany old age. Whether it is the joy of playing an instrument or the communal experience of performing together, the act of music-making fosters a sense of connection, purpose, and belonging. These feelings, in turn, promote a more optimistic mindset, which has been shown to have significant benefits for mental health, especially in older adults [1, 70, 71]. The positive emotions generated through music have a ripple effect, impacting not just the musicians playing but also those who listen and engage with the music. For seniors who play indigenous instruments, it is this emotional connection to the music that helps them navigate social problems and personal difficulties more effectively. The joy they derive from music provides them with a mechanism for coping with the stressors of daily life, such as economic hardships, isolation, and the challenges of ageing. In fact, many of the participants in this research expressed that playing indigenous instruments allows them to momentarily escape the burdens of their circumstances, offering them a brief respite from feelings of depression or anxiety. This sense of solidarity and community is crucial in combatting the loneliness and isolation that can often affect older individuals. As they come together to celebrate their cultural heritage through music, they are also building supportive networks that enhance their emotional resilience.

One of the most notable examples of the positive impact of playing indigenous instruments on wellbeing comes from Philemon Mbangiseni Nemukula, a respected instrument maker and player from the Venda community, who is over 80 years' old. Nemukula is still active both in crafting and playing indigenous instruments, such as *Tshihwana*, *Dende* (Venda traditional bows), and *Mbila*. Despite his age, he regularly ventures into the bushveld to collect the wood needed for making these instruments, a practice that keeps him physically active and deeply engaged in his cultural traditions. His continued involvement in this activity has contributed to his physical vitality and to his longevity, which he attributes to the spiritual and emotional benefits derived from playing these instruments. Nemukula's experience highlights a key finding in this research, showing that the act of playing and building indigenous instruments is more than just a pastime; it is a deeply ingrained cultural practice that fosters physical, mental, and emotional wellbeing [70, 71]. For Nemukula, and many other indigenous instrument players, music serves as a spiritual connection to their ancestors and a source of emotional healing [29]. For seniors like Nemukula, playing and creating indigenous instruments offers a unique form of comfort – one that is emotionally fulfilling and physically invigorating. The rhythmic and melodic aspects of these instruments provide a form of cognitive stimulation, keeping the mind active and focused. In Nemukula's case, the act of building and playing instruments is a daily practice that helps him manage stress and maintain a sense of purpose, which are essential factors in sustaining mental health in later years. The story of Nemukula underscores the significance of cultural practices as a tool for emotional and physical resilience, particularly in dealing with the stresses of ageing and the challenges posed by socio-economic hardships.

Wind instruments, particularly traditional flutes such as the *Tshitiringo* (Venda flute), *Tshipotolio* (Ocarina), and *Diletile* (another type of traditional flute), are predominantly played by men in the Venda community. These instruments, requiring substantial breath control and technique to produce their characteristic pitch

and tonality, have a rich history deeply intertwined with the daily lives of those who play them. Many of the men who engage with these wind instruments often recall how they first learned to play them in their youth, particularly during activities like herding cattle or goats in the fields [54]. Playing these instruments while performing such tasks was a way for them to pass time, express emotions, and keep their minds engaged in the open fields. This connection between music and pastoral life enhances their physical endurance and plays a key role in their mental wellbeing, as music provides a soothing and reflective backdrop to their often solitary and laborious activities [52, 66, 70, 71]. Interestingly, many of these men have continued the tradition of playing wind instruments into their senior years, preserving a vital part of their cultural heritage while benefiting from the psychological and social advantages that music brings. According to Netshivhambe [54], these men still play their traditional flutes regularly, both as a means of emotional expression and as a way to stay mentally and physically active in their later years. The act of playing wind instruments is deeply rooted in their past experiences, serving as a source of comfort and joy. These ageing musicians often note that playing the flute allows them to temporarily escape the pressures of ageing and socio-economic hardships, providing them with a mental outlet that reduces stress and fosters a sense of peace.

The act of playing wind instruments also offers cognitive benefits. The requirement for breath control and the need to maintain rhythm and melody engage the brain in ways that help sustain cognitive function in old age. As the men recall the songs and techniques learned in their youth, they preserve their cultural knowledge and engage in a form of mental exercise that helps to ward off cognitive decline. This dual role – of preserving tradition and improving cognitive health – makes playing wind and other indigenous instruments as a valuable practice for senior citizens in these communities. The study also revealed that focusing on a relatively small sample of 20 participants from the northern region of South Africa, restricted a wider understanding of how promoting wellness in the aged through indigenous instruments performance can be generalised based on the findings of a broader ageing population. The research's emphasis on a specific cultural context may not fully reflect the experiences of seniors from different regions or cultural backgrounds. Despite this, the study highlights the importance of incorporating indigenous music into wellness programmes for older adults. Future research should build on these findings by including a larger, more diverse sample and employing a longitudinal design to observe changes over time.

6. Conclusion

This study set out to investigate the role of playing indigenous instruments in promoting wellness among the ageing population in South Africa. The research was able to demonstrate playing indigenous instruments contribute to stress management and overall wellbeing among the ageing. The central argument of the research was based on the hypothesis that engaging in indigenous musical practices fosters active ageing by enhancing cognitive, emotional, and mental health, ultimately contributing to stress relief and the prevention of age-related illnesses such as depression and dementia. The findings confirmed that participation in indigenous music offers significant cognitive and emotional benefits to seniors. It serves as a therapeutic activity, enhancing memory retention, mental agility, and emotional resilience. Many participants reported improved mental clarity and stress relief, attributing their continued

wellbeing to regular musical engagement. Moreover, group performances provided a sense of community, reducing feelings of isolation and fostering social connections, which are crucial for the emotional health of older adults. The limitation of the study was that the research focused on a relatively small sample of 20 participants from the northern region of South Africa, limiting the generalisability of the findings to the broader ageing population. This limitation also meant that the study concentrated on a specific cultural context, which may not fully capture the experiences of seniors from different regions or cultural backgrounds. The study underscores the importance of integrating indigenous music into wellness programmes for the ageing population. Future research could expand on these findings by including a larger, more diverse sample and adopting a longitudinal approach to track changes over time.

Traditional indigenous music has been an integral part of South Africa's cultural fabric, offering a vital source of emotional and psychological support, particularly for the ageing population. Engaging with indigenous instruments allows seniors to express their emotions, cope with stress, and alleviate feelings of loneliness and isolation. Traditional indigenous music remains a vital source of cultural identity and emotional wellbeing for many senior citizens in South Africa, particularly those with roots in rural communities. Playing indigenous instruments for the ageing population has emotional and wellbeing benefits. Even for those who do not play instruments themselves, listening to traditional music performed by others can evoke powerful memories, offering a sense of joy and continuity with their cultural roots. The act of playing indigenous instruments serves as a powerful tool for self-soothing, helping seniors reclaim a sense of control over their emotional wellbeing. The study reveals that the traditional practices of playing indigenous instruments serve as vital tools for enhancing both physical and mental health among the ageing population. The study suggests that incorporating traditional music practices into mental health and wellness programmes for seniors could be highly beneficial. Future studies involving diverse cultural groups could offer deeper insights and a more comprehensive understanding of the impact of indigenous musical practices across different communities.

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Section 3

Participation

Perspective Chapter: Age Is Not Just a Number – Understanding Ageism and Its Health Implications for Older Adults

Célia Casaca Soares

Abstract

Demographic changes present both benefits, such as the increased longevity of older individuals, and potential concerns, including ageist expressions. Ageism is a complex phenomenon, deeply rooted in modern societies, encompassing stereotypes, prejudice, and discrimination that affect billions of older adults globally. The stereotypes surrounding older people combine both positive and negative traits, with negative aspects such as illness and dependence being socially emphasised. Emotional responses of pity and sympathy, linked to paternalistic or benevolent forms of prejudice, are commonly associated with these stereotypes. Ageism can manifest at micro, meso, and macro levels, and it can be directed towards other individuals or oneself. Stereotype Embodiment Theory offers insight into how age-based stereotypes influence self-perceptions of ageing and subsequently impact health and well-being. When stereotypes become self-relevant, they can act as either facilitators or barriers to the health outcomes of older persons. Internalised age stereotypes can result in self-fulfilling prophecies through three primary pathways: psychological, behavioural, and physiological. The detrimental effects of ageism on the health conditions of older adults compromise their active ageing, have been observed globally and have increased over time. Efforts to combat ageism must consider various factors across different levels and domains, requiring a coordinated international strategy for success. Three effective strategies include the development of policies and laws, educational and intergenerational contact interventions. Changing stereotypes is essential; it is crucial to rethink practices and institutional norms or policies that place older persons in positions of inequity or jeopardy while also promoting contact and solidarity between generations.

Keywords: ageism, health outcomes, older people, age-based categorisation, stereotypes, discrimination, self-perceptions of ageing, education, intergenerational contact, active ageing

1. Introduction

It's the old 'does she take sugar in her tea?' syndrome... I found the same, I was in a wheelchair because I had an operation on my foot, and I suddenly became a body, not a person. And I think that happens. ... If I'm on the phone and I give my date of birth, it's immediately this slow, do you understand what I'm saying? I said, well, I understand you before you knew how old I was, so why should not I understand you now?

Population ageing has become a central topic of concern in the last few decades. In 2020, for the first time, the number of people aged 60 years and over exceeded the number of children under 5 years old [1]. Undoubtedly, the demographic changes resulting from advances in technoscience constitute a challenge around the world. While these changes bring significant benefits associated with the increased longevity of older people, they also introduce potential concerns due to the rise of comorbidities, social isolation and dependence on long-term care affecting the ageing population. This results in decreasing opportunities for individuals to live longer with good health and dignity. These global challenges add pressure on the capacity of healthcare services, economic stability, and social protection systems for older people and all age groups. Worldwide, the emergence of intergenerational division and negative attitudes towards older people is growing. The COVID-19 pandemic is a good example to show how older people can be treated, especially in times of scarce resources [2].

In the context of an increasingly ageing population and higher risks of vulnerability, promoting active ageing is part of an international strategy aimed at optimising opportunities for health, lifelong learning, participation and security to enhance quality of life [3]. The initial quotation of this chapter was taken from an interview conducted with a 69-year-old English woman as part of a European study dedicated to professional competencies in health and social care of older adults [4]. During the interview, she discussed her overall experience as a user of health services in her town. In this quote, she specified her view on the nature of the attitudes and behaviours of some professionals when interacting with older people during the delivery of care.

As the quote suggests, one of the first aspects we recognise in other people is age [5]. Chronological age constitutes one of the three basic dimensions of 'automatic' social categorisation, along with gender, race, and ethnicity, which people use to navigate their daily lives and in social interactions [6, 7]. In other words, the way we see others, but also ourselves, as young or old, male, female or other, is an essential clue to understanding and interpreting how, and to whom, certain traits, characteristics or behaviours will be associated.

Studies in the field of social psychology allow us to comprehend how these age-related representations are attached to social norms and expectations, as well as stereotypes that vary among different age groups (for example, see [8, 9]). When age-based categorisation results in to situations of disadvantage, injustice, or inequality, one should acknowledge the underlying forms of prejudice and discrimination that sustain ageism in different contexts of social life.

This chapter provides a literature review focused on ageism and its impact on the health of older persons. It aims to clarify the construct of ageism, highlighting its complexity, and presents research that illustrates how ageist processes affect the health outcomes of older adults. The first section examines the conceptual framework of ageism, focusing on its primary dimensions. Theoretical models will be discussed

to further explore the consequences of paternalistic and benevolent forms of ageism, as well as the impact of negative self-perceptions related to ageing. Different levels of ageism will be analysed, with examples of discrimination against older people presented within these contexts. The second section will delve into research that investigates the effects of age discrimination on the health outcomes of older persons. The final section will concentrate on projects and initiatives aimed at reducing ageist bias in the lives of older people and in broader society.

The research questions guiding this literature review are: (1) How does ageism impact the lives of older persons? (2) What health outcomes are affected by ageist bias in older adults? and (3) What interventions have been most successful in combating ageist bias in older persons and society?

1.1 Methodological considerations

In alignment with the established research questions, this review aims to deliver a comprehensive overview of ageism and its impact on the health of older persons. It encompasses a broad examination of relevant information and research studies that contribute to understanding its key dimensions and underlying processes. Additionally, the review examines secondary studies to summarise and evaluate the impact of ageism on the health outcomes of older persons.

The literature search was conducted in the Web of Science Core Collection, Scopus, PubMed, and PsycInfo for peer-reviewed articles; Google Scholar was used to search for grey literature, such as reports and policy documents. The search strategy combined key terms related to 'ageism', 'age stereotypes', and 'perceptions of ageing' with terms related to 'older persons' or 'older adults', 'systematic review', 'meta-analyses', and health. These terms were combined in various ways using Boolean operators. The selection of research studies was based on the screening of title/abstract, as well as authorship, primarily for the conceptual framework. A snowball approach was also adopted to identify relevant material cited by key articles identified in the previous round of search. The software Mendeley was used for reference management.

2. Ageism and its core dimensions

Ageism is a multifactorial phenomenon and it is deeply rooted in modern societies. Six in ten people around the world, aged 16–64, agree that 'people don't respect old people as much as they should', and the level of agreement increases with age [10]. Ageism, or age discrimination, was first described in 1969 by the American psychologist Robert Butler as unjustified prejudice or bias of one age group towards other age groups [11]. Butler coined the term following a protest by a community against the construction of a residential building for older people in their neighbourhood. Age discrimination was one of the most relevant factors explaining the residents' discontentment with the building construction in their surroundings. According to the author, prejudice against the old reflects how young and middle-aged people feel uneasy about growing old, disease, disability, and fear of becoming powerless, useless, and ultimately, dying. And culture reinforces such feelings of vulnerability, incapacity, and worthlessness [11, 12].

Individuals from any age group can be victims of ageism; however, much of the research conducted has been focused on age-based bias directed towards and

experienced by older people [13]. Ageism against older adults affects billions of people, with at least one in two people holding ageist attitudes directed at this social group [14, 15].

In terms of definition, literature seems consensual about the central dimensions of ageism: stereotypes (what we think about older people, often supported by institutional practices and policies), prejudice (how we feel about older people, late adulthood, or even ageing), and discrimination (how we behave towards older people) [12, 16, 17]. As shown in **Figure 1**, these interact and influence each other; however, the relationship between thoughts, feelings, and actions is not automatic.

The simple activation of stereotypes does not suffice to determine the expression of negative feelings or discriminatory behaviours towards older people. Ageism can operate both in implicit (unconscious) and explicit (conscious) ways.

2.1 Age-based categorisation and stereotypes

As mentioned before, ageism is related to a process of social categorisation, which is based on discrete age categories that ascribe both descriptive and prescriptive attributes to people of different age groups [9]. For example, when we think about someone in adolescence, young adulthood, or old age, we tend to associate certain traits or expected behaviours resulting from a combination of maturation, biological, and social processes that are divided by age and age-based stereotypes [9]. Life cycle is marked by a series of normative events whose main organising variable is age (e.g., formal education, coming of age, retirement age, etc.). In this sense, age categories project relevant, socially constructed, and rooted symbolic meanings that help to organise social life. Formal age-related roles are also associated with several fluid informal social roles and expectations (what is socially expected or *approved* to each stage of the life cycle) [7].

Categorising others into age groups is more cognitively efficient than evaluating each person individually. However, this process creates space for overgeneralisation and simplification of information about personal attributes, and the risk of cognitive bias and error increases. Hence, perceptions based on age stereotypes are more likely to happen, and people of the target group become more vulnerable to experiences of prejudice and discrimination [13].

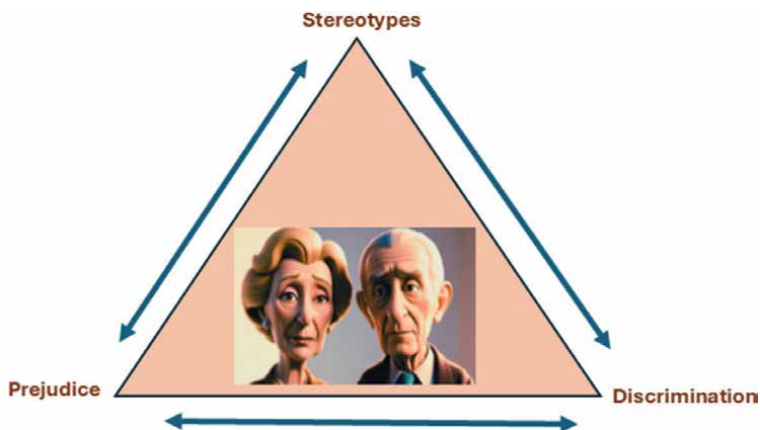


Figure 1.
Key dimensions of ageism.

Through the process of stereotyping, the heterogeneity and diversity that mark late adulthood, more than any other phase of the life cycle [18], are reduced, and the similarities between older people and their life trajectories are exaggerated [19]. Gerontologists have highlighted the distinction between ‘young-old’ (55–75 years), middle old (75–85), and ‘old-old’ people (85+ years) to evidence the large variability of ageing processes; the first group represents a competent majority, potentially active and productive, but often marginalised by society, and the third group is more associated with the idea of fragility, illness, and dependence on care [20]. The middle-aged group represents a ‘grey zone’ between the two prototypical poles of the old age spectrum [21].

The distinction between old age groups is also related to the division between third age and fourth age, which are defined in terms of people’s functionality and not so much on their chronological age; the former is associated with autonomy and activity, and the latter with dependence and illness [22]. Still, even if it is true that health problems become more prevalent in older old ages, it is fundamental to acknowledge how the enormous diversity of lifestyles can predict a diversity of ageing patterns.

Research shows that stereotypes related to old age and ageing combine both positive and negative attributes [8, 16, 23]. The most common negative stereotypes relate to physical and cognitive decline, illness and incompetence, frailty, loneliness and dependence, while the most positive highlight wisdom, generosity, friendship, morality and reliability [8, 23–25]. This combination reflects the mixed nature of the stereotypical representations and beliefs that are often associated with older people.

The Stereotype Content Model (SCM) [8, 26] provides a framework for interpreting evaluations of different social groups based on two dimensions, warmth and competence, resulting in four clusters of groups (high/high; high/low; low/low; low/high). In this context, across multiple studies and populations, older adults have been persistently stereotyped as low in competence but high in warmth or affection [8, 26, 27], corresponding to the classical stereotypical image of ‘doddering but dear’ [28]. In one of these studies, older people’s representation was clustered together with that of people with disabilities, suggesting that these combined stereotype content dimensions often result in evaluatively inconsistent stereotypes [8].

The mixed nature of stereotypes associated with older people is pervasive over time, space and cultures and resistant to change. Research conducted in Western and Eastern countries, associated with more individualistic or collectivist cultures, respectively, consistently shows that ageism is pan-cultural, and older people are seen as significantly warmer and less competent when compared with younger groups [26, 27, 29]. Findings of a cross-cultural meta-analysis comprising 23 countries indicate an association between population ageing rates and negative attitudes towards older people (e.g., East Asia), which may indicate the rise of burden perceptions from younger generations [27].

2.2 Links between age-based stereotypes and prejudice

One of the assumptions of the SCM model is that the perceived social status of groups is linked with the type of stereotypes and prejudice they are likely to face, with high-status groups being seen as competent (e.g., rich people) while low-status groups being perceived as incompetent (e.g., beggars or poor people) [8, 26]. In the case of older people, they are generally assigned to a low-status social position, associated with a mixed evaluation that is positive (high on warmth) but also negative (low in competence), as mentioned before [8, 25].

Each combination of stereotypes results in different emotional reactions: envy, pity, admiration, and contempt; regarding low-status groups like older people, the stereotype content elicits emotional reactions of pity and sympathy, as shown in **Figure 2** (for a deeper revision on the other types of prejudice see [5, 8, 26]). This emotional pattern gives rise to expressions of paternalistic or benevolent forms of prejudice, such as over-help and protection, which may lead to the isolation, lack of control, or lack of autonomy of older people [13]. Using patronising and infantilising language in the healthcare context or promoting exclusion from activities that are considered beyond the competences of older people are other examples of benevolent prejudice [4].

Evidence has shown that older women are viewed more benevolently than older men, as the latter are generally attributed with more competence than the former. This aligns with gender stereotypes, which perceive men as having higher status and greater competence than women [8]. The intersection of age and gender prejudices has been coined as ‘gendered ageism’ and permits framing the differences in ageism faced by women when compared to men [30].

Emotional reactions like pity and sympathy can give a false impression that age prejudice is insignificant; however, these are fully consistent with benevolent forms of prejudice. This is what makes it particularly insidious due to its subtlety, potentially reinforcing the belief that ageism is not a problem for older people. Nevertheless, those who face such types of prejudice can be easily disrespected, diminished, or excluded in contexts where their competences are undervalued.

Ageism is more likely to be manifested indirectly, as a lack of respect, rather than directly, which has been described as ‘benign indifference’ [7]. Findings from the European Social Survey (ESS, Round 4), conducted in 28 countries in the European region, are particularly illustrative about this phenomenon; overall, respondents considered that someone showed a lack of respect more often than they treated them badly because of their age [29]. One may presume that the higher prevalence of

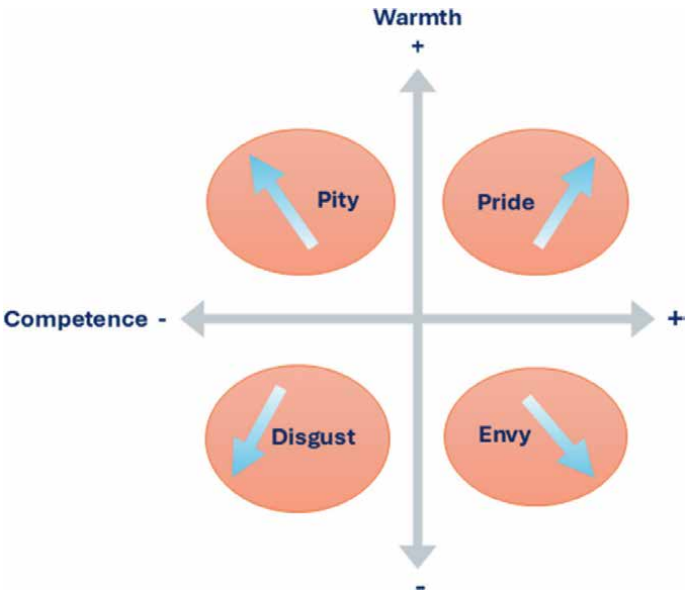


Figure 2.
Stereotypes, subtypes, and related forms of prejudice.

age-based prejudice, such as lack of respect and being ignored or patronised, when compared to more explicit and hostile forms, such as being insulted or abused, is mostly due to its implicit nature.

Implicit forms of ageism may not be intentional, depending on the level of awareness that each person has about their own ageist attitudes. People may associate their reactions with other factors, such as personal attributes of the older person or even contextual clues or practices. The normalisation of ageist prejudice and discrimination in different contexts of everyday life, such as institutions, contributes to reinforcing negative attitudes towards ageing and older people. This situation can limit opportunities for promoting active ageing in late adulthood. Such ageist beliefs have become embedded in the subconscious framework of societies [17] and may represent one of the few remaining socially tolerated forms of prejudice in contemporaneity.

2.3 Multilevel facets of ageism

Ageism can operate both in implicit (unconscious) or explicit (conscious) ways and be expressed at different levels, which are intertwined and mutually reinforcing. It can manifest at micro-level (individual), meso-level (interpersonal/intergroup) and macro-level (institutional and cultural) [17, 31]. Also, it can be directed towards other individuals (other-directed ageism—when we think ‘older people are less competent’) or directed towards oneself (self-directed ageism—when we think ‘I feel bad about my ageing’).

The internalisation of age stereotypes significantly contributes to individual and interpersonal ageist processes, such as patronising, disrespecting, or marginalising older people. At the institutional level, the expression of ageist attitudes is manifested through unfair treatment resulting from policies, laws, institutional practices, rules, or social norms that limit opportunities and systematically hinder individuals based on age criteria [14, 27]. These sources of ageism must be framed at a structural level, where the implicit or explicit policies, practices, or procedures of societal institutions promote bias against older people [26].

Interpersonal forms of ageism may overlap with institutional-level manifestations (e.g., employment practices and management decisions restricting promotion of older workers or lack of training opportunities; decisions to exclude older people from clinical treatments made by healthcare professionals based on age criteria, following policies or protocols of institutions). Recent events lived during the pandemic crisis are a clear example of this overlap between interpersonal and institutional ageism. Moreover, the effects of intersectionality between age (ageism) and gender (sexism) are also evident across various institutions, where inequalities have been documented regarding older women’s access to preventive care and treatment when compared to older men (e.g., more medical examinations, more follow-up) [17, 32].

People often overlook institutional ageism due to long-standing rules, norms, and practices of these institutions, which become ritualised and are perceived as normal [14]. Although unintentional, these still legitimise the exclusion of older people in specific situations, reinforcing social asymmetries rooted in age and age-based assumptions.

Children at young ages already show negative ideas about old age, and young people internalise mostly negative social representations about older people, which impacts their self-perceptions as they age [9, 29]. This is to say, young people and older adults themselves can hold negative attitudes towards ageing and other older adults. Unlike gender or race, age groups vary across the lifespan, which means that

all people are susceptible to experiences of ageism with time. Hence, at some point, negative attitudes towards age eventually become self-relevant [16, 33]. This can weaken well-being, reflecting on the self-image, self-esteem, confidence, and skills of ageing and aged people [34]. Self-directed ageism may constrain the types of activities that older people are keen to engage in, such as learning new skills or hobbies.

Long-term effects of self-perceptions of ageing have been documented in some studies conducted in the U.S. [35], as well as in Europe [36], with similar findings. These studies show that holding more positive self-perceptions of ageing and age beliefs is related to better functional health over time and longer life expectancy compared to holding more negative self-perceptions and views of ageing [33].

Stereotype Embodiment Theory (SET) helps to explain how stereotypes and beliefs about old age influence self-perceptions of ageing and how these can impact health and well-being outcomes [33]. Within this framework, three predictors of ageism are defined: detrimental treatment of older people (age discrimination), negative age stereotypes, and negative beliefs of older people about their own ageing (self-perceptions of ageing) [37, 38]. According to SET, embodiment happens when stereotypes are assimilated from culture and social contexts, leading to self-definitions that subsequently influence functioning and health. This is a top-down process (from macro level to individuals), which occurs over time [33], meaning that age stereotypes have a developmental dimension.

Internalisation of age beliefs from culture starts at a young age, and these beliefs are reinforced throughout the lifespan [39]. However, individuals are less likely to defend against it before stereotypes are directed at themselves. Thus, their susceptibility is increased. In the long term, however, age stereotypes may negatively affect them. When individuals recognise they have reached old age, the relevance of age stereotypes increases, as it brings identification with other older people [33]. This recognition of the onset of old age is a subjective process, although marked by several social cues (e.g., infantilising speech, over-help, being denied employment) that remind the person they are old.

Yet, there is substantial variation in the balance of positive and negative stereotypes held by older individuals. One possible explanation relates to the extent to which an individual is immersed in the mainstream ‘culture of ageing’ of their country or region during their lifespan [21, 33]. Moreover, evidence also indicates that the way older people are viewed is domain-specific, depending on the contexts or life situations to which stereotypes are applied (e.g., health or family relations) [21]. Therefore, the balance between positive and negative stereotypes held by older people can also be diverse.

3. Consequences of age discrimination on health outcomes of older people

Internalised age stereotypes through stereotype self-embodiment form the basis for self-directed ageism. Once stereotypes become self-relevant, they can work as facilitators for or barriers against older people’s health outcomes, depending on whether stereotypes are positive or negative. Evidence suggests that negative age beliefs provide worse strategies for coping with exposure to ageism present in society [33, 39].

Internalised age stereotypes become self-fulfilling through three main pathways: psychological, behavioural, and physiological [33]. In the first one, expectations related to ageing become self-fulfilling prophecies through unconscious automatic

processes when the content of the activated stereotypes aligns with the outcome domain. Experimental studies have shown that age stereotypes can be activated and influence functioning in the predicted direction on an unconscious level, known as the ‘stereotype-matching effect’ (e.g., in cognitive and physical performance) [40].

The behavioural pathway is associated with lifestyle and behavioural choices that people make over time; if someone has the belief that health problems are inevitable in old age, the probability of engaging or maintaining healthy behaviours is lower (e.g., practicing physical activity) [41]. Overall, older individuals with more positive self-perceptions of ageing seem to be more likely to engage in healthy practices [42].

The physiological pathway involves the autonomic nervous system that responds to environmental stress [33]. Research with older persons exposed subliminally to negative stereotypes before facing mathematical and verbal challenges showed heightened physiological responses to stress [43]. Participants included in the condition ‘negative stereotypes’ exhibited a heightened cardiovascular response to stress, as indicated by increased systolic and diastolic blood pressure and heart rate, compared to those in the positive condition. These findings also suggest that negative ageing stereotypes may contribute to adverse health outcomes in older persons without their awareness [43].

Extensive research conducted around the world, supported by five meta-analyses, consistently indicates that the SET model predictors of ageism show a negative impact on the health outcomes of older people [37, 38], even years later (e.g., Ref. [44]). A systematic review examined the longitudinal consequences of self-perceptions of ageing, a measure of internalised stereotypes of ageing, in participants 50+ years [45]. Primary outcomes were physiological (longevity and better health, health behaviours, and diseases) and psychological (depression, cognitive function, and other psychological outcomes). Results show that more positive self-perceptions of ageing were consistently associated with healthier longitudinal outcomes, including better self-rated health and less obesity, greater longevity, better performance of the activities of daily living, less depression, and better cognitive functioning (including reductions in cognitive decline and incidence of dementia). These findings support the detrimental consequences of ageing stereotypes over time and are fully aligned with the SET assumptions [45].

Along with individual-level sources of ageism, the consequences of macro-level expressions of ageism on the health of older people, across geography, health outcomes and time, have also been examined in another systematic review [37]. In this study, besides policies, practices, or procedures of societal institutions, structural ageism also included the age-based actions of individuals who are part of these institutions, such as the healthcare professionals of hospitals.

From the point of view of health categories under analysis, this review included seven individual health domains: reduced longevity, poor quality of life, poor social relationships, risky health behaviours, mental illness, cognitive impairment (as assessed by cognition over time), and physical illness. Besides, four structural health domains related to social institutions or organisations were integrated: denied access to healthcare and treatments, exclusion from clinical trials, devalued lives, and lack of work opportunities (**Table 1**) [37].

Overall, in 95.5% of the 422 studies and 74.0% of the associations analysed, ageism predicted significantly worse health outcomes, which supports its strong and consistent association with adverse health outcomes of older people. Ageism was significantly related to worse health in all 11 health domains under analysis (the proportion of significant ageism-health associations ranged from 94.4% to 63.0%).

Level of analysis	Health Domains (number of studies ¹)
Structural	Denied access to healthcare (141)
	Exclusion from clinical trials (49)
	Devalued lives of older persons (3)
	Lack of work opportunities (60)
Individual	Reduced longevity (10)
	Poor quality of life (29)
	Poor social relationships (13)
	Risky health behaviours (27)
	Mental illness (42)
	Cognitive impairment (4)
	Physical illness (50)

¹According to the authors, some studies included different outcome; the total number of studies exceeded the number of articles included.

Table 1.
Individual and structural sources of ageism identified in the studies.

At the structural level, all four health domains showed evidence of ageism; denied access to health services and treatments based on age (84.6% of the studies and 63.0% of the associations); older persons' exclusion from clinical trials (100% of the studies and 94.4% of the associations), even in clinical conditions more prevalent in later life (e.g., Parkinson disease); in the devalued lives of older persons (100.0% of the studies and 80% of the associations); and in the lack of work opportunities, ageism predicted worse health, such as increased depressive symptoms (91.2% of the 34 associations) [37].

Authors also found a significant association between ageism and all seven health domains under the individual level. Risky health behaviour was related to outcomes such as unhealthy diet, medication noncompliance, excessive drinking, and smoking (100% of studies and 79.4% of the associations); in the mental illness domain (outside of work environments), 95.5% of the studies and 93.2% of the associations found evidence of ageism influencing psychiatric conditions. In the physical-illness domain, ageism significantly predicted physical illness, assessed by functional impairment, chronic conditions, acute-medical-event incidence, and hospitalisations (96.2% of the studies and 80.9% of the associations) [37].

Ageism was observed in all 45 countries represented in the sample and all six continents where studies were conducted. The prevalence of significant associations was higher in less-developed than more-developed countries; however, the former may experience higher prevalence due to their limited resources for providing healthcare to older people. This result is also supported by other systematic reviews focusing on determinants of ageism against older people [31]. Moreover, research conducted in Australia and Asia showed more significant findings than in other continents, although only one study was conducted in Africa.

Ageist effects were observed in every year under study, and the proportions of significant associations between ageism and adverse health in all 422 studies increased over time: 51.3% from 1970 to 1989, 69.6% from 1990 to 2009, and 85.3% from 2010 to 2017. The proportion of significant findings for structural ageism also increased

over time: 51.3% from 1970 to 1989, 66.8% from 1990 to 2009, and 86.6% from 2010 to 2017 [37].

Older persons with lower levels of education were more likely to experience the harmful health effects of ageism. This finding is supported by literature related to health inequities, which indicates that members of disadvantaged social groups are more likely to become targets of discrimination [46]. However, a systematic review focusing on determinants of ageism against older people showed inconclusive results about the effects of years of education (24 papers) [31].

A trend of increasing ageism over time, related to healthcare professionals, was also found. This association may be due to the growing demands and time pressures of the daily tasks of healthcare staff. However, the reach of ageism seems to have clinical implications; ageism influenced a wide range of health outcomes of older patients; moreover, vignette studies from eight countries showed that medical students and practitioners often made clinical decisions that restricted patients' access to care based on age criteria rather than patients' health needs (e.g., [47–49]) [37]. This is a concerning result, since risk assessment and access to medical care should not rely solely on age [50].

Finally, this systematic review also reveals that while significant ageism-health associations have become more prevalent over time, the number of studies focusing on structural-level ageism has declined since 2010 [37]. This recent decrease in research interest limits the recognition of society's central role in promoting and reinforcing discrimination towards older people.

4. A call for action to combat ageism

Ageism is a critical social determinant of health that has been largely overlooked [14, 37] and needs to be actively and urgently addressed. Like all forms of discrimination, ageism generates divisions and hierarchies in society, leading to numerous harms and injustices, such as health inequities and poorer health outcomes [14, 17]. Recent global challenges like the COVID-19 pandemic shed light on the vulnerability of older people and exposed ageism in different settings worldwide (e.g., discrimination in access to healthcare, inadequate protection of older people in care homes) [14].

Evidence from ESS (Round 4) shows another example aligned with widespread ageist attitudes; around Europe, people aged 70 and more are perceived as a burden on healthcare services [29], however, this representation needs to be considered the other way around. Ageism places a heavy economic burden on individuals and society, including in healthcare costs, due to its damaging impact on health conditions [15, 17, 38]. Overall, \$63 billion, or one in every seven dollars, spent on healthcare for the eight most expensive conditions during 1 year in the United States, was due to ageism [38]. Thus, reducing ageism could not only improve the health of older persons, but it could also be cost-effective.

Global efforts must be concerted, strategic and sustained to effectively combat ageism. One of the four action areas of the United Nations (UN) Decade of Healthy Ageing (2021–2030) [1] is combating ageism, aligned with the UN Agenda 2030 on Sustainable Development [51] and the Sustainable Development Goals. It is the second action plan of the WHO *Global strategy on ageing and health* (2016–2030) [52].

The evidence examined in the WHO report indicates that three strategies are effective to combat ageism: policy and law, education, and intergenerational contact interventions. Policy and law can address age-based discrimination and inequality

and protect human rights. Educational interventions across all levels of education can contribute to changing misconceptions, providing accurate information, and challenging stereotypes. Intergenerational contact interventions are particularly effective in reducing ageism against older persons and may also help combat ageism against younger people.

PEACE (Positive Education about Ageing and Contact Experiences) is an integrative theoretical model proposed for reducing ageism towards older adults and promoting intergenerational peace [53]. Its key dimensions are (1) education about ageing and older adulthood at all education levels, including positive role models of older adults; and (2) positive contact experiences with older adults that are individualised, cooperative, and that promote mutually valuable intergenerational contact. These two key elements have the potential to be interconnected and work together to reduce negative stereotypes, ageing anxiety, prejudice, and discrimination associated with older persons and ageing [53].

The positive impact of educational and intergenerational contact strategies for reducing ageism identified in the WHO report and the PEACE model has already gathered a growing body of literature. A systematic review and meta-analysis evaluated experimental and quasi-experimental studies on ageism to examine the relative effects of different interventions: education, intergenerational contact, and a combination of both to reduce ageism among youths and adults [54]. The analysis focused on several outcome measures, including attitudes towards ageing, knowledge about ageing, comfort with older adults, anxiety regarding one's own ageing, and working with older adults.

The overall results indicate that those interventions significantly lowered self-reported levels of ageism among participants versus control groups, and the size of these proportional reductions was broadly consistent across the intervention types. This result suggests that education, intergenerational contact, and combined programmes support broadly generalisable benefits. Moreover, in the meta-analysis, interventions combining education and intergenerational contact were associated with larger effects on attitudes, suggesting that this type of intervention can be more effective for combating negative attitudes towards ageing. This study also reveals that research examining the effect of ageism interventions among older persons is still lacking, which is critical given the robust evidence identifying a high prevalence of internalised ageism in this population and its damaging effects [54].

More recent and interesting examples of strategies to combat ageism can be found in education aimed at preparing future professionals to work with the ageing population. This is of paramount importance given the trend of increasing ageism over time among healthcare professionals.

For instance, educational interventions with undergraduate students to promote a more positive understanding of ageing [55, 56] and intergenerational contact programmes exposing undergraduate students to older adults in retirement villages [57], first-year medical students connecting with older persons through phone and video calls [58], and fourth-year medical students conducting life-story interviews with older patients for reducing age bias and promoting empathy [59]. Overall, these interventions provide encouraging results, indicating a reduction in ageist attitudes and an increased positive perception of students regarding older adults [60]. Positive quality of contact between younger and older people has already been identified as a protective determinant of ageism in a systematic review [31].

The WHO *Global Report on Ageism* [17] provides three recommendations for concrete actions that all stakeholders can take to combat ageism. First, investing in effective

strategies to prevent and respond to ageism. Second, funding and expanding research to better understand ageism and how to address it, although evidence has grown considerably in the last decade. Still, it would be important to reach a broader and deeper understanding of which age stereotypes cause more impact and to identify the domains in which individuals and groups are most vulnerable to them. Further research on the intersectionality of ageism and other 'isms', such as sexism and racism, will also have important implications for addressing and acting against ageism and other forms of stereotypes, prejudice and discrimination [17]. Thus, intervening to reduce ageism and its harmful impact implies gathering more knowledge and insights on the factors contributing to or determining its genesis and persistence in our societies [31].

The WHO report also recommends initiating a movement to change the narrative surrounding age and ageing. This involves deconstructing the harmful narrative of loss, decline, and disengagement and replacing it with a narrative that highlights opportunities and challenges [21, 61]. This approach aims to explore the potential that old age offers while also recognising the increasing diversity within the ageing population. Aligned with the fundamental pillars of active ageing, a new narrative on ageing is essential to highlight the choices and opportunities available to individuals while also acknowledging the challenges that come with growing older [61]. This includes changing negative messages in public debates and media about older people and promoting workplace-based health and wellness programmes for middle-aged and older persons. These programmes can serve as an excellent context for sharing relevant information on healthy lifestyles and successful ageing.

5. Conclusions

The potential for longer life spans is a significant achievement of civilisation, presenting great opportunities for overall human development. However, living longer does not always guarantee an active ageing experience and quality of life in the later years. To address the first research question guiding this literature review, findings demonstrate that ageism is a complex phenomenon, deeply rooted in modern societies. It encompasses stereotypes, prejudice, and discrimination, affecting billions of older adults worldwide. Ageism can manifest at micro, meso, and macro levels, and the resulting stereotypes integrate both positive and negative traits; however, negative traits, such as illness and dependence, are socially emphasised. Emotional responses like pity and sympathy, associated with benevolent forms of prejudice, are frequently linked to these stereotypes.

Following the second research question, findings demonstrate that ageism negatively impacts the health outcomes of older persons and is associated with individual and structural sources of discrimination and prejudice. The former, mostly related to negative self-perceptions of ageing, can impact health outcomes such as physical and mental illness, adoption of risky health behaviours, and poor social relationships. On the structural level, negative health outcomes of older people are related to factors such as denied access to healthcare and exclusion from clinical trials. However, global health strategies have not yet considered ageism as a modifiable risk factor [54]. Nonetheless, this situation is changing, and positive steps have been taken as the WHO has identified reducing ageism as a key target for improving healthy and active ageing [14].

To address the last research question guiding this review, findings show that combating ageism effectively requires both individual and social change, along with

sustained and coordinated action from various sectors and stakeholders. In line with WHO recommendations, key actions to address ageist phenomena should cover three main areas: policy, research, and practice.

Both younger and older individuals frequently hold age-based stereotypes without recognising their problematic nature. The first step should be to raise awareness about age stereotypes and their dangerous effects, and to uncover the widely shared myths that reinforce the notion that old age is a burden for society and give little recognition to the past or current contributions of older people.

Campaigns to combat ageism will necessarily need to consider factors spanning different levels and domains and act as a globally concerted strategy to be successful. Distinguishing between individual and societal ageism is crucial, as interventions will vary depending on whether they target internal age stereotypes or policies and institutional manifestations of ageism.

Changing stereotypes is essential; rethinking practices and institutional norms or policies that place older people in positions of inequity or jeopardy. It is important to promote contact and solidarity between generations while combating discourses that reinforce intergenerational conflicts, such as the notion of ‘grey plague’. At the same time, national and international policies should foster and emphasise the involvement of people of all generations in different areas and fields of action, as well as the advantages of interdependencies between different ages.

In the healthcare sector, it is vital to strengthen the awareness and critical thinking of actors and health systems regarding the manifestations of ageism that occur in these contexts to reinforce the equity and quality of services provided to people of all ages.

Table 2 outlines the previously mentioned initiatives, focusing on policy, research, and practice, aimed at addressing ageism at both the individual and societal/institutional levels.

Domains	Actions
Policy	• Developing or reinforcing international and national legislation focused on age discrimination in different sectors, such as healthcare systems and healthcare services. • Implementing national and international campaigns aimed at raising awareness of age-based stereotypes and their detrimental effects. • Formulating policies that promote intergenerational collaboration and solidarity.
Research	• Expanding research on factors that contribute to or determine the genesis and persistence of ageism. • Examining the effectiveness of interventions aimed at changing both individual and societal age stereotypes. • Exploring specific strategies that address internal biases versus institutional manifestations of ageism. • Examining the effect of interventions addressing the risks of internalised ageism in self-perceptions of older people.
Practice	• Promoting educational programmes in the community targeting both younger and older individuals to enhance awareness about the nature and consequences of ageism. • Establishing collaborative initiatives that promote intergenerational contact to highlight the strengths and capabilities of people in different age groups. • Integrating content about ageist stereotypes, prejudice and discrimination into the curricula of healthcare education.

Table 2.
Actions to combat ageism at the individual and societal levels.

This literature review provides a comprehensive examination of ageism and its impact on the health outcomes of older adults. It presents a framework for understanding key concepts and processes related to ageist bias. The review explores a wide range of research findings from different continents, highlighting the pervasive nature of ageism and its implications for individuals and society.

Due to its objectives, the scope and methodological approach of this review are more flexible than those used in other types of reviews (e.g., scoping reviews). As a result, the selection of literature may be influenced by the author's theoretical positioning, which may affect the interpretation of findings.

Moreover, the review identifies relevant factors that have produced inconclusive research results (e.g., age or years of education) and those that are contextually and/or culturally dependent (e.g., norms and legislation). This suggests the need for further research and the adoption of a more systematic approach.

I hope this work helps to improve the understanding of the factors contributing to ageism and raises awareness of its negative impact on the active ageing of older persons. Additionally, it may contribute to developing actions that combat ageist manifestations at both the individual and societal levels.

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Community-Based Care for Older People in Indonesia: Case Study of Special Region of Yogyakarta

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Abstract

As Indonesia enters an era of population aging, the government has begun developing national strategies for long-term older care. Simultaneously, various types of community-based older care have already emerged at the local level. This chapter explores how community-based older care has evolved, identifying key actors involved, as well as the benefits and challenges of these initiatives. Additionally, it focuses on the Special Region of Yogyakarta, which has the highest percentage of older population in Indonesia, to examine specific issues related to older care. Drawing on a case study from this province, the chapter aims to propose a model for community-based older care.

Keywords: population aging, older person, older care, community-based, Special Region of Yogyakarta

1. Introduction

This study seeks to explore community-based older care in Indonesia. Through a case study conducted in the Special Region of Yogyakarta, the research aims to identify the characteristics inherent in community-based older people. The discourse surrounding this topic is crucial, as it is anticipated to address the deficiencies present in the current care system. When considering the diamond care framework, it becomes evident that older care in Indonesia does not yet adequately ensure a high quality of life for older adults. The “diamond care” model posits that four essential pillars—namely, the state, the private sector, society, and the family—collectively underpin the well-being of older adults. These pillars are represented as symmetrically interconnected, signifying that each plays a vital and complementary role in supporting the older population [1]. The government, as part of its commitment to older care, operates within a constrained budget, which necessitates a focus on impoverished and dependent older adults. This prioritization is evident in the financial assistance provided to high-risk and vulnerable older adults, exemplified by initiatives such as the Family Hope Program, social welfare support, and the establishment of nursing homes for neglected individuals. However, the Indonesian government faces

significant challenges in delivering sufficient care to the entire older population. The management of nursing homes is particularly problematic as the government struggles to address the needs of a vast and growing older population. Additionally, there is the ongoing challenge of fostering a positive perception of nursing homes so that families seeking care for their older adult relatives are not stigmatized as “disobedient children.”

The government extends non-financial assistance to older adults, as evidenced by policies specifically designed for this age group. The welfare policy for older individuals constitutes a fundamental principle in the provision of older care, encompassing both support and social protection measures. Additionally, the national health insurance system policy governs the allocation of health insurance for retirees within the formal employment sector. A recent development in this area is Presidential Regulation Number 88 of 2021, which outlines the government’s strategic approach to enhancing the welfare of older citizens. Nevertheless, despite the implementation of various initiatives and policies, the challenge of long-term care persists.

Meanwhile, as the other components of diamond care, the private sector, which provides quality care services, cannot be reached by all families because it is expensive. The other component, families who play a significant role in providing care, are starting to experience a decline in their functions. Large families have turned into small families, along with the success of birth control programs through family planning. The average number of births in women of childbearing age continues to decline, resulting in fewer average family members from 5–7 to 3–4 family members from 1970 to 2020 [2]. In Indonesia, communities with close-knit family systems widely believe that caring for older parents is the responsibility of children and other members of the nuclear family. So, the change in family structure will reduce the potential for older adult care providers in the family. Meanwhile, parents do not fully consider children as investments in providing care for their old age; on the contrary, parents are progressing in thinking and providing opportunities for their children to work and have a career by leaving their parents at their place of birth. Apart from that, facts also show that the Indonesian population is increasingly mobile so that children leave their parents more quickly. Therefore, more children move away from their parents and migrate to different regions for education or job reasons, affecting the older people who have to live alone or with spouses.

Older people, especially women who are forced to live alone and do not have a partner, are economically vulnerable as they often lack household members to support their financial needs. According to Ref. [3], only 41.04% of older women are employed, compared to 67.87% of older men. This means that approximately 60% of older women are unemployed, leaving them without a reliable source of income and further exacerbating their economic vulnerability. This issue becomes even more pronounced when older adults live alone. According to Ref. [3], 10.85% of older women lived alone in 2023, compared to only 2.98% of older men. This living arrangement is closely linked to marital status, as older women are more likely to be widowed or divorced than their male counterparts. Additionally, older men are more inclined to remarry after losing a partner, whether due to death or divorce, whereas older women tend to remain single after the loss of a partner.

As a person ages, they generally become less productive and experience a decline in, or even a loss of income. This situation creates vulnerability to various risks and shocks, particularly of a socioeconomic nature [4]. According to Bloom et al. [5], older people are vulnerable for three primary reasons: (i) they are not economically productive, (ii) they face a higher risk of health issues, and (iii) they often require

assistance from caregivers. However, the degree of vulnerability differs among individuals.

With an increasing older population, Indonesia is faced with the inevitable challenge of long-term care for the vulnerable older population. The percentage of older people experiencing health complaints in 2023 was 41.49%. Health complaints include health or mental disorders, both due to disorders/diseases that are often experienced, such as heat, cough, runny nose, diarrhea, headaches, or due to acute illness, illness due to accidents, crime, or other health complaints. The morbidity rate among older people refers to the occurrence of health complaints that disrupt their daily activities or routines. This rate serves as a key indicator for assessing the overall health status of the population [6]. A lower morbidity rate indicates a better level of health within the population. In 2019, the morbidity rate for older people will be 26.2%, decreasing to 19.72% in 2023. This shows that health trends are improving [3].

Many older people in Indonesia would like to be cared for by their spouses or children if they need care in the future. Therefore, families, especially spouses and children, need skills and abilities in caring for older adults. According to the BPS data, 34.68% of older people live with 3 generations in the family. Older people live with their children and grandchildren. Older adults may also live with their parents and children in the same household. This shows that the family plays an important role for older people, including the role of caring for them. Family-based care is the main approach to caring for older people in need of long-term care. However, conditions that occur, such as changes in family structure to small families and children migrating, bring their own challenges for older adult care. Consequently, the critical question arises: Who will take responsibility for caring for older people, especially when they lose their closest support systems? In this condition, community-based care could fill the space without the government, private sector, or family providing care for older people.

In various articles, community-based care refers to the type of service provision for the older, namely those with functional limitations or health problems and partially or wholly dependent on others. Some said the aim was to keep older adults active and comfortable living in their communities. This care also emphasizes the importance of creating a conducive environment for creating healthy, active, independent older adults within community units or village and regional boundaries. In terms of the care provided, this type offers care to support daily activities such as bathing, washing hair, cutting nails, eating, drinking, and changing clothes. Apart from that, there is also treatment to strengthen mental health through peer interaction, sharing stories, recreation, and spiritual activities. This type of care also provides health care through physical checks and advice about health if necessary.

Community-based older care is sometimes associated with providing informal care. The relationship can be seen from the decreasing intensity and frequency of providing informal care. Caregivers will visit the home to carry out health checks, record health developments, and provide follow-up notes that need to be carried out by family members or caregivers. They are professional, skilled, and certified nurses with education in classes and schools. This skill is handy for caring for older adults who have health problems and for developing their self-confidence. The presence of a caregiver has proven to be effective in improving the health status of the older person, while the role of informal care is decreasing. This happens because handling the older adults by skilled personnel automatically reduces informal involvement, namely the family. However, community-based older care and informal care still show a mixed pattern in Indonesia. Several studies highlight that community-based care often

involves a mix of both professional and non-professional caregivers. This is evident in initiatives such as Integrated Services for Older People (known as Posyandu Lansia), older adult groups, age-friendly schools, and age-friendly neighborhoods, where care is provided collaboratively by community members, families, trained cadres, and professional health workers.

The Indonesian government has initiated the development of community-based care for older adults, aligning with Presidential Regulation Number 88 of 2021. This regulation focuses on enhancing the well-being of older adults and providing integrated services. In 2023–2024, the government began piloting integrated care for older adults, a plan introduced in 2022 [7]. The primary strategy of this initiative is to strengthen and empower communities to take an active role in providing care. Community-based care involves services delivered collaboratively by the government, social organizations, and local communities. This approach serves as a significant breakthrough, complementing existing policies such as social security for active and productive older adults—those who can perform daily physical activities—and social assistance for older adults who are dependent on others.

Examining existing community-based care concepts, including those developed by the Indonesian government, provides an opportunity to explore the unique characteristics of community-based care in Indonesia. This is particularly important given Indonesia's distinct socioeconomic and cultural context, which differs significantly from that of developed countries in Asia and Europe—often used as benchmarks for developing such care systems. Countries like Japan, Singapore, Hong Kong, and China in Asia, as well as Sweden, Denmark, England, and Belgium in Europe, are characterized by strong economic capabilities. These nations allocate substantial budgets for welfare, with spending on social security often exceeding 5% of their GDP and, in some cases, reaching up to 30%. Socially, these countries exhibit more flexible and looser family structures in supporting older adult care compared to Indonesia. In contrast, Indonesian culture emphasizes the family as the primary provider of care for older adults. According to Chang, as cited by Hasanbasri [8], parents in Indonesia often expect at least one child—typically a daughter—to live with them and provide care in their old age. This cultural norm is deeply rooted and reinforced by strong societal values that emphasize filial piety, respect, and obedience toward parents.

Community-based care is not a new phenomenon, as several studies have recorded community involvement in different cases, such as maternal care [9], HIV/AIDS care [10], and long-term older care [11]. The provision of care to these vulnerable groups aims to fill the gap between the limited government budgets and the inability to access private services. Government programs prioritize certain groups considered most at risk. However, it should be emphasized that people are in different situations and have different interests. This is especially true for the older adults who require home care, as their needs and circumstances can vary greatly. Home care is not only necessary for those with chronic illnesses but also for healthy older adults and those who live alone. Therefore, the model of providing centralized older care through senior living, home health care, and community health care, whether organized by the government or the private sector, may not align with the needs of the community. Furthermore, a study [12] has demonstrated that community-based older care promotes the development of active aging. Older care in senior-friendly communities can encourage social and economic engagement. This means that community-based older care plays a pivotal role in achieving active aging by keeping older people healthy so that they can participate in social and economic activities.

This study presents a distinct perspective. In line with Lehning et al. [12], it assumes that community-based care evolves dynamically. As a result, different typologies emerge. Previous research has addressed the factors of demographic change, social context, and political commitment. However, there may be other unidentified factors that contribute to the development of community-based home care beyond demographic, social, and political factors [13]. Lehning et al. [12] argue for a broader perspective on the actors involved in community-based older care. According to their study, these actors are motivated by various factors, including market needs, policy mandates, and government funding. Coulter et al. [14] identified four essential components for the development of community care, comprising community, data accuracy, teamwork, and capacity and resources. While their findings provide a foundation for community care development, they do not explain how these components are interconnected. McDonough and Davitt [15] suggested that leaders play a crucial role in affecting the delivery of older care in the community.

This study analyzes community-based older adult care by looking at the characteristics, namely the formation process and the actors involved. This identification provides essential information for the development of a community-based care model. As for the data, this study uses primary data from interviews with actors involved in implementing community-based care. Secondary data is also used in this study to provide an overview of the situation of older people, care policies, and support for the older people. Yogyakarta Special Region is one of Indonesia's provinces, with four districts and one city. In each district/city area, the study takes one case to be studied so that the model built is expected to be able to describe the conditions of community-based care in the Special Region of Yogyakarta. This study adopts a descriptive design to analyze the characteristic of community-based care for older people. Descriptive analysis allows for a systematic examination of patterns, and relationship within the collected data. This study uses primary data collected using in-depth interview to informants who had association with the community-based care for older people, including the leader, the cadres as care giver, and local government. This study also uses secondary data by utilizing existing datasets, older people health reports, and statistics for older people. Primary and secondary data are presented to describe the characteristics of community-based older care. Specifically, regarding the role of actors, this study uses network analysis to identify patterns and relationships between actors. Meanwhile, to build a community-based care model, this study combines the results of previous study reviews and findings in the field. This allows the study to obtain a genuine model based on the sociocultural characteristics that exist in the case of community-based care in the Special Region of Yogyakarta.

This research has several limitations. First, it remains a case study conducted in only five regions within the province of Yogyakarta and serves as an initial project. As a result, the model developed is not yet stable and requires further testing in other locations for validation and refinement. Second, the study was conducted in a region where cultural and familial ties remain strong. Therefore, if replicated in areas with different population characteristics, the findings may not be entirely consistent.

2. Demographic situation and demographic transition in Indonesia

Indonesia is on the threshold of an aging population [16], and the number of older people is increasing. According to the 2020 population projection result from Badan Pusat Statistik (BPS-Statistics Indonesia), the number of people aged 60 years

and above is 26.8 million, or about 9.93% of the total population. This percentage is expected to increase further, reaching 72 million older people, or about 21.9%, by 2050.

Indonesia’s population is aging due to structural shifts driven by a declining fertility rate and rising life expectancy, leading to a growing proportion of older people. The Total Fertility Rate (TFR) represents the average number of children a woman is expected to have during her reproductive years (typically ages 15–49), assuming she experiences the prevailing age-specific fertility rates throughout her life. Over the past 50 years, Indonesia’s TFR has shown a marked decline, reflecting a significant shift in reproductive patterns (**Figure 1**). The 1971 population census recorded a TFR of 5.61, indicating that, on average, women have 5–6 children during their childbearing years.

The 2020 Population Census shows Indonesia’s TFR had dropped to 2.18, nearly one-third of the 1971 figure. This dramatic decline highlights substantial changes in fertility behavior, likely influenced by improvements in education, healthcare, and access to family planning. A TFR of 2.18 suggests that, on average, women in 2020 are expected to have significantly fewer children compared to women in 1971, marking a critical demographic transformation.

Figure 2 illustrates the steady increase in life expectancy in Indonesia from 1990 to 2025, reflecting significant improvements in public health and living conditions over the years. In 1990, life expectancy was 64.40 years, and it rose gradually to 66.20 years by 2000, marking early progress in healthcare access and disease prevention. The growth accelerated between 2000 and 2010, with life expectancy reaching 69.43 years, likely due to advancements in healthcare infrastructure, vaccination programs, and maternal and child health initiatives. From 2010 to 2025, life expectancy continued its upward trend, reaching 72.13 years, driven by better management of chronic diseases and broader access to healthcare services. Overall, this consistent rise demonstrates Indonesia’s sustained efforts to improve the health and well-being of its population over the last three decades.

The high percentage of older women is closely related to the higher life expectancy of women compared to men and also shows the phenomenon of the feminization of aging, where there are more women than men in old age. The feminization of aging is the phenomenon whereby “a greater proportion of women than men among the older population, especially at older ages” [19].

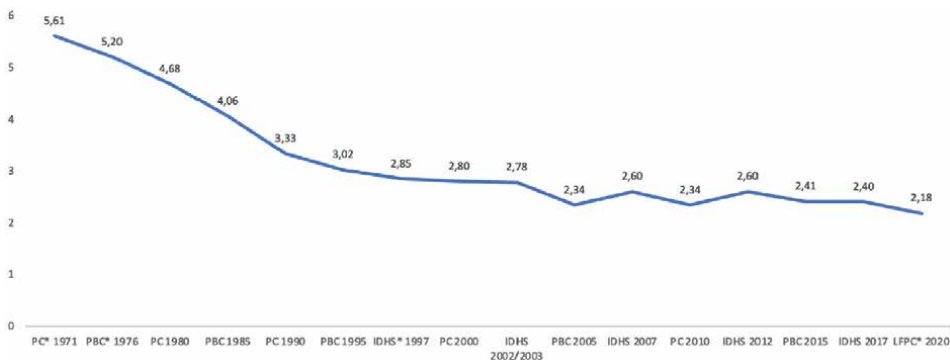


Figure 1. Trend of total fertility rate (TFR) in Indonesia based on the 1971–2020 population censuses. Note *PC: Population Census, PBC: Population Survey between Censuses, IDHS: Indonesia Demographic and Health Survey, LFPC: Long Form Population Census. Source: Statistics Indonesia [2].

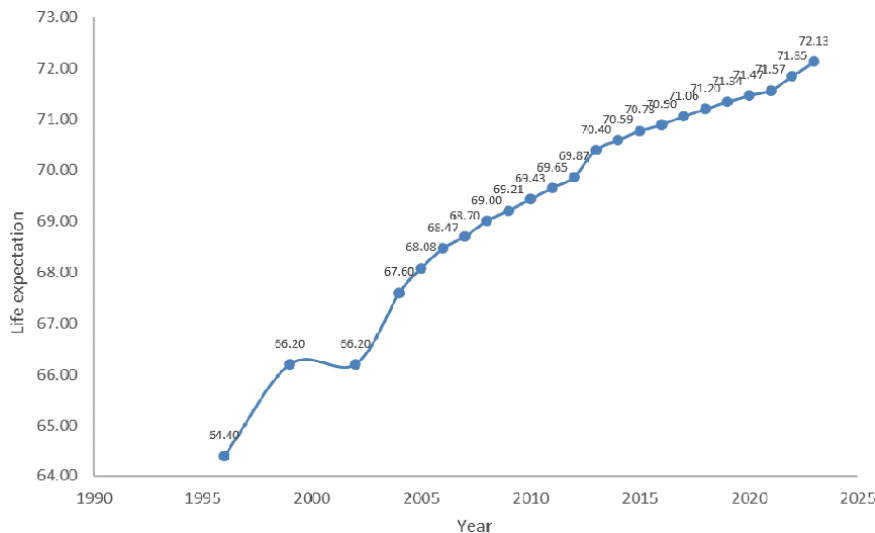


Figure 2.
Trend of life expectancy at birth in Indonesia based on 1971–2020 population censuses. Source: Own elaboration on the basis of Refs. [17, 18].

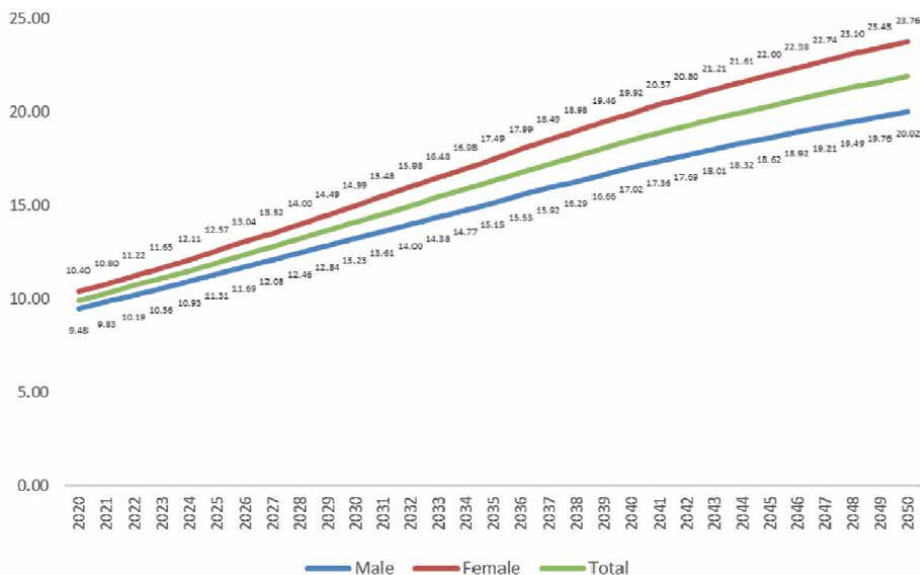


Figure 3.
The percentage of the population aged 60 years and above by gender based on population projection in Indonesia 2020–2050. Source: Own elaboration on the basis of Ref. [2].

Figure 3 illustrates the projected growth of Indonesia's older adult population (aged 60 years and above) by gender from 2020 to 2050, highlighting both an overall increase in percentage and a persistent gender disparity. In 2020, the older men population was recorded at 9.48%, while the women population was significantly higher at 10.40%.

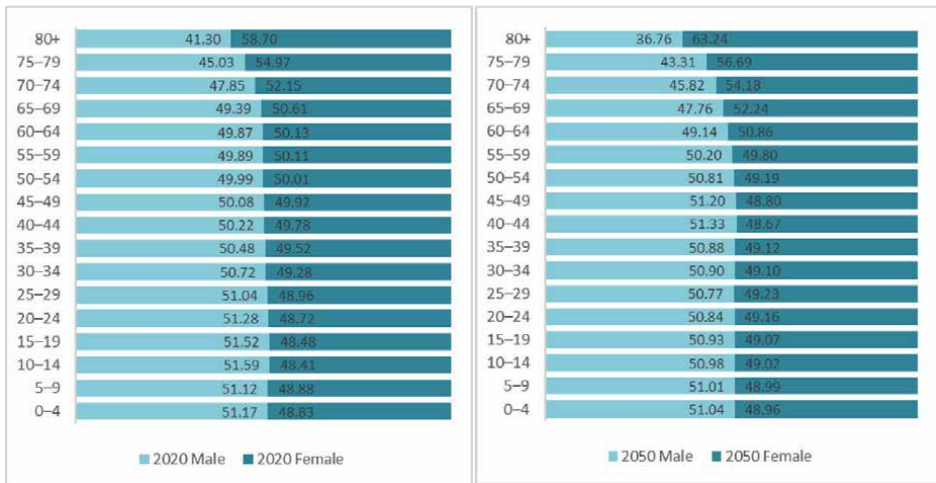


Figure 4.
The proportion of population in Indonesia by age group and sex, 2020 and 2050. Source: Own elaboration on the basis of Ref. [2].

The two figures in **Figure 4** highlight the distribution of men and women across different age groups in 2020 and 2050, revealing key trends in population aging and gender differences. In 2020, the gender distribution is almost balanced across younger and middle age groups (0–59), with men and women each comprising approximately 50% of the population. However, in older age groups (60+), the proportion of women increases significantly, particularly in the 80+ age group, where women make up 58.70% compared to 41.30% for men. This reflects the general trend of higher female life expectancy. By 2050, a similar pattern persists, with women continuing to outnumber men in older age groups, although the gender gap slightly narrows. For example, in the 80+ age group, the difference reduces from 17.4% in 2020 to 14.48% in 2050. Across younger and middle age groups, the gender ratio remains stable between the 2 years. Overall, these figures illustrate the ongoing trend of population aging, with older age groups comprising a larger share of the population in 2050. Women consistently dominate the older age brackets due to their longer life expectancy, although the gap between genders is expected to decrease slightly. These findings underscore the importance of addressing the challenges associated with an aging population, particularly through gender-sensitive policies in healthcare, pensions, and elder care.

Population aging varies across provinces, as illustrated in **Table 1**. While some provinces have experienced substantial population aging, others still have a relatively small proportion of older people (**Table 1**). The table highlights the distribution of Indonesia's older population across provinces, categorized by gender. Nationally, the older person accounts for an average of 9.93%, with women (10.40%) slightly outnumbering men (9.48%). Special Region of Yogyakarta is the province with the highest proportion of older people, 17.04% (14.81% male and 17.04% female), reflecting advanced demographic aging. Other provinces with significantly older populations include Central Java (12.54%), East Java (12.21%), and Bali (12.15%), likely due to lower fertility rates and higher life expectancy in these regions. In contrast, provinces like Papua (6.30%), West Papua (6.90%), and North Maluku (6.94%) have the lowest

Province	Percentage of older people		
	Male	Female	Total
Aceh	7.29	8.89	8.08
South Sumatera	7.60	9.32	8.46
West Sumatera	9.36	11.58	10.46
Riau	6.59	6.46	6.53
Jambi	7.90	7.91	7.91
South Sumatera	8.48	9.04	8.75
Bengkulu	8.19	8.47	8.32
Lampung	9.72	9.49	9.61
Bangka Belitung Island	8.04	8.68	8.35
Riau Island	6.19	5.94	6.07
DKI Jakarta	8.55	9.53	9.03
West Java	9.05	9.45	9.25
Central Java	11.61	12.84	12.22
Special Region of Yogyakarta	14.81	17.04	15.94
East Java	12.25	13.88	13.07
Banten	7.04	7.26	7.15
Bali	12.23	13.54	12.88
West Nusa Tenggara	7.95	8.47	8.21
East Nusa Tenggara	8.81	9.26	9.04
West Kalimantan	7.88	8.38	8.12
Central Kalimantan	7.46	7.35	7.41
South Kalimantan	7.57	8.56	8.06
East Kalimantan	7.64	7.28	7.47
North Kalimantan	7.17	6.76	6.97
North Sulawesi	11.58	12.83	12.19
Central Sulawesi	8.15	8.26	8.20
South Sulawesi	9.27	11.13	10.20
Southeast Sulawesi	7.26	7.76	7.51
Gorontalo	8.29	9.40	8.84
West Sulawesi	7.24	7.93	7.58
Maluku	8.17	8.76	8.46
North Maluku	6.91	6.94	6.93
West Papua	5.96	5.66	5.82
Papua	6.46	5.35	5.94
Indonesia	9.48	10.40	9.93

Source: 2020 Population Census, own elaboration on the basis of Refs. [20, 21].

Table 1.
Percentage of older people in Indonesia by province, 2020.

older people proportions, aligning with younger population structures and higher fertility rates.

Gender disparities are evident, with older women consistently outnumbering men across nearly all provinces, a trend attributed to higher female life expectancy. Geographically, provinces on Java Island, such as Special Region of Yogyakarta, Central Java, and East Java, exhibit higher levels of aging.

3. National strategies for older care in Indonesia

A number of actions must be undertaken to prepare for the anticipated rise in the older population each year. These actions include enhancing both the quality and availability of social service programs aimed at older people, which serve to safeguard them against various aging-related risks such as illness, neglect, and loneliness. Additionally, it is essential to provide certified social nurses and to extend social care to household members, including children, grandchildren, siblings, and domestic helpers. Furthermore, it is important to strengthen the family's role in the care of older adults.

Various initiatives are underway to enhance public services via the Indonesian Integrated Services for Older People (known as Posyandu Lansia), which offers assistance to the elderly based on their developmental and age-related needs. These efforts include bolstering national sustainability campaigns across all sectors, amplifying the involvement of both the community and the private sector in addressing the needs of the older, creating job opportunities for potential older adults, and improving the overall quality of social welfare from an early age to ensure that individuals do not become a burden to their families or society in their later years.

With increasing life expectancy, individuals face numerous challenges related to health and quality of life. Non-Communicable Diseases (NCDs) are emerging as a significant threat and are expected to remain so in the long run. According to WHO estimates from 2018, NCDs are responsible for 41 million deaths annually, accounting for 71% of all global fatalities. Cardiovascular diseases, cancers, respiratory diseases, and diabetes account for over 80% of all premature NCD deaths [22]. These diseases are also linked with disability, dependency, and long-term care needs [23]. Older people will face numerous risks in later life, and those in developing countries are likely to face more challenges than those in developed countries [24].

The rising prevalence of non-communicable diseases necessitates long-term care, particularly for the older population. As older individuals experience deteriorating health and declining bodily functions, they become more susceptible to these diseases. Consequently, the aging population amplifies the demand for long-term care services. Who bears the responsibility for addressing these long-term care requirements?

Historically, the care requirements of older individuals have largely been met within extended family units, where cohabitation was common and often depended on female relatives, including older women, to deliver care. Nevertheless, in recent decades, there has been a notable decline in intergenerational co-residence in more developed nations. Currently, a significant number of older adults in these countries reside independently, as part of a couple, or alongside a couple and their unmarried offspring. These changes in living situations have resulted in an increasing need for long-term care services [25].

Older women, on average, have a longer lifespan than men; however, they often face a greater likelihood of experiencing poor health in their later years, which increases their need for long-term care services. Furthermore, women typically exhibit greater frailty and encounter more severe health issues as they approach the end of life in comparison to men [26]. As a result, a higher proportion of long-term care recipients are older women than older men.

Certain aspects of this information prompt additional inquiries. In the absence of designated individuals accountable for the long-term care of the older adults, who will assume this responsibility? A reassessment of long-term care strategies has the potential to improve the quality of life for both present older individuals and their caregivers while also serving the needs of future generations. Countries ought to embrace a more equitable, person-centered approach to care that involves collaboration among governments, businesses, civil society, communities, and households to address the requirements of both formal and informal caregiving [25].

Human rights instruments generally do not require states to provide healthcare services to every individual in need. Instead, states are expected to make every effort, within their available resources, to ensure equal access to healthcare for all [27].

Indonesia, classified as a developing country, faces significant challenges in managing the implications of an aging population [16]. According to data from the Statistics Indonesia, only a small proportion of older Indonesians have access to pension insurance, with just 9.43% of older adult households projected to have pension coverage in 2023 [3]. Additionally, poverty among older people in Indonesia is reportedly higher than the national poverty rate [28]. These circumstances suggest that the government has not prioritized the implementation of long-term care programs for older adults, indicating a substantial need for further development in this area. Additionally, cultural and religious values remain deeply ingrained in Indonesian society, placing the responsibility of older care primarily on children and immediate family members.

The impending challenge lies in the fact that as the demographic of older individuals expands, the demand for long-term care services will concurrently rise. However, governmental attention to this issue has been insufficient. Consequently, there is a pressing requirement for alternative providers of long-term care for the older people. Community-based long-term care models have already gained significant recognition in nations that are at the forefront of aging, such as Japan, which boasts the highest proportion of older adults globally.

To achieve healthy aging, older adults may require long-term care services to address their daily needs, preserve functional abilities, and enhance overall well-being. Long-term care includes a wide variety of personal, social, and medical support designed to help individuals experiencing, or at risk of, significant declines in intrinsic capacity live in alignment with their fundamental rights and dignity. This care can be provided informally by family members or formally by trained caregivers in home or institutional settings. Regardless of the approach, all types of long-term care should be part of an integrated service continuum that prioritizes person-centered care [29].

Community-Based Older Persons Care (CBOC) is a care model that delivers integrated support and services to older adults within their local communities, as opposed to institutional settings. This approach is especially significant in aging countries like Japan, which has one of the world's highest percentages of older adults. The CBOC model seeks to enable older individuals to maintain their independence while accessing health and social services customized to their specific needs [30].

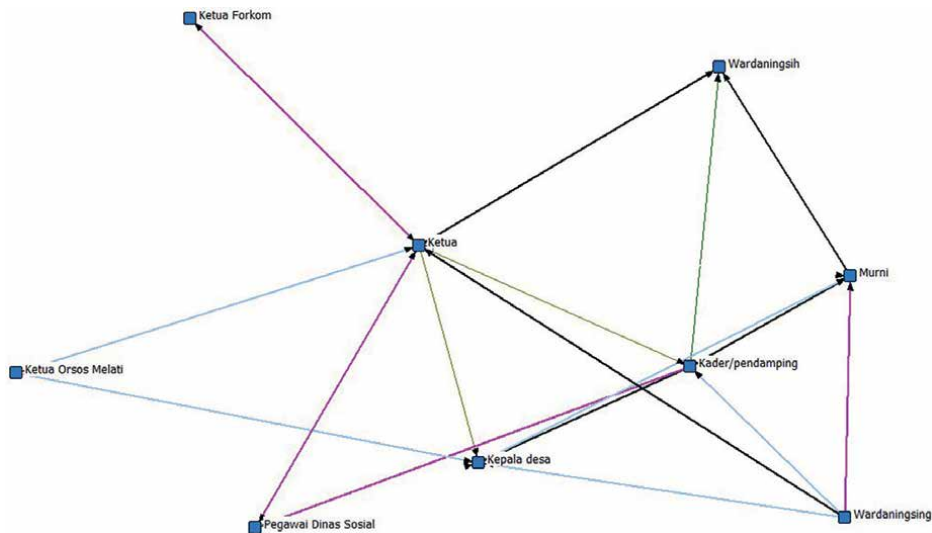


Figure 5.
Network among actors in community care for older people in Kulon Progo. Source: Own elaboration on the basis of primary data.

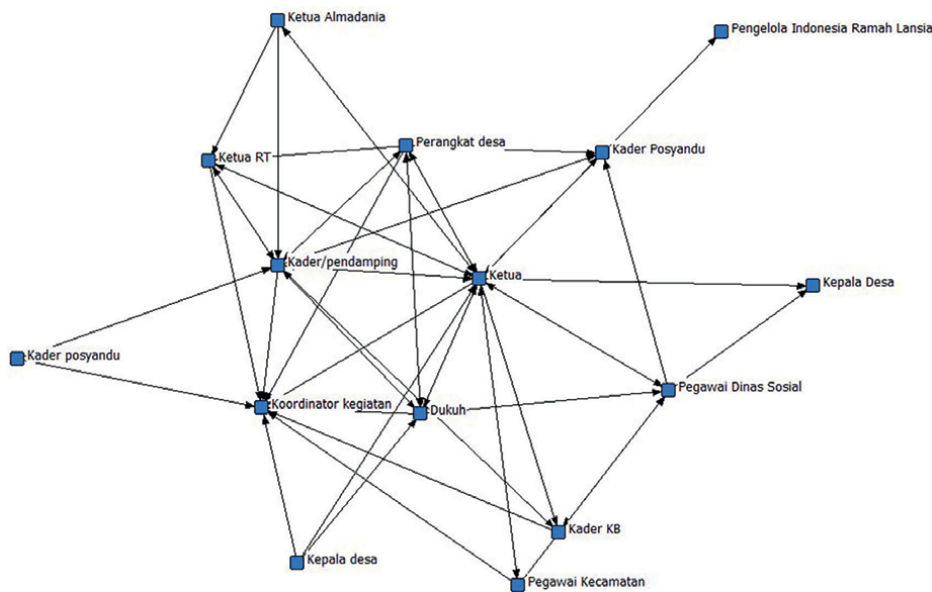


Figure 6.
Network among actors in community care for older people in Bantul. Source: Own elaboration on the basis of primary data.

The community-based integrated care system brings together a community's healthcare resources by coordinating hospital outpatient and inpatient services, welfare facilities, home-visit care, and even neighborhood-based mutual support activities (**Figures 5–9**). Central to this system is home-based care, as policymakers

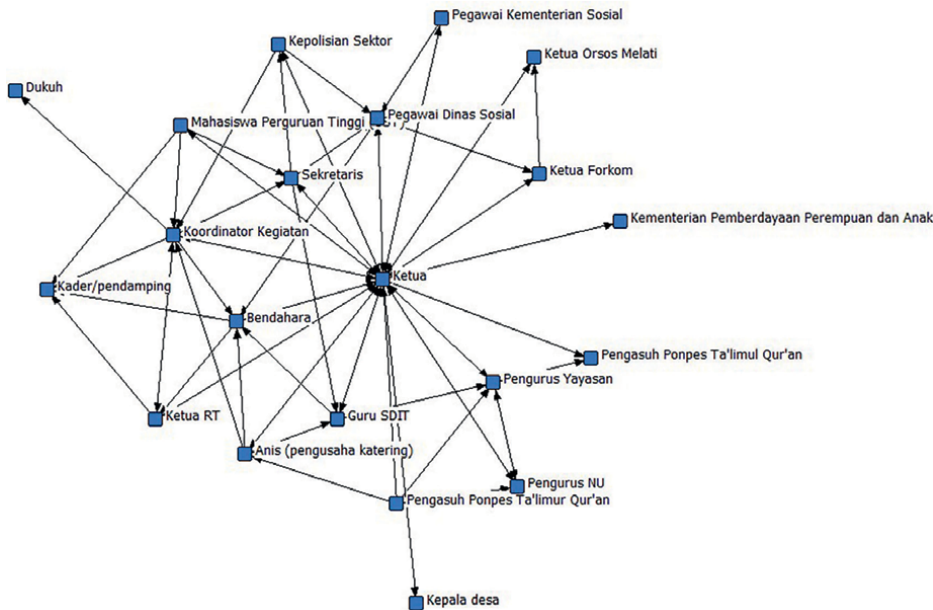


Figure 7.
 Network among actors in community care for older people in Gunungkidul. Source: Own elaboration on the basis of primary data.

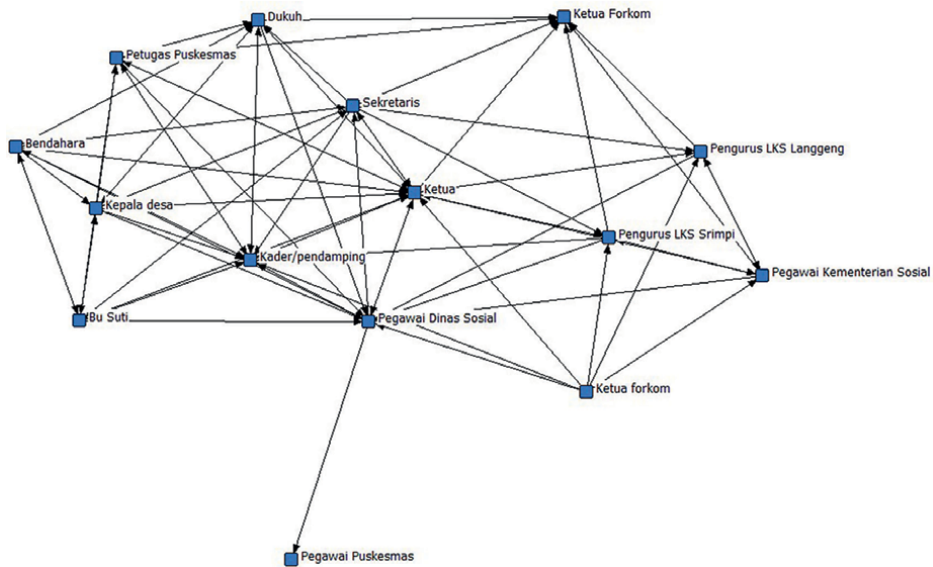


Figure 8.
 Network among actors in community care for older people in Sleman. Source: Own elaboration on the basis of primary data.

recognize that traditional facility-based care is both expensive and limited by a shortage of welfare facilities for long-term care. In this model, families, neighbors, and volunteers are encouraged to support older relatives with mild disabilities. Those with

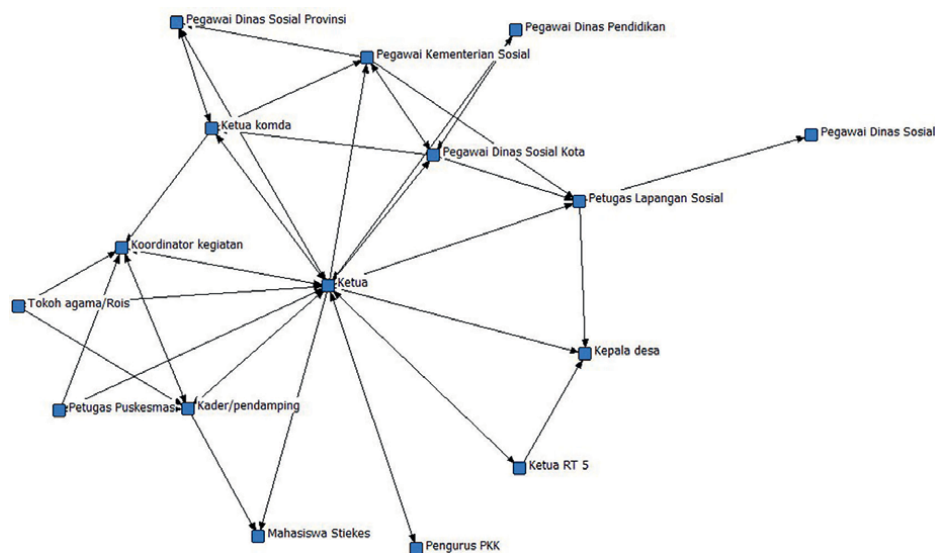


Figure 9.
Network among actors in community care for older people in Yogyakarta. Source: Own elaboration on the basis of primary data.

severe illnesses or disabilities are also encouraged to receive care at home, supported by visiting medical and welfare professionals, while relying on medical and welfare facilities only as needed [31].

The community-based integrated care system was first established in 1974 in the rural town of Mitsugi, situated in the mountainous region of Hiroshima Prefecture. This initiative was a collaborative effort between Mitsugi Hospital and the local and prefectural governments, marking the creation of Japan's first community-based integrated care system [31].

Community-based Older Persons Care (CBOC) offers several significant benefits that make it an effective approach to older care. First, it is generally more cost-effective than institutional care, as delivering services within the community reduces the financial strain on families and healthcare systems [29]. Second, CBOC enhances the quality of life for older adults by improving mental health outcomes through reduced loneliness and increased social engagement. Its person-centered approach also fosters stronger emotional connections between caregivers and care recipients [32]. Finally, CBOC provides flexibility and responsiveness, allowing care plans to be quickly adjusted to meet changing needs, making it easier to address emergencies or shifts in health status effectively [31].

Reflecting on Japan's experience with Community-Based Older Persons Care (CBOC), which has evolved significantly since the introduction of home-based long-term care services in 1973 and the establishment of the Community-Based Integrated Care Centre within the Health and Welfare Centre in 2006, there are valuable lessons for other nations. Indonesia, projected to reach its peak aging period between 2045 and 2050, can begin preparing strategies to address the growing demand for older care by drawing inspiration from Japan's successful model.

The government of Indonesia has established a range of policies and frameworks to meet the Long-Term Care (LTC) requirements of its growing older population. In response to the changing demographic trends characterized by a rising number of

senior citizens, these initiatives are designed to promote their well-being and facilitate their inclusion within the community.

The Indonesian government has established several legal and policy frameworks pertaining to long-term care for older adults, which encompass the National Strategy on Aging, Regulatory Guidelines, and Social Security Legislation. Recently, Indonesia has been drafting a multisector National Strategy on Aging, led by the National Development Planning Agency. This strategy aims to provide an integrated approach to LTC, addressing the fragmented responses across different government sectors [33]. The Minister of Social Affairs Regulation Number 19 of 2012 outlines guidelines for social services for older adults. This regulation introduces various programs, such as home care services, social rehabilitation, and family support, aimed at enhancing social welfare for older people. The National Social Security System Law enacted in 2004 requires the creation of various social security programs, such as pensions for older adults and health insurance. The primary objective of this legislation is to broaden the scope of coverage to encompass all citizens, particularly those belonging to vulnerable populations within the informal sector [34].

The Ministry of Social Affairs and the Ministry of Health have developed frameworks to deliver long-term care (LTC) within the community. This strategy emphasizes home- and community-based care as the primary method, which is essential due to the scarcity of residential care options [33]. The government acknowledges that the burden of unpaid care work frequently falls on family members, especially women. In response to this issue, the Ministry of Women's Empowerment and Child Protection has initiated the Indonesia Care Economy Roadmap for the years 2025–2045, with the objective of reforming the care economy and promoting gender equality within caregiving responsibilities.

Although these initiatives have been implemented, obstacles persist in the establishment of a comprehensive LTC system. The existing legal frameworks inadequately respond to the increasing demand for LTC services, highlighting the necessity for improved integration between health and social care systems [33]. Additionally, despite the presence of multiple social protection programs aimed at older adults, access to these resources is restricted, with only a minor fraction of older adults reaping the benefits of such schemes [4].

4. Community-based older care in Special Region of Yogyakarta

The Special Region of Yogyakarta is experiencing an advanced demographic transition characterized by a rising dependency ratio among the population aged 60 years and above. According to statistical publications, the older dependency ratio in the region has nearly doubled from 1971 to 2020. In 1971, the older dependency ratio was recorded at 13.04%, and this figure increased to 25.04% by 2020. Projections indicate that this ratio could rise to 48.4% by 2035. This trend accurately reflects the growing number of older individuals in the population.

In comparison, the lowest percentage is found in Yogyakarta City (9.1%). However, an important thing to note is that in all districts/cities, the distribution of the figures is approaching 10%, especially in Bantul, Sleman, and Yogyakarta City. The proportion of older adults approaching or even exceeding 10% is an indication that all districts/cities in Special Province of Yogyakarta are entering a phase of an old population structure. The aging population structure aligns with the increasing life expectancy. In 2020, life expectancy in Special Region of Yogyakarta was recorded

District/City	Number of population age 60 and over (000)	Number of population (000)	Percentage of population age 60 and over
Kulon Progo	78.23	435.64	17.96
Bantul	142.76	982.67	14.53
Gunungkidul	152.13	746.71	20.37
Sleman	156.49	1122.19	13.95
Yogyakarta City	54.01	374.9	14.41
Special Region of Yogyakarta	583.62	3662.11	15.94

Source: Own elaboration on the basis of Ref. [35].

Table 2.

Number of population age 60 and over in Special Region of Yogyakarta.

at 75.04 years, then increased to 75.12 in 2023. This increase has consequences for the chances of babies born to survive to the age of 75. However, genetic factors, occupational risks, and lifestyle patterns can affect the level of morbidity and mortality experienced by male and female residents. Women tend to have lower body resistance and risk of accidents than men, thus affecting the percentage of male and female older adults. As presented in **Table 2**, the percentage of older female people is higher than that of male. This pattern occurs in all districts/cities in Special Region of Yogyakarta. The general pattern that occurs shows that females are more vulnerable. They live alone (widowed), do not have a fixed income because they used to depend on their husbands, and some of them do not have old age security. Likewise, what happens to the older people in Special Region of Yogyakarta is dominated by females. They need support from various elements to ensure their welfare.

In reality, not all older adults in the Special Region of Yogyakarta have a secure life. Some older adults do not have a place to live and do not have a family, so no support system can be relied on in their old age. It is not uncommon for this to cause older adults to be neglected because they cannot meet their basic needs. The percentage of neglected older adults in the Special Province of Yogyakarta is quite diverse. The highest number of neglected older adults is found in Gunungkidul, reaching 39.7%, and the lowest in Yogyakarta City at 3.8%. The existence of neglected older adults can disrupt public order. In response, the government provides housing and care through nursing homes, such as Panti Wreda Budi Dharma, Tresna Werda, and Abiyoso. Neglected older adults can live in nursing homes provided by the government so that their basic needs can be adequately met. The life of the older people in the Special Province of Yogyakarta can also be seen from the welfare aspect.

One of them is seen in the older people who live in inadequate conditions. These older adults are categorized as poor older adults, namely older adults who live in families with monthly expenses below the average poverty line. They are vulnerable to health and social problems due to limited health services and care access. The government has tried to expand access to health and social services for the poor older people by providing health insurance and social assistance. An example is health insurance issued by Health Social Security for poor older adults with a non-contribution scheme. Of course, this program is beneficial because it can provide health insurance for the older people. However, the poverty situation experienced by the elderly also affects nutritional intake, so it is feared that it will contribute to the level of morbidity

that occurs. In other words, although the poor older people have health insurance, some limitations prevent them from achieving prosperity. In the context of the social life of the community in the Special Region of Yogyakarta, the welfare of the older people is actually related to the social system.

The people of the Special Region of Yogyakarta have a strong cultural value of helping each other and cooperating. This culture has proven to be able to solve some of the problems experienced by the community. In the documentation of the recovery after the 2006 earthquake, the 2010 eruption of Mount Merapi, and the COVID-19 pandemic, it was recorded that Special Region of Yogyakarta has strong social capital to support the survival of others. Indeed, these values will also color the lives of the older people. Namely, the community supports the lives of the older, especially low-income people. Implementing this social system will complement health insurance, social assistance, or other government programs. Thus, efforts to improve the welfare of the elderly will be more optimal due to the involvement of several actors. At the same time, the government prioritizes the older from impoverished families, namely families whose welfare is below the extreme poverty line. Based on World Bank standards, to obtain decent welfare, at least an income of 2 dollars per day is needed. In the Indonesian context, extreme poverty is identified with an income of less than 1.9 dollars per day. Families with incomes below that provision will undoubtedly experience difficulties meeting their needs. If there are older adults in it, it is feared that it will affect the lives of the older people. Various rights and needs of the elderly may have to be defeated by others that are more of a priority. Therefore, through the Family Hope Program scheme, the government provides additional welfare components intended for low-income families with older adults. For the Special Region of Yogyakarta, the older people living in highly low-income families are recorded at 237,643 in 2022.

The older narratives above provide a meaningful context for analyzing community-based care. This study, referring to Lehning et al. [12], identifies the character of community-based older care from several aspects: initiation, the focus of care services, actors involved, and funding sources. From the initiation aspect, the characteristic of community care can be seen from the shift in initiation sources, namely from one source to various sources. In their study, Lehning et al. [12] describe it as a process change from top-down to bottom-up. Next is the focus of community care. The development of increasingly better community care is demonstrated by changes in the focus of care according to the needs of the older people. This indicates that community care can respond to the dynamics of the older people and not just provide care based on standard provisions. Treatment modifications are very possible and may increase the variety of types of treatment. Meanwhile, the collaborative network map created in the provision of older care is explained based on the roles and contributions of the actors. Important details regarding the impact of actors on the long-term sustainability of community-based older care are provided. Likewise, the next character mentioned shows the source of funding. Older care provided in the community is usually informal and unpaid. Therefore, differences in funding sources can affect the sustainability of community-based older care. Each aspect is described below.

4.1 Community care initiatives

The first characteristic of community-based older care is a strong leadership pattern. In each district/city in Special Region of Yogyakarta, leadership can be identified from the initiation of activities and the willingness of community members to be involved in providing care. Individuals from various demographic, social, and economic

backgrounds initiate community care. The initiation, for example, comes from a man or woman with a bachelor's degree in several subjects such as education, social sciences, economics, and medicine, who previously cared for parents or siblings who had strokes or who previously cared for abandoned children. The initiator of community care has worked as a social volunteer, village head, and teacher. This background makes the initiator a figure who is always ideal, strong, charismatic, knowledgeable, and skilled in front of the community. All ideas, proposals, and concepts conveyed to organize community-based care can be easily accepted by the community. This is none other than because the initiator knows the field of elder care, so his involvement will be able to attract the attention of others to participate. Shamir et al. [36] even explicitly mention it as a form of self-sacrifice from followers to their leaders.

Moreover, the initiator's strength arises because of the attitude of consistency and exemplary behavior. In the case of the Special Region of Yogyakarta, caregivers said that the initiator's strength in driving community care activities or influencing the surrounding environment to support their ideas lies in consistency in addition to aspects of knowledge and experience. Consistency describes the steadfastness, discipline, and obedience to apply the principles adopted in daily behavior. This consistent attitude makes the initiator's opinion readily accepted by the cadres as caregivers. The initiator is described as an individual who upholds the principle of honesty. In every activity, the initiator of community-based older care always tells the cadres to be honest, including being honest in distributing aid. Because the principles held and instilled by the initiator are also carried out continuously, trust arises among the cadres, as told below.

"She is very consistent, not just talking, but also implementing it. That makes the cadres, how come, the term is how come the leader is a good example, the cadres must also be good. Because of that consistency, thank God our budget is always increased; maybe the government knows, oh, this is a mandate, keep increasing it. If we were not honest, lying, we would not have existed until now" (community care cadre).

Community care can develop because of the support of networks that connect organizations with external actors or stakeholders. Facts show that organizational networks are related to the role of community care leaders, namely regarding the scope or reach of the network and the ability to build networks. Leaders with broader network coverage tend to better develop community care organizations by optimizing their networks.

The reach of the leader's network in the community care cases studied showed levels: village, sub-district, district, regional, provincial, and national. The boundaries of these areas indicate the extent of the network coverage; namely, the higher the area level, the wider the network reach. The network involves elements of society, government, and non-governmental (social) institutions at each level, while private elements have not been found. From this network, community care gains benefits in the form of information, knowledge, and opportunities for collaboration. The benefits of information and knowledge are obtained by community care because they are involved in activities such as seminars, discussions, meetings, or formal meetings on related themes. In contrast, the benefits of collaboration are opportunities that can be further developed. This can be exemplified by the involvement of the community care leader in certain activities directed at developing community care.

For example, from his network with health workers at the health center, the head can provide additional health care services in the form of medical referral facilities. In

the case of older adults who suffer from chronic illnesses, older adults who are accompanied will generally receive these facilities if they are sick. In one case, in the Special Region of Yogyakarta, the network made an important contribution in supporting the financing of community care activities. This is evidenced by the contribution of routine contribution funds from colleagues to help procure food, food supplies, or medicines that are distributed to the older person.

Ahuja et al. [37] said that the network supports the progress of organizational management by increasing the effectiveness of activities. Community care can continue to be run, and its quality can be improved along with the increasing knowledge and skills of the accompanying cadres and the addition of supporting facilities and infrastructure for the welfare of the older person. In terms of network development and optimization, Thomas [38] mentions a number of strategies that are commonly used in an organization. Some of them are building connections through social media, attending seminars, conferences, and discussions, attending colleague events, scheduling special meetings, presenting someone as a mentor, and informing colleagues about activities through booklets or activity books. All of these networking strategies were also found in the cases studied and were recognized as very effective in supporting activities, especially in terms of funding and capacity building. Despite its effectiveness, this study also found feelings of discomfort, inferiority, and shame when trying to open networks with outsiders. De Janasz and Forret [39] mentioned it as a manipulative act, unnatural because it is different from everyday behavior, as stated by the head of community care.

"At first, I was embarrassed to open a network. I thought I was begging. Yes, even though there was a goal in the end (laugh) but at first, it was not there (looking for funds). The point is how to get support, whatever form it takes. It happened at the beginning, I contacted an old friend because I had not been in touch for a long time, I met him, I was thrilled, eh, it turned out he worked in the pharmaceutical sector, at that time I immediately thought, wow, this can help the older adults, well when I conveyed it, he replied if you ask for financial assistance, I do not have any" (Head of Community Care)

4.2 Care focus

This study identified the focus of care provided by community care based on the findings of Bulsara et al. [40]. The study simplified community care services into three categories: personal care, social care, and health care. Personal care involves providing support for fulfilling the basic needs of older adults, such as eating, drinking, clothing, and bedding. In practice, the provision of personal care for older people takes various forms depending on their context and needs. Community care, as found in the Special Regions of Yogyakarta, involves feeding, bathing, combing hair, and brushing teeth. Other forms of care involve providing fruits.

Social care is the provision of care aimed at maintaining social functioning. This care is provided through activities such as accompanying the older people, listening to their stories, engaging them in casual conversation, and taking them for walks around the yard. Health care, on the other hand, aims to maintain the health of the older people through curative and preventive measures. The method of providing care involves checking blood pressure, measuring weight, administering medication, facilitating health referrals, and providing transportation to medical services. In terms of providing the care, cadres as caregivers have a strategic role. They deal

directly with the older people to provide care intended to meet the personal needs of older adults, the social needs of the older people, or non-social needs.

4.3 Role of cadres

The previous section in-care focus has explained detail the types personal and social needs provided by in-community care services. In carrying out their duties and functions as companion cadres, they must create positive and motivating communication with the older people. They are also required to be diligent, patient, and sincere. The work of companion cadres is far from economic goals and closer to social goals, such as following their conscience to do good and care for older adults. The role and importance of cadres in organizing home care are often stated by the head, and only a small part is expressed by cadres. Cadres are described as the spearhead of community care because they implement activity programs in the older person's homes.

"Cadres are the main thing. If I only organize, find funds, and open networks, but the ones who implement are cadres. They are the spearhead; no matter how much funds there are, if no one is implementing them, it means nothing. So in my opinion, the most important thing is the cadres. If funds are yes, it is also important, needed for home care, to buy souvenirs, medicine, materials and so on, but for example, yes, it is urgent, it is an emergency. However, hopefully, it does not happen; God willing, it doesn't happen here; for example, there are no funds like that, but cadres can still go. We can visit older adults without bringing anything, bringing our bodies, but we can still visit older adults. Yes, (souvenirs, medicine, food, fruit) are just accessories, the main goal is to pay attention to the senior" (Head of community care).

The head of community care also said that the willingness of cadres to carry out activities cannot be separated from the motivation of great willingness. Cadres work very well, devoting all their energy, time, and resources to visiting the elderly from one house to another to provide care.

"They (cadres) are willing (to do home care), which is something extraordinary. Not everyone can (do that). We (home care) have 140 cadres, but they change; some come in, and some leave. Not because they do not feel at home because there is no honorarium; yes, they are looking for experience. However, they are selected by themselves. Cadres who are motivated (to work voluntarily because of concern and a calling of the heart) usually continue until now" (Head of Community Care).

Cadres are recognized as key actors in the effective implementation of home care services. They diligently carry out home care activities in accordance with established procedures. This involves not only providing services—such as visiting older adults at home, delivering care, and documenting their work—but also fostering meaningful social and emotional connections with the older adults and their families. This bond is evident in the mutual attention and concern shared between cadres and the older adults. For instance, older adults often inquire about cadres if they miss a scheduled visit. The strong connection between cadres and the families they support stems from the cadres' caring and compassionate attitudes, treating the older adults as if they were their own parents. Such closeness positively influences the habits and behaviors of older adults, contributing to an improved quality of life. According to Farmer et al. [41], the

emotional attachment formed by caregivers or volunteers is a hallmark of successful care services. Therefore, the home care cases studied can be considered a success.

Here, it can be seen that cadres are also an important factor that influences the development of community care; cadres directly handle home care targets. This means that cadres interact with older adults through the provision of care. Because of the established interactions, cadres can create comfort, warmth, and happiness for the older people. These elements are very much needed to encourage the older people to stay healthy and live their lives with enthusiasm. More than that, cadres also document and compile activity reports. The report is a form of accountability to the funding provider.

4.4 Source of funding

The implementation of community-based home care is supported by multiple sources of funding, including government assistance, non-permanent donors, voluntary contributions, and other sources. However, government support seems to be the dominant source of funding, as evidenced by its largest proportion in 2020 compared to fees, voluntary donations, and other sources. It demonstrates that the government has a role in improving the welfare of the older people (**Table 3**).

Non-permanent donations also contribute to the funding of community care, although to a lesser extent than government assistance. Nonetheless, non-permanent donations are a significant factor in the provision of community care. The amount and continuity of these donations cannot be determined, but optimizing the network that owns them could help. Community care funding from contributions was only found in Sleman. Community care in Sleman used to require voluntary contributions from assistants to support their capacity building, but this practice is no longer in effect.

4.5 Actors

The implementation of community care involves many actors who contribute ideas, information, and funding. The actors may come from within the organization, such as administrators and assistants, or from outside the organization, such as practitioners and observers of the older people. The intensity of involvement varies among actors, as presented in **Figures 5–9**.

Highly involved actors are individuals who provide information, open opportunities for collaboration, and/or donate funds for the development of community care.

Sources	Kulon Progo	Bantul	Gunung-kidul	Sleman	Yogyakarta
Government grant	40,000,000	36,000,000	25,000,000	42,000,000	46,000,000
Donation not fixed (personal, institutional)	460,000	400,000	2,300,000	1,650,000	275,000
Voluntary contributions	0	0	0	250,000	0
Others (foundation)	0	0	9,000,000	0	0
Total	40,460,000	36,400,000	36,300,000	43,900,000	46,275,000

Source: Own elaboration on the basis of the data of the community care report.

Table 3.
Sources of community care fund in 2020 (Indonesia Rupiahs).

Their involvement can be identified by the thickness of the line connecting the actors and the number of arrows generated. **Figures 5–9** illustrates the relationship between actors, showing that the head of the organization is the main actor. The number of arrows pointing toward or away from a node indicates the number of information flows. The network pattern formed by the lines shows the intensity of community care in Sleman and suggests a strong relationship between actors. In contrast, the network formed in Kulon Progo and Yogyakarta City is clustered at one point. This pattern may not be suitable for the development of community care because it may lead to one actor dominating the process.

5. Model of community-based care

Community-based care in the Special Region of Yogyakarta differs from the general concept as described in the literature [42, 43]. Unlike general community-based care, which is organized by the community within a specific area and is unpaid. This model provides personal, social, and health care without the support of high-tech equipment. The social aspect is the strength of the care delivery. Community care development requires volunteer caregivers, a culture of mutual help, respect for older adults, and community resources. Leadership is also crucial in mobilizing existing resources (**Figure 10**).

As a potential alternative of care provider for the older people, community-based care can be developed and integrated with other older care delivery programs. This can be achieved by adhering to the following principles: (1) Quality, where care is provided according to the needs of older adults to promote their independence and self-confidence. Therefore, care activities should be flexible and adaptable to the conditions of the older people; (2) The principle of multisector involvement provides opportunities for all sectors to participate in providing care, planning, decision-making, and funding; (3) Avoidance of partisanship in this process; and (4) Priority for vulnerable, poor, and older individuals in need of long-term care that should be

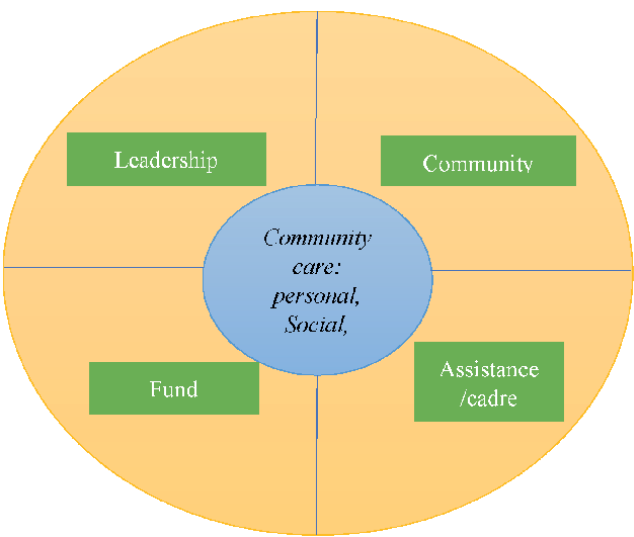


Figure 10.
Illustration of the community-based home care model. Source: Own elaboration on the basis of primary data.

Input	Process	Output
Leader	• Identifying needs/making plans • Network optimization • Developing partnerships/collaborations • Identifying resources/funding • Organizing meetings	• Information available for planning and implementation • Resources/funds available
Caregiver/ cadres	• Training • Empowering between cadres	• Skilled caregivers/cadres • Commitment
Community	• Education and socialization of awareness to the older people	• Trust and support from the community
Funding	• Mobilization of resources/funding • Establishing resource/funding mechanisms and integrating with referenced systems	• Transparency, accountability

Source: Own elaboration on the basis of primary data.

Table 4.
Input, process, and output needed for community-based care.

performed flexibly based on their needs and conditions. Personal care may be provided as needed, such as mattresses, blankets, soap, hair wash, and food ingredients. Efficient provision of community care requires the use of resources from various sources, including goods, money, or labor (**Table 4**).

Regardless of how well the principles for establishing community-based older care are fulfilled, a key aspect of such a model is its ability to support older adults in maintaining their health. This model enables caregivers to visit and monitor older individuals regularly, providing significant benefits for extending life expectancy by minimizing illness symptoms, promoting proper nutrition, and encouraging physical activity. Additionally, it facilitates knowledge transfer from caregivers to families, ensuring that families remain central in providing care.

Moreover, community-based care allows for collaboration with the private sector and government, particularly in securing financial support for care services. With multiple actors involved, achieving the goal of healthier aging becomes increasingly feasible, as each contributor plays a role based on their capacity. This highlights an essential finding: community-based older care is not merely a caregiving effort but a vital component in promoting active aging.

As WHO [44] explains, active aging optimizes health, enabling older adults to participate in society and enhance their quality of life. Community-based care plays a crucial role in this process by helping older individuals remain healthy. When older adults are in good health, they can actively engage in social life, such as attending services for older people, and contribute economically by managing agricultural land or gardening to produce and sell goods. This, in turn, fosters their continued well-being and quality of life.

Several factors can influence the functioning of active aging, whether at the individual, family, or national level. Individual factors represent aspects inherent to older people and can affect their health, such as degenerative diseases experienced and diseases caused by weakening physical organs. Family factors describe conditions related to the presence of family members, which directly or indirectly affect the health of older people. The national factors relate to government policies that can affect the lives

of older people. All these factors are part of the care provided by the community. At the micro level, the community strives to boost the self-confidence of older people by encouraging them to live healthily and participate in their environment. At the next level, the community empowers families to provide continuous care, and at the national level, the community plays a role in realizing long-term care for older people.

The above narrative shows that the community-based care model plays a role in realizing active aging. Care provision by caregivers is related to strengthening personal, social, and environmental aspects, thereby expected to improve the well-being of older people. However, the community-based care model has not yet found a clear intersection with long-term care, especially in the context of active aging. This is demonstrated by the overlap of community-based care with long-term care through integrated services for older people and health insurance. In this case, community-based care monitors the health of older people through blood pressure and weight measurements, which are also conducted in integrated services for older people. Similarly, the provision of dietary food to older people was also found during routine visits to integrated services for older people. Another aspect is that the community helps older people visit and receive treatment at primary health care, provides transportation to primary health care, and assists older people in obtaining referrals to advanced health services. This is an important part of the effort to ensure that older people have access to healthcare services, which the government already covers in financing. There is a complementary relationship that needs to be maintained and strengthened.

6. Conclusions

This study revealed several key findings in drawing the characteristics of community-based older care. First, community-based care is developed by community members who possess sensitivity, perspective, and a broad understanding of the challenges faced by older adults in their area. The concept of providing care for older adults is actualized by mobilizing resources within the community. The approaches taken by initiators in building community care typologies vary, particularly regarding the focus of care and care management methods. However, community-based care often faces significant funding challenges due to its reliance on a single source of financial support.

Second, the development of community care involves various actors, some of whom report to a chairman. Both government and non-government entities are actively involved in organizing community home care, contributing to its implementation and sustainability. The collaboration between these entities highlights the diverse nature of support required to establish and maintain community-based care. This study emphasized the significance of four critical elements in the establishment of community-based care: leadership, community support, caregivers, and funding. Leadership encompasses the concepts, viewpoints, and administration required to manage home care effectively. Community support is vital for implementing home care, providing resources and encouragement for its success. Meanwhile, caregivers play a crucial role as they are at the forefront of delivering care and addressing the needs of older adults.

Community-based care, as developed and managed by the community, differs from the home care described in literature. It emphasizes the social aspect of care and does not necessarily involve government or private medical organizations. Furthermore, it does not require medical staff, which sets it apart from traditional models of home care. This unique approach expands the scope of existing studies on care for older adults, offering fresh insights into community-driven solutions for

aging populations. However, this research's community-based older care model might not work in other places with distinct sociocultural traits. The Special Region of Yogyakarta has a strong kinship culture; thus, researchers and academicians should be cautious when recreating it. However, the idea of community-based older care aligns with active aging. The care given there is associated with initiatives to improve older people's social, physical, and financial well-being. Seniors' well-being will be enhanced by community-based care that maintains their health through social interaction and economic engagement.

Conflict of interest

The authors declare no conflict of interest.

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Section 4

Security

Perspective Chapter: Policy Frameworks for Active Aging in Pakistan – Reviewing Existing Policies and Proposing Recommendations for Improvement

Aqsa Qandeel and Muhammad Arif Saeed

Abstract

This chapter provides a comprehensive review of existing policy frameworks for active aging in Pakistan. It critically examines the strengths and weaknesses of current policies for the older adults, identifies the gaps and challenges, and proposes recommendations for improvement using content analysis. The chapter aims to contribute to the development of effective policy frameworks that promote active aging and improve the quality of life for older adults in Pakistan.

Keywords: active aging, aging policies, Pakistani aged population, aging facilities laws, policy improvement

1. Introduction

Active aging is the process of optimizing health, participation, and security to enhance the quality of life as people age. It allows older individuals to continue contributing to society while maintaining physical, mental, and social well-being [1]. The concept, promoted by the World Health Organization (WHO), emphasizes independence, dignity, and engagement in community life [2]. Pakistan has a rapidly growing older people population. According to estimates, around 6.5–7% of Pakistan's population (approximately 15 million people) are aged 60 and above, and this number is expected to rise due to improved life expectancy [3]. According to HelpAge International [4], this number is projected to rise to 40.6 million by 2050, representing 12% of the population. This demographic shift makes active aging a crucial issue.

Pakistan has adopted the Active Aging Index (AAI), which measures the enablement of older adults to participate in society [5]. The AAI assesses various domains, including employment, social participation, independent living, and health.

The government is also exploring regional best practices and policies to replicate in Pakistan. This includes analyzing policies and programs from other countries in the region to identify effective strategies for promoting active aging. Pakistan's active aging policies aim to promote healthy and productive aging among older adults. While there have been efforts to address population aging, more needs to be done to ensure that older adults have access to healthcare, social security, and employment opportunities.

Pakistan has taken steps to address the needs of its aging population through various laws and policies. One notable example is the Parental Protection Ordinance 2021, which provides protection to older parents against eviction and domestic violence [6]. Additionally, Pakistan has a National Policy for Older Persons, which was introduced in 1999 [3]. This policy aims to provide healthcare, social security, and employment opportunities for older adults. While these policies are a step in the right direction, there is still a need for more comprehensive and effective policies to address the challenges faced by Pakistan's aging population. The upcoming sections will elaborate on the various aspects of older adults in Pakistan impacting their active aging and the role of the government to stabilize them, challenges, and recommendations. Considering the discussion above, here are a few objectives this chapter will focus on:

1. To review existing policy frameworks for active aging in Pakistan.
2. To critically examine the strengths and weaknesses of current policies for the older adults' care and active engagement in Pakistan.
3. To propose recommendations for improving policy frameworks for active aging in Pakistan.

2. Methodology

The research methodology of this chapter primarily relies on secondary data collection, focusing on policy documents, scholarly articles, government reports, international frameworks, and relevant online resources. In the data collection strategy, various government official websites and portals were included in the chapter, such as the Ministry of National Health Services, Regulations & Coordination and the Ministry of Social Welfare and Special Education in Pakistan. These websites often publish the latest policy documents, reports, and frameworks related to aging as used by the previous studies [3, 7] and international reports [8]. Moreover, websites of organizations like the World Health Organization (WHO), the United Nations (UN), and the World Bank have also been used to access international policy frameworks, guidelines, and comparative reports on active aging. These resources helped contextualize Pakistan's policies within global best practices. Similar resources have also been used in recent studies [9, 10] to describe the issues and concerns about older adults. Scholarly articles, research papers, and policy analyses have also been included in this study, which has been obtained from academic databases such as Google Scholar, JSTOR, PubMed, and ResearchGate. These sources were used to identify peer-reviewed papers discussing existing policies and their implications on active aging in Pakistan, as demonstrated by Khalid [11], Govil et al. [12], and Falegbe and Adamu [13]. This research has also utilized the reports from think tanks, NGOs, and academic institutions (e.g., Pakistan Institute of Development Economics, HelpAge

International, and the Institute of Development Studies). These sources often analyze existing policies, conduct surveys, and provide valuable insights into the challenges faced by older populations in Pakistan, as utilized by various recent studies [14–17].

The selected documents have been analyzed through content analysis, which involved systematically reviewing the available literature, reports, and policy frameworks to extract relevant information. Key areas of focus included an overview of existing policies on active aging that currently exist in Pakistan, such as the National Policy on Older Persons, social protection schemes, healthcare policies for older adults, and other related initiatives. The content analysis in this study also presented a comparison of international best practices with Pakistan's existing policies with global standards, looking for areas of alignment and divergence. However, there is a lack of focus in the recent studies on the content analysis of documentation to analyze the older adult policies in Pakistan. Only the study of Khan and Heuvel [18] has been found to be relevant. While the evidence from the other countries has been found using content analysis for the active aging policy framework study [19].

3. Life of older people at different perspectives of life

When it comes to reviewing the different aspects of the lives of older adults, there is a need to give a brief demonstration about their health, condition, economic situation, social inclusion, and mental health.

Many older adults in Pakistan face chronic illnesses such as diabetes, hypertension, and arthritis. Limited access to geriatric healthcare and financial constraints often result in neglected health. Active aging promotes preventive care, regular exercise, and healthy lifestyles to delay age-related diseases. In the last decade, the study of Khan et al. [20] found that a significant population of older adults suffers from chronic conditions such as diabetes, hypertension, and arthritis. Another study [15, 16] explored that estimates indicate that 10 million older adults have osteoporosis, with an additional 40 million experiencing osteopenia. Moreover, sedentary lifestyles contribute to mobility disorders and sarcopenia among the aged [21]. Regarding their mental health, social isolation and changing family dynamics have led to increased instances of depression and anxiety among older adults [22].

Regarding the economic condition, the older adults in Pakistan, defined as individuals aged 60 and above, play a multifaceted role in the nation's economy [23]. As of 2019, approximately 15 million people in Pakistan were over 60, constituting about 7% of the total population. This proportion is projected to rise to 12%, or 40 million people, by 2050.

In 2001, about 19% of Pakistan's older adults were employed, with a significant gender disparity: 32% of older adult men and only 4.7% of older adult women were engaged in employment [24]. This indicates that a considerable segment of the older adults, particularly men, remains active in the labor force, contributing to various sectors such as agriculture, informal markets, and family businesses. Their participation not only supplements household incomes but also brings experience and mentorship to the workplace. While the older adults contribute economically, several challenges hinder their full potential. The low employment rate among older adult women suggests societal and cultural barriers limiting their economic participation. Additionally, the overall literacy rate among the older adults was 23% in 2001 [24], which may restrict their opportunities in a rapidly evolving job market that increasingly demands technological proficiency.

Moreover, the aging population is expected to exert pressure on Pakistan's health-care system. A study analyzing data from 1995 to 2014 projected that healthcare expenditures could rise by 2.6% due to population aging, potentially reaching a 17.2% increase over a decade [10]. This anticipated rise in healthcare costs may divert resources from other critical areas, potentially impacting economic growth and development. The increasing number of older individuals also raises concerns about social security and pension systems. With projections indicating that the older adults could double to 40 million by 2050 [3], there is an urgent need to assess and reform existing social protection frameworks to ensure they are sustainable and adequately support the aging demographic.

Moreover, social isolation and loneliness are significant concerns among older adults, particularly those who live alone or face neglect. Engaging older people in community activities, volunteering, and intergenerational programs can enhance their mental well-being. Social inclusion and mental health are critical aspects of well-being for senior citizens in Pakistan [25]. As the older people population grows, addressing social isolation and promoting active community engagement become increasingly important to enhance their quality of life.

Social isolation and loneliness are significant concerns among older adults in Pakistan, particularly for those living alone or facing neglect. These conditions have been linked to various adverse health outcomes, including increased risks of high blood pressure, heart disease, obesity, a weakened immune system, anxiety, depression, cognitive decline, and even mortality. In Pakistan, traditional family structures have historically provided support for older adults. However, with urbanization and changing societal norms, many older adults find themselves without adequate social support, leading to feelings of isolation. The lack of social protection programs further exacerbates their vulnerability, as existing policies have yet to be fully implemented to address the holistic needs of the aging population [26].

Engaging older adults in community activities, volunteering, and intergenerational programs has been shown to enhance their mental well-being. Such involvement fosters a sense of purpose, belonging, and improved self-esteem. Community-based mental health interventions, including structured peer support programs, can effectively reduce feelings of loneliness and social isolation among seniors [27]. In Pakistan, initiatives like the Mental Health Alliance Pakistan aim to improve mental health awareness and services through strategic partnerships and community engagement [28]. These programs strive to break the stigma associated with mental health issues and empower individuals with the knowledge and tools necessary to maintain mental well-being.

Additionally, organizations such as the Community Engagement and Involvement Group (CEIG) focus on fostering collaborations between researchers and communities to promote health and well-being. By encouraging participatory approaches and building capacity, these initiatives aim to create sustainable support systems for the older adults [29].

4. Role of family and social support in older age

Active aging in Pakistan is essential for ensuring a healthy, productive, and dignified life for older adults. A multisectoral approach involving government, healthcare providers, families, and communities is necessary to address the challenges and create an age-friendly society.

In Pakistan, the joint family system has historically played a crucial role in caring for older adults, ensuring emotional, financial, and physical support within households [30]. They act as key decision-makers in family matters, ensuring continuity of traditions and values [31]. Moreover, religious and cultural norms emphasize respect and obedience toward elders, reinforcing their status in the household [32]. Elders are often respected as key decision-makers and custodians of cultural and religious values [33]. Due to their experience, they often serve as peacemakers and mediators in household conflicts [34]. They also transmit traditions, ethics, and religious teachings to younger generations [35]. Moreover, many older adults take care of children when parents are busy with work or household responsibilities [36, 37].

However, urbanization and migration have led to a shift toward nuclear families, weakening the traditional caregiving role of the family [38]. This shift has also reduced the number of multigenerational households. Younger generations, seeking better jobs and education, move to cities, leaving older parents behind in rural areas [39]. Another reason for older adults' isolation is overseas migration, which further strains caregiving responsibilities. Many young Pakistanis settle abroad for work or studies, leaving older parents dependent on distant support, remittances, or domestic help [40]. Resultantly, with fewer family members at home, older adults often experience loneliness and a lack of emotional support, leading to depression and mental health issues [41]. The literature has also shown that many older adults, especially those without pensions or personal savings, rely entirely on their children for financial support. If remittances are irregular or insufficient, they may struggle to meet their needs [32]. Along with it, the absence of family caregivers makes it difficult for older adults to access proper medical care, daily assistance, and emotional companionship [37]. It shows that Pakistan lacks adequate elder care institutions, further exacerbating the problem.

5. Policy and government initiatives

In Pakistan, older adults face significant challenges due to limited social security programs and inadequate policy implementation. While some legislative measures have been introduced to support senior citizens, comprehensive and effective frameworks are still lacking.

In 1999, the government introduced the National Policy for Older Persons, which aims to provide healthcare, social security, and employment opportunities for older adults [10]. The provision of regular pensions in Pakistan is predominantly confined to employees in the formal sector, leaving a substantial portion of the older adults without financial support [42]. A study by the Pakistan Institute of Development Economics (PIDE) highlights that existing social security schemes cover only a small fraction of the aging population, particularly excluding those in the informal sector [3]. This disparity underscores the need for inclusive policies that extend benefits to all senior citizens, regardless of their employment history.

Here is the detailed description of government initiatives, NGOs' roles, community centers, medical facilities, and private care services for older adults for their active aging. Although Pakistan lacks a comprehensive state-funded older adults care system, some initiatives have been introduced. Several provinces have enacted legislation aimed at safeguarding the rights and welfare of senior citizens. Notably, the Punjab Senior Citizens Act (2021), the Khyber Pakhtunkhwa Senior Citizens Welfare Act (2014), the Balochistan Senior Citizens Act (2017), and the Sindh Senior

Citizens Welfare Act (2017) were established to provide older adults with financial assistance, healthcare services, and social support. However, the implementation of these acts has been inconsistent and often ineffective. Challenges such as bureaucratic hurdles, insufficient funding, and a lack of awareness have impeded the realization of the intended benefits for senior citizens [43].

The government also formulated the National Policy for the Health of the Elderly in 1999, aiming to train primary care doctors in geriatrics and provide domiciliary and dental care [9]. The Islamabad Capital Territory Senior Citizen Act 2012 focuses on welfare and rehabilitation. While the Senior Citizens Welfare and Rehabilitation Bill 2013 (Punjab) addresses social security and health benefits. However, on practical grounds, only a particular sector of older adults is able to get benefits from these Acts due to a lack of awareness among the older adults and their offspring as well.

Dedicated old age homes have been constructed under the Social Welfare and Bait-ul-Maal department of the Pakistan government. In Punjab, the Social Welfare Department established the first old age home, “Aafiat,” in Lahore in 1975 [44]. Subsequently, five more facilities were opened in Multan, Rawalpindi, Narowal, Sahiwal, and Toba Tek Singh. These homes offer services such as shelter, food, healthcare, and recreational activities. But these services have some inclusion criteria that restrict many of the deserving older adults from entering these territories [45]. The unregistered older adults with no identity card under the National Database & Registration Authority (NADRA), Pakistan, also wished to avail themselves of the shelter home services. But they are unable to do so due to a lack of practical implications of NADRA policies in Pakistan for the registration of unregistered people who have been born, brought up, and grown older in Pakistan [46].

Moreover, special healthcare services at government hospitals are provided to older adults. The Ehsaas Program and the Benazir Income Support Program (BISP) provide financial assistance to vulnerable older adults. It targets those without pensions or family support. The *Employees’ Old Age Benefits Institution (EOBI)* has been established in Pakistan to provide pensions to retired private-sector employees. But the coverage remains limited, and many workers in the informal sector do not benefit. Government pensions are available for retired public servants but are often insufficient due to rising living costs.

Due to limited government intervention, *private organizations and NGOs* have stepped in to fill the gap. Although senior living homes are culturally discouraged, several institutions exist, primarily run by NGOs and charitable organizations. The Edhi Foundation provides free shelter, medical care, and food for older adults abandoned by their families. Saylani Welfare Trust offers older adults care assistance, including financial aid and medical support. Similarly, Dar-ul-Kafala (Punjab Social Welfare Department), a government-run old age home providing shelter and food for destitute seniors. Bint-e-Fatima Old Age Home (Karachi) is a privately run facility catering to older adult women. *Alkhidmat Foundation*, a nongovernmental organization [47], operates 24 old age homes across Pakistan, providing care and support to older adults without family support. As of May 2021, Punjab’s six government-operated and ten private old age homes collectively housed approximately 700 individuals [48].

In *Healthcare and Medical Services* for older adults, geriatric care in hospitals is provided to these people. Few hospitals have specialized geriatric wards to provide healthcare services to them. Major cities like Karachi, Lahore, and Islamabad have private hospitals offering senior care, but costs are high. Government hospitals provide free medical treatment, but overcrowding and resource constraints affect quality.

Growing demand for at-home older adult care has led to the rise of *private health-care providers* offering home visits by nurses, doctors, and caregivers; physiotherapy; and rehabilitation services. The popular providers include *Sehat Kahani* (telemedicine services for older patients) and *ShifaCare* (home healthcare and senior assistance). However, regarding the social and emotional well-being of older adult citizens, clubs and community centers are rare in Pakistan. Religious and community-based initiatives help some older adults stay engaged through mosque gatherings, charity events, and volunteer activities. Currently, online platforms and social media groups are emerging as ways for older adults to stay connected with family and peers.

6. Challenges to implementing elderly laws and policies for active aging in Pakistan

There are various challenges to the Pakistani older population and the government in implementing older adult laws and policies for active aging:

The older Pakistani adults face financial insecurity and lack of pension coverage due to limited pension schemes, as only government employees and registered private-sector workers under the Employees' Old Age Benefits Institution (EOBI) receive pensions, leaving a vast majority of older adults financially insecure. There is also the lack of social security for informal workers, affecting over 70% of Pakistan's workforce in the informal sector, with no retirement benefits. Another factor is rising inflation, which is increasing the cost of living by making it difficult for older adults to afford healthcare, housing, and basic necessities.

Another challenge that older adults face is a weak healthcare infrastructure for older people, with a shortage of geriatric specialists. There are very few doctors specializing in older people's care. Most hospitals lack geriatric wards, forcing older patients to rely on general healthcare services. Moreover, expensive private healthcare is unaffordable for most older adults, and public hospitals are overcrowded. Along with it, home-based care services in Pakistan lack a well-established system, making it difficult for immobile older adults to receive medical attention.

Social isolation and neglect due to the declining joint family system are also important issues for older adults to be active. With increasing urbanization and nuclear families, they are often left alone, leading to loneliness, depression, and neglect. If someone wants to reside in an old age home, the stigma around it makes them reluctant. Many families refuse to send older adults to care homes due to cultural and religious beliefs, leaving them without proper care. But there is also the lack of senior-friendly public spaces like parks, recreational centers, and community clubs for older adults, which are almost nonexistent, limiting their social engagement.

Another challenge for older adults is the absence of legal protection against abuse and neglect, which is rising, including financial exploitation, emotional neglect, and even physical mistreatment within families. Due to no strong enforcement of laws, lack of awareness, and bureaucratic delays, they are unable to protect their rights, while Sindh and Punjab have passed laws for older adults' welfare.

In Pakistan, the Sindh Senior Citizens Welfare Act (2014) and the Punjab Senior Citizens Act (2021) provide benefits like senior citizen cards and welfare centers, but their implementation is slow and ineffective. Bureaucratic delays prevent funds from reaching programs meant for older adults' care.

The other issue is a lack of budget allocation for older people's welfare. Health and social welfare sectors are underfunded, making it difficult to establish older people

care centers, nursing homes, and geriatric healthcare facilities. Pension schemes remain unsustainable, with EOBI funds insufficient to cover all older adults. There is also a lack of awareness campaigns, which means that many older adults and their families do not know their rights under senior citizen laws. No proper data collection on older adults' needs leads to ineffective policies. Furthermore, Pakistan lacks a national aging policy that addresses older adults' healthcare, financial security, and active aging. Existing old age homes and senior citizen welfare programs are poorly managed and have limited capacity.

7. Recommendations for addressing challenges to implementing laws and policies for active aging in Pakistan

In essence, there are a few recommendations to cope with the challenges for the older adults reform. There is a need to introduce universal pension schemes for informal workers and daily wage earners. Increase financial support through Ehsaas and BISP programs for vulnerable older adults.

Older adult care units can be established in public hospitals with specialized doctors. There is also a need to expand home-based healthcare services to assist immobile seniors. Strict penalties for elder abuse and financial exploitation can reduce the above-mentioned challenges. Moreover, it is the need of the hour to raise awareness about older people's rights through media campaigns.

It is also required to create senior citizen clubs, recreational centers, and fitness programs to keep older adults socially and physically active. However, promotion of the volunteer programs is needed where younger generations can engage with the older adults.

There is also a need to establish a national commission for older adults to oversee policy enforcement. An increase in the government funding for older adults' welfare and social services can also reduce these challenges.

To address the multifaceted needs of the aging population, Pakistan requires more structured and comprehensive policies [49]. Key areas for development include the following:

1. *Age-friendly cities*: Urban planning must consider the accessibility and mobility needs of older adults. This includes the development of public spaces that are safe and accommodating, as well as transportation systems that are easily navigable for seniors.
2. *Health insurance*: Affordable and comprehensive health insurance schemes are essential to ensure that senior citizens have access to necessary medical care without facing financial hardship.
3. *Retirement benefits*: Expanding pension schemes to include informal sector workers and implementing noncontributory social pensions can provide a safety net for all older adults, reducing poverty and enhancing their quality of life.

In conclusion, while Pakistan has made legislative strides toward supporting its senior citizens, the effectiveness of these measures is limited by poor implementation and a lack of comprehensive policy frameworks. Addressing these gaps through inclusive and well-structured initiatives is crucial to promote active aging and ensure the well-being of the country's older population.

8. Conclusion

Pakistan's older adults are growing rapidly, yet financial insecurity, poor health-care, and social neglect remain serious concerns. The government must enhance policy implementation, increase funding, and develop community-based initiatives to ensure active and dignified aging for all older adults. Pakistan's older adults care system remains largely family driven, but with changing demographics and social trends, formal care structures are becoming increasingly necessary. Strengthening government policies, healthcare services, and community support will be crucial in addressing the needs of the growing older adults. By reviewing existing policy frameworks, this research will contribute to the understanding of active aging policies in Pakistan. The analysis will provide actionable recommendations for policymakers to enhance the quality of life for older adults, aligning national policies with global best practices.

This research relies on secondary data, and as such, it is limited by the availability and scope of the data from various online resources and official documents. Furthermore, without primary data collection through interviews or surveys, the chapter may lack the firsthand perspectives of older adults or key policymakers. However, the reliance on extensive and credible secondary data sources will ensure a comprehensive review and provide valuable insights into the existing policy landscape.

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Perspective Chapter: Sociocultural Characteristics Influencing Furniture Preferences by Older Citizens

Michalis Skarvelis and Ioannis Bothos

Abstract

Older adults compose a heterogeneous group with a great number of particular needs, furniture use among them. Previous activities, capabilities and esthetic parameters might not be covered by existing furniture items, and current needs may demand a new approach in furniture design by means of ergonomics, health issues and easy living in general. In order to have a design approach for their furniture a multitude of critical decisions is needed, as it is concluded from the ongoing research on the specific field. Older citizens constitute a particularly hard-to-reach age group regarding the satisfaction of needs, and various secondary parameters are also related to decoration and furniture. Depending on country, economical level and cultural values, older citizens use conventional furniture for long periods of time, which usually do not meet anymore ergonomically their individual needs and possibly do not meet safety parameters or necessary design requirements. To investigate such multifactorial approaches requires complex interdisciplinary processes and, above all, the communication of the need, in order to produce more personalized constructions. Considering the importance of deriving the maximum possible satisfaction and safety from the use of a piece of furniture – especially for vulnerable groups – it is recommended to re-estimate the design approach, with an emphasis on various sociocultural and ergonomic factors. In the present chapter, the majority of these factors are discussed.

Keywords: furniture for older adults, habits in living with furniture, ergonomics, safety, universal design

1. Introduction

Many different approaches have been undertaken or are underway regarding the needs of older individuals in relation to their preferences and expectations for the use of household furniture. The increasing aging of the population, combined with the advancement of technology and the increasingly rational approach to well-being, requires the satisfaction of multi-level needs related to the material goods used in their daily lives.

In developed countries, demographic changes are observed, with the most significant being the increase in older people individuals. This particular age group also appears to suffer from chronic diseases [1].

These demographic changes have created a new strategic approach, such as “active aging,” which responds to the behavioral changes of older generations. Concepts such as “successful aging,” “healthy aging” and “productive aging” are gradually being assimilated into the common vision of modern societies [2].

Various experts point out that the needs of older individuals can be approached from different perspectives and fields such as (a) in health, physical functions and social activities, (b) independence in daily living activities and independence in living (safety and protection from injuries, etc.), (c) psychological factors, such as stress management and the avoidance of depression and other cognitive disorders and (d) social factors such as safety, accessibility to activities and participation. Important factors in addressing the needs of older people individuals also include their independence, the management of loneliness (companionship), living conditions, economic factors and the management of living problems.

Since older people spend more and more time in their residence or in closed spaces, the immediate environment and the furniture have significant impact on their daily lives [3]. The study and implementation of furniture design and construction, combined with modern technological tools (for study and production of furniture) and interdisciplinary approaches, require a broad accumulation and application of knowledge that must meet ergonomic, sociocultural environment and the resolution of individualized problems, in some cases even of a medical nature and care.

All the above contributed to a particular interest in the development of furniture over the past decade so that it better meets more personalized needs and primarily satisfies vulnerable social groups such as older people, although there still exist great needs. Especially in southeastern Europe, there is still a huge lack of such specific expertise, so this age group has been using conventional furniture for several years that does not meet any more their ergonomic requirements and also presents safety deficiencies during use [4, 5].

Particular interest is shown in various sociocultural findings [4, 6] as several mechanisms influence furniture preferences, for example, the entrenched perceptions of older people, the habit of long-term use and nostalgia, which have a decisive impact on their decisions regarding the use and selection of furniture.

2. Sociodemographic and cultural determinants of active aging should influence furniture design

A variety of determinants must be taken into account in the design of furniture for older people, both at the individual, family and national levels.

Because of the existing great heterogeneity, it is not possible to form a model of what a “typical older person” means. Some 80-year-olds have physical and mental abilities similar to many 30-year-olds. Other people experience significant declines in their functional abilities at much younger ages. A comprehensive approach to public health must adapt to this wide range of experiences and needs of older adults. Much of the variation arises from people’s physical and social environments and the impact of these environments on their health opportunities and behavior [7–9].

The proposed policy [10, 11] to be implemented is that, as life expectancy increases, the aging process should be carried out without social exclusion, with

active participation in social events and limiting negative established behaviors that burden health. A change of habit through a more appropriate design approach and communication of the imperative need by all those involved in the manufacture of furniture to potential users for a more suitable final product is considered decisive.

Beyond the approach to health problems, ergonomic features and economic factors, particular interest is found in various socio-psychological mechanisms that affect the predispositions of older consumers such as habit and nostalgia for old objects [12, 13].

Conventional furniture dominates the lives of older people, with the result that their use becomes a habit. Due to the lack of more suitable constructions and information on alternative proposals, this age group seems to come to terms with the existing situation. Substantial emphasis must be given when designing furniture for older adults, so that it becomes esthetically acceptable to users, concerning the cultural differences of each region but also so that the image of the supportive structure does not dominate the furniture.

2.1 Demographic data of the older people population worldwide: Factors influencing furniture production

By analyzing some basic demographic data, the need for new approaches to furniture design is evident so that constructions respond more to the needs of the population's diversification.

With birth rates decreasing in connection with the continuous aging of the population and the differentiations that arise in the institution of the family, the ability of people in the close family environment to care for the elderly is decreasing [10].

According to the Organization for Economic Co-operation and Development [14], there is a continuously increasing trend globally for the population to become increasingly older. According to the following **Figure 1**, in 2022, individuals in the age group of 65+ worldwide exceeded 17%. According to the World Health Organization (WHO), by 2030, 1 in 6 people in the world will be aged 60 and over. The share of the population aged 60 and over will increase from 1 billion in 2020 to 2 billion in 2050 [10, 11]. The number of individuals aged 80 and over is expected to be tripled between 2020

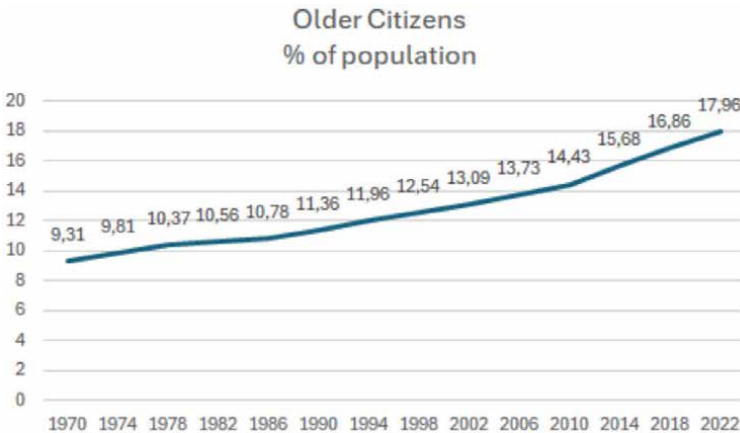


Figure 1.
The increase in the percentage of older citizens (Source: OECD, [14]).

and 2050, reaching 426 million. While this shift in the population distribution of a country toward older age groups – known as population aging – began in high-income countries (e.g., in Japan, 30% of the population is already over 60), by 2050, two-thirds of the global population over 60 will live in low- and middle-income countries [7, 9].

In China [15], the percentage of the older people population aged 60 and over has rapidly increased (1982–2020) from 7.62% to 18.7%, representing a population of approximately 264,019,000 people.

In the last two decades (2002–2022), the population of older people in the European Union has increased significantly. In 2022, people aged 65+ made up 21% of the total population of Europe, while the same figure in 2002 was 16%. The largest increase was observed in Finland and the smallest in Luxembourg.

In Mediterranean countries, the percentage of older citizens varies between 23 and 24% of the total population [16]. Women live longer than men [11] and are at greater risk of poverty, especially in Romania, Bulgaria and other Mediterranean countries [17]. Women's pensions in the EU are on average 29.5% lower than men's, and they are usually more responsible for unpaid care work [18].

2.2 The role of more personalized furniture in optimizing quality of life with an emphasis on the individual's specific needs

For the improvement of the quality of life of older individuals, some studies recommend an interdisciplinary approach through palliative care, with a strong emphasis on the physical, psychological, social and spiritual dimensions of each illness. Its provision is particularly important for the case of older individuals given the vulnerability they face, their heterogeneity and the numerous instances of comorbidity among diseases [7, 9]. As the global population ages, the demand for health and social care services increases, emphasizing the approach to concepts such as loneliness, isolation and poor mental and emotional health to adopt a quality lifestyle [19]. The role of more personalized furniture in optimizing quality of life with an emphasis on the individual's personalized needs.

Lack of socialization (loneliness) in older citizens is known to be a risk factor for severe functional decline, which can even lead to death. The results of several cross-national studies show that social isolation is an important risk factor for morbidity and premature mortality [20].

Also, a very important factor in improving the quality of life for older citizens is nostalgia. Some nursing homes (e.g., terrabelseniorliving.com) include this important factor in their programs, which emotionally strengthens and empowers the stay of this age group in these facilities. Nostalgia offers residents the opportunity to revisit their favorite memories from their youth, reliving moments of joy, achievements and love. By reconnecting with the past, older adults can gain a deeper understanding of their personal history and identity, enhancing their sense of self and purpose. According to several other studies [21, 22], nostalgia is the active ingredient that triggers reminiscence and has a positive effect on the well-being of older individuals. The study by Stoyanova et al. [23] on the impact of nostalgia on older citizens in Bulgaria and Greece is also of interest. According to this study, the more a person has lived, the stronger the culture they have established, and it can influence their mindset. In this particular study, the great importance of the past as a memory for older citizens was confirmed in both Bulgaria and Greece [23]. The above findings seem to also influence the preference for furniture selection in the Greek context [4, 6]. In his work, Skinner [24] refers to design based on nostalgia, giving furniture a premium

value and an esthetically personalized satisfaction of the user's needs, something that seems to work particularly well in the specific age group. Similar results were drawn in a recent study in Greece, in a field investigation of furniture made based on the influence of the force of habit in furniture design [6, 24].

From the literature review, it appears that older citizens prefer to live alone, even when they are already alone or have some form of disability [25]. The percentage of older people living alone in Europe ranges from 50% in Denmark to less than 20% in Spain, Greece or Portugal. It should be emphasized that living alone does not necessarily mean being independent. According to the Spanish Institute of Statistics, 608,000 older adults over 65 who live alone have disabilities or problems with daily activities [25].

Despite the different ways of examining old age, there is a common finding among researchers that from the age of 75, older citizens have more needs and are exposed to more risk factors. For some authors, such as Neugarten, the age of 75 is a milestone, and there is a differentiation in approaches before and after this age [25].

Also, the data shows that the risk of poverty among citizens living alone in Spain, as well as in the rest of Europe, is higher than among those living in two-person households. In Spain, nearly half of these older people living alone have incomes below the poverty line. The important element that emerges regarding the choice of older citizens to live alone is that they have shaped their home according to their desires and cannot easily adapt to an unfamiliar new space that does not include elements of their choice and personality, as it requires the development of new skills. Consequently, various environments should support them to compensate for these losses. Older adults seem to choose more adequate and safe environments and emphasize the importance that the environmental context must be accessible, clean, well-lit, well-arranged and equipped with user-friendly urban furniture [25].

Additionally, various studies show that even nowadays, there is a lack of familiarity with technology [3, 26], and although some are positive about incorporating technology into conventional furniture [4], the majority are not willing to pay large sums [27] to benefit from smart furniture, at least in southeastern Europe.

3. Current conditions in constructions or buildings that are designed for older citizens

Nowadays, there are many problems in the design of spaces that are not suitable for this age group. This particular factor increases the living risks of older citizens [3–5, 28]. According to the study by Wenquan and Zhihua [29], there are six factors that burden the rational living of the older people:

1. The lack of accessibility: An even floor level is required, ensuring adequate lighting in the interior space and monotone colors should be avoided.
2. Indoor safety hazards: Seniors are prone to falls and slips, but unfortunately, many living spaces have safety hazards, such as unstable stair railings and slippery floors.
3. Inappropriate furniture arrangement: The arrangement of furniture in the homes of many older people does not meet their needs. Factors such as the seat being too low or too soft, the height of the bed being inappropriate and insufficient, leads to difficulties in their daily activities.

4. Poor lighting conditions: Lack of lighting or uneven lighting affects the vision of older adults and increases the risk of falls and serious injuries.
5. Lack of socialization space: Many older people face the major problem of social isolation due to the lack of suitable space for necessary activities. Interaction through socialization increases the quality of life, especially in this age group. Having a properly designed space is imperative.
6. Lack of intelligent systems: Based on several studies, smart devices are expected to meet several needs of the older adults' daily life, but the current situation shows that they have been integrated into the furniture and homes of the older adults in very few cases.

The same conditions are also observed in Greece, where the furniture is not suitable for the specific age group [4, 5]. Various studies address the issue of companies' evolution toward a way of approaching and satisfying more and more potential users regarding ambient assisted living (AAL) in furniture. In the study by Beer et al. [30] in a survey of furniture design and manufacturing companies in Spain, Slovenia and Poland, it seems that the approach to a more older adults-friendly design is at very low levels, while there is a universal interest in collecting anthropometric data (from a competent body) as a result of which the design process is more facilitated. In the case of possible training of staff for a better overall approach to furniture for older adults, only Slovenia shows a highly positive approach, with over 70% of companies adopting it with a positive attitude [30]. Similarly, in studies conducted in China, the majority of furniture available in the market is not senior-friendly, and the position of older adults' furniture in the market remains still unclear. Most furniture intended for use in this age group functions similarly for young adults and is not designed specifically for older citizens [15].

3.1 Critical points of furniture design for older adults with an emphasis on heterogeneity, ergonomics and safety

3.1.1 Kitchen cabinets furniture

In previous years, the dominating opinion of consumers was buying a good quality piece of furniture that would last for several years. The result is that as the user becomes older, it may not fulfill his needs anymore. The kitchen space is usually designed to be used for several years, resulting in users not being satisfied as they grow older [3].

In various specialized studies that have been published [31, 32], it seems that the older users of the premises are satisfied with the existing situation in the arrangement of the kitchen spaces in their homes, whether it is a separate room or a single space together with the living room area.

Additionally, from the same studies comes the need for better accessibility to the furniture (improvement of ergonomics) and the existence of sufficient lighting (natural or artificial).

In the proposals for solving the ergonomics and lighting problems in spaces with a long duration of use by vulnerable age groups, various solutions are proposed by researchers and specialized manufacturing companies, such as the existence of fixed

dimensions on the backs of mainly hanging cabinets and their better access to them with specialized mechanisms that improve their use. Particular attention must be paid from the early and very critical phase of designing a space such as the kitchen to choose the appropriate mechanisms and materials to ensure the best possible diffusion of light inside the cabinets. The aging process affects, among other things, changes in anthropometric dimensions, which mainly concern the height of older adults. There is a trend for a significant reduction in height dimensions with age (from 2 to 5 cm per decade), which significantly affects the ability to access objects located in hanging cabinets [32].

The existing furniture that makes up a kitchen in use is designed for the average user and does not cater to vulnerable groups such as older adults and the disabled. In addition to incorporating technology to solve accessibility and safety issues, design is required to be based on the design mandates of “Design for All” and “Universal Design”.

In general, older people’s preferences for kitchen furnishings and layout came more from the need for comfort and the desire to evoke positive emotions, a sense of security and relaxation, closeness to nature and recalling childhood memories of home [31]. This is a dominant view, which from various studies carried out [4, 6] seems to be adopted in Greece as well.

3.1.2 Chairs, seats and other furniture

Regarding the seats and the ergonomics required for use by older citizens, to respond a chair and meet the specifications for use by the older adults, it must:

1. Provide support when sitting and moving away from the chair.
2. Provide appropriate support for the spine.
3. Support the activities performed while using the chair.
4. Provide a comfortable position during relaxation or even sleep.
5. Remind the user of various upcoming activities [33].

Of great interest is the recent study by Fabisiak et al. [34] that examines multiple features in the design of seats (chairs) in Central and Northern European countries. The study’s conclusions are:

1. Almost 80% of respondents prefer a high back that reaches above the head in armchairs.
2. Over 80% of respondents assessed the durability of furniture as an important or very important feature of furniture. It is recommended that manufacturers not limit themselves to a short-term warranty but manufacture products with quality and a long-term product warranty.
3. Over 70% of the older adults from the sample population reported that durable upholstery in furniture is a very important and functional feature. Also, 60% of

the older adults want functional furniture adapted to their anthropometric dimensions. Regarding the dimensions of the seats, the people in the sample stated that they want the height, depth and to a lesser extent (especially for women) the width of the seat to be adjusted to their needs before making a purchase.

4. Respondents in all countries agreed that it is easier to sit down and get up from furniture with armrests.
5. The results of the willingness to have an armchair with a reclining/relaxing function, the majority of respondents (Latvia, Poland and Lithuania) presented a positive view, but in the remaining countries (Germany, Denmark and Finland), most respondents were negative about this prospect [34].

In Greece, the results of a field study [6] demonstrated that conventional furniture seats, which were constructed for public places and often used by older citizens, did not seem to create significant ergonomic issues (or at least they were not reflected in the questionnaire) in a quantitative study of 110 individuals aged 55 and older (**Figure 2**).

This was a case study in the field of research, with the collection of anonymous questionnaires from aged people regarding the ergonomics of seats, color choices, furniture finishes and various other characteristics that accompany the design and manufacture of furniture used by older users. The research was carried out in Athens, in a public space, which is mainly used by this particular age group. For the implementation of the specific study, 50 seats were made by researchers using oak wood and placed in a specially designed room of the study field. The research is based on the on-site observation during the use (2022–2024) of the seats and the results were obtained by quantitative research (anonymous questionnaire) with closed-type questions (mainly Likert method with scale: 1 = absolutely disagree – 5 = absolutely agree). The research concerns older adults who use the manufactured seats; the research sample consisted of people aged between 55 and 90 years, with



Figure 2.
Furniture in a public space, used in research in Greece: seat depth dimensions = 42 cm and seat height = 42 cm, with a backrest at a 90-degree angle [6].

Education level	Male	Female
Primary school	10 (19,6%)	26 (44,1%)
Secondary	29 (56,9%)	11 (18,6%)
University etc.	8 (15,7%)	20 (33,9%)
Higher education	4 (7,8%)	2 (3,4%)
p-value <0,01 α		

Source: Own elaboration.

Table 1.
Educational level per gender. a Pearson chi-square.

heterogeneity in educational level and income. The sample size was 110 people, of whom 51 were men (46.4%) and 59 were women (53.6%). The most prevalent level of education is secondary (**Table 1**), with 40 individuals (36.4%). It was found that men, compared to women, appear in a higher percentage in secondary education and holders of postgraduate degrees. The average age of the participants is 65 years, with a median age of 63 years. The average weight is 75 kg (median 74.5 kg), while the average height is 168 cm (median 167 cm).

Finally, only 12% of the sample has declared that they are facing physical illnesses or mobility problems. Regarding income criteria, the most prevalent annual income ranges between 0 and 10,000 euros, which concerns 40% of the participants.

Since this is a highly original field research, there are some important limitations in the process of its implementation. These limitations are determined (a) in terms of time, (b) financial and (c) by a forced limitation of the sample due to the nature of the study.

According to the literature [2, 4, 35, 36], such type of studies with low accessibility to large samples of the target population presuppose that individuals have a formed relative experience of using the spaces and furniture before conducting the main research.

The time that elapsed from the construction and placement of the seats in the hall to the conduct of the research was more than 6 months in use. In combination with the researcher's on-site observation with periodic visits to the largest percentage of public operation of the given building that has been selected as the field of research, the appropriate preparatory work was carried out to better approach the target sample.

Due to the anthropocentric approach of the study, almost daily interaction with the furniture users (the furniture in the study was constructed following a design proposal by the researchers, which was based on a relevant bibliographic review) was deemed necessary for an in-depth understanding of beliefs and other qualitative characteristics related to the furniture. The questionnaires, although anonymous, were not distributed to a random sample of the population but to a group of individuals with the desired, according to the study design, and experience of use. Individuals over 55 years of age with a satisfactory frequency of use, according to the field observation by the researcher (preparation began 2 years earlier of the final research), were eligible to participate in the study. The overall average score of the individuals in the sample on the questionnaire question "whether they used the specific furniture enough to have formed a satisfactory opinion about its comfort", was 4.5/5 on the corresponding Likert question (5 = absolutely agree).

The above research was carried out under real conditions and time of use of the furniture with a high frequency of visits by the same users and was based on the original research hypothesis that conventional furniture with natural oak color common to Greek data will be accepted by the specific age group.

For the analysis of the questionnaire, several factor analyses were performed, resulting in a three-factor analysis (**Table 2**):

- a. Factor 1 includes questions from the questionnaire related to construction quality, ergonomics and finishing.
- b. Factor 2 includes questions related to design and esthetics.
- c. Factor 3 includes questions that suggest alternative modifications to existing structures (e.g., adding a cushion to the seat, changing the height of the seat and changing the shade to a color that is not related to the texture of the wood).

The approach chosen was the Varimax rotation. The KMO index was 0.86, while the sphericity test proved statistically significant. Furthermore, the three categories explain 71% of the total variance of the 14 questionnaire questions. Thus, the total number of questions is 14, setting the required sample size at 70 participants. Also, some questions were reversed (15, 17, 22, 23 and 26), so higher scores indicate a positive evaluation.

Table 3 presents the indicators of factors in Cronbach's alpha.

Questions	Factors		
	1	2	3
8) Does the specific furniture provide a sense of security?	,848		
9) Does the construction quality play a role in your preference for a furniture?	,776		
10) Does this particular furniture color meet your esthetic preferences?	,676	,519	
11) Does the finish (gloss) of the furniture meet your esthetic preferences?	,771		
13) If you were choosing a furniture for your home, would you choose this specific shade?		,861	
14) Does the style of the furniture meet the esthetic needs of this specific public space?	,493	,676	
16) Does the furniture provide comfort in relation to its use?	,790		
17) Would you like some additional cushioning on the seat?			,597
18) Is the body posture comfortable during this specific use?	,853		
19) Does the backrest tilt provide you with relative comfort?	,701		
21) Does the seating furniture provide a sense of "warmth" in the room?	,589	,647	
22) For this specific use, would you like the furniture not to have the texture of wood but to be painted with a certain color?			,778
23) Would you like the seat height to be different?			,810
26) Would you like a more modern piece of furniture for this specific space?		,580	,533

Source: Own elaboration.

Table 2.
Factor loading coefficients.

	Cronbach's alpha.
Factor 1	0,92
Factor 2	0,81
Factor 3	0,67

Source: Own elaboration.

Table 3.
Cronbach's alpha.

An important finding from this study is that conventional seats, after long-term use, appear to be acceptable, both in Factor 1, showing high satisfaction, with an average value of 4.43, while the average value for Factor 2 is correspondingly high (4.43). On the contrary, volunteers seem to be more hesitant in their responses regarding Factor 3, where the average value decreases to 3.5. Factor 1 includes questions 8, 9, 10, 11, 16, 18 and 19; Factor 2 includes questions 13, 14, 21 and 26, while Factor 3 includes questions 17, 22 and 23 (**Table 2**).

The results from the analysis above indicate that the conventional ergonomics of the seats, in the dimensions presented above, do not seem to cause a non-acceptance of the furniture. Also, for the specific public space (the socializing place after religious ritual in a monastery), the specific shade (oak) and satin finishing seems to be acceptable, for the specific age group.

In order to better approximate the groups of individuals in the sample, three linear models were constructed. In each model, the target variable will be the corresponding factor, while all other variables will be used as explanatory variables. This includes the questions that were excluded from the factor analysis. The process will follow the stepwise regression method, starting from the empty model and progressing toward the full model. The criterion for entering the variables will be $p\text{-value} \leq 0.2$, while for extracting the $p\text{-value} \geq 0.4$. In addition, we will check the variables for multicollinearity using the Generalized Variance Inflation Factor (GVIF).

Based on the above approach, we present, as shown in **Table 4**, the profile of individuals with the greatest acceptance in Factor 1. These belong to the younger age group compared to the target group, of higher stature with satisfactory knowledge of the construction material. These participants had sufficient testing time and considered the furniture suitable for the specific place, while at the same time, they did not consider the cost of the materials excessive. Furthermore, in the remaining parameters, women show a more positive attitude than men, while people with a higher level of education tend to give lower scores.

Also, timeless furniture, which is mostly used by older people for several years (such as church stalls), seems to satisfy the expectations of these users for long hours of use [37]. The same conclusion arises from the approximately two-year participatory observation that complemented the above research. This finding may raise several questions regarding the power of habit that directs the choices and desires of older adults concerning furniture, as well as the lack of a personalized approach to more suitable furniture. Certainly, there is a sense of adaptation on the part of older adults to conventional but esthetically familiar furniture [4, 6].

In general, the sense of habit from the use with emphasis on natural construction products (such as massive wood) dominates in seating, there is a great focus on upholstery and seats (comfort and cleaning). Of course, the dimensions, seat height, seat depth and seat width, can lead to the satisfaction of unexpected needs. In general,

Variables		p-value	
Fixed term.		–2,43	
Gender			
	Male	–2,61	<0.01
Education			
	Secondary	–0,38	0.66
	University, etc.	–2,06	0.04
	Higher education	–3,69	0.01
Age		–0,05	0.16
Height		0,11	0.02
Knowledge of the material (12)		1,76	<0.01
Duration of use (20)		2,40	<0.01
Material cost estimation (24)		–0,74	<0.01
Suitable furniture for this place (25)		1,07	<0.01

Source: Own elaboration.

Table 4.

Description of individuals who answered high to the questions of Factor 1. Adj R-sq = 0.63.

older adults, without particular mobility problems and ailments, adapt quite easily to conventional furniture and in order to choose something different, it is necessary for them to be proposed and tried as an alternative solution.

The issue of esthetics is dominant in their preferences. In order to change the habits and preferences of older adults, the end user must actively participate in the design of the furniture (participatory design) but also there must be substantial alternative variations, so that individuals can choose the most comfortable and relaxing cases. The individual himself must experientially perceive the differences and be convinced of their benefit, so that they become his new choices.

3.2 Esthetics, design and materials in furniture for older users

Strong cultural elements in furniture selection by older people are also evident in Yun's [15] study. Regarding the selection of furniture styles for older adults, the traditional Chinese style attracts the older generation better, comprising more than 42.08% of the total rate, which significantly exceeds other styles [15].

As a result of the above and other studies [4, 6, 15, 24] regarding the preference of the appropriate material, wood occupies a dominant preference. In the study by Yun [15], regarding the preference of materials for age-friendly furniture, a significant percentage of the population, namely over 37%, expressed their preference for solid wood and MDF. In contrast, plastic, rattan finish and bamboo finish gained significantly less popularity, representing 27.6, 26.46 and 25.46%, respectively [15].

Earlier studies emphasize the importance of different species of wood, as some of them give the piece of furniture a different identity. Their proper selection in the creation of a piece of furniture must be taken into consideration from the design stages even along with factors such as style and finishing. In the U.S., it is generally observed [38] that darker woods (e.g., mahogany and cherry) appear to be used in furniture

construction to give it a higher value (for the older consumers), in contrast to conifers (lighter shades) which are used more in more everyday furniture construction (esthetically preferred more by students). The study by Bumgardner and Bowe [38] emphasizes the difficulty of identifying the types of wood that could potentially be used in the construction of furniture. Adults excel in recalling some species in contrary to the student sample group. Some evidence of differentiation is presented regarding esthetic preferences in furniture color between students and older adults. For example, the older age group of the sample considers walnut wood to be “warmer”, in contrast to the younger people of the sample who consider it “cold”. An important reference case is oak wood, which is considered more formal in appearance by both younger and older consumers, with the latter also considering it a more durable material [38].

In the study by Nicholls and Bumgardner [39], a correlation is observed between the types of wood chosen by older and younger individuals in correlation to their income. This study showed that Spruce was more preferred by younger respondents and less preferred by older individuals. Oak was more popular among older respondents (with lower income) and less popular among younger respondents. Cherry was more preferred by higher-income respondents and less preferred by lower-income respondents. Red alder was less popular among higher-income female respondents. Maple was preferred by younger male respondents. Birch was preferred by lower-income males [4, 39].

Also, light furniture with warm colors should be chosen to allow comfortable movement and evoke warm feelings. Communication and socialization reduce feelings of depression and enhance a sense of usefulness and self-confidence [40].

For the critical decision of esthetics, the designer should make decisions based on previous research and information and the need for a balance between modern and traditional. This particularly important approach is of great interest when it requires acceptance by older people who have formed and consolidated their preferences.

Referring to common colors with similar products on the market can provide the designer with a visual understanding of contemporary trends and consumer preferences. Also, designers can choose to use the original shades of traditional patterns, an approach that honors and preserves elements of cultural heritage and gives products unique cultural value. If the cultural semantics of traditional colors can enhance the acceptance of a product through the emotional connection of the user, it would be ideal to incorporate them into the product [41].

Compared with young people, older adults live a simple and relaxed life, with pleasure in spending time cooking, so the time spent in the kitchen is longer, but their limited memory capacity sometimes creates problems: they are likely to forget to turn off the light, in which cupboard some items are located, etc. The role of designers is to pay attention to the right combination of color use, so that for the older adults it provides functional convenience, to play a role of reminder [42].

In Greece, some furniture choices are more accepted when they are related to habit. The usual choice of oak with a clear finish for public buildings and paneling in construction seems to be acceptable choices for the majority of older adults or potentially adults people aged 55 and over [6].

4. Conclusions

Increasing aging of the population, combined with the advancement of technology and the increasingly rational approach to well-being, requires the satisfaction of multi-level needs related to the material goods used in their daily lives.

Concepts such as “successful aging”, “healthy aging” and “productive aging” are gradually being assimilated into the common vision of modern societies, but important factors for facing older people’s life circumstances also include their independence, the management of loneliness (companionship), living conditions, economic factors and the management of living problems. All the above parameters could be met in furniture used by older people and affect their life.

In general, older people’s preferences for kitchen furnishings and layout came more from the need for comfort and the desire to evoke positive emotions, a sense of safety and relaxation, closeness to nature and recalling childhood memories of home. This is a dominant view, but it takes into account ergonomic issues, for example, height loss and disability to reach higher selves. The sense of habit from the use with an emphasis on natural construction products (such as massive wood) dominates in seating, where a great focus on upholstery and seats (comfort, cleaning) could be met.

A correlation is observed between the types of wood chosen by older and younger individuals, in relation to their income. In general, worldwide, older adults prefer the use of solid wood (or MDF covered with veneer) over other materials.

Designers of furniture to be used by older people should better use the original shades of traditional patterns, as an approach that gives products unique cultural value and esthetic satisfaction to users.

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Social Determinants of Active Ageing – Building Resilience and Empowerment addresses major challenges identified in the revised active ageing framework introduced by the World Health Organization and the International Longevity Centre - Brazil. The authors present studies focused on key social factors influencing active ageing, such as education, social support, social exclusion, and social isolation and loneliness.

The scope of this collection extends to the global, national, regional, and local implementation of age-specific and intergenerational initiatives aimed at achieving the Sustainable Development Goals (SDGs). The volume comprises chapters that offer both research and practical recommendations encompassing diverse disciplines such as demography, critical studies, educational gerontology, geropsychology, gerontechnology, geographical gerontology, longevity studies, public health, social policy, social work, and sociology. This book is a valuable resource for academic and professional communities focused on social theories of ageing, as well as for those involved in public services and policymaking related to ageing. Furthermore, the volume serves as a support tool for students, practitioners, and individuals working in government, business, and non-governmental organizations.

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