

Age-Friendly environment: a systematic literature review

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Abstract. An age-friendly environment has been expanded in a broader range. Indonesia was one of many states around the world that adopted the framework and developed the programs, and initiatives to create an age-friendly environment. This study proposed to map and compare published studies in global and national contexts. By applying a systematic literature review of PRISMA 2020 standards, this study consisted of five phases: (1) research questions, (2) eligibility criteria and sources of information, (3) search selection, (4) process of study selection, and (5) data coding and synthesis from Mendeley bibliographic management. This study found that academic publications about age-friendly environments were concentrated in the Europe region and applied quantitative methods. The age-friendly environment observed and discussed was dominant from the outdoor environment domain and community and health service from the municipal. Future studies should concentrate on social inclusion, engagement, and non-discrimination, as well as communication and information in both a global and local Indonesia.

1 Introduction

The concept of an age-friendly environment was proposed by World Health Organized (WHO) in 2007 as part of their Global Age-Friendly Cities project[1]. The definition of an age-friendly environment is "an inclusive and accessible urban or rural environment that promotes active aging[2]." The concept and the definition of an age-friendly environment have been expanded in a broader range of settings such as healthcare facilities, public spaces, and workplaces. Indonesia was one of many states around the world that has adopted the framework the age-friendly framework. Indonesia also developed programs and initiatives to create more age-friendly environments[3].

Elderly people over the age of 60 in Indonesia increase from around 24 million in 2020 to over 100 million by 2050[4]. As a result, due to the growing need for age-friendly environments that can support the well-being and inclusion of older adults[2], the Indonesian government created National Action Plan for the Elderly in 2019. The action plan aims to improve the quality of life of older adults by promoting healthy aging, providing social protection, and creating age-friendly environments[4]. In the context of age-friendly environments, to date, no specific study has identified the key components of

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an age-friendly environment, the factors that contribute to successful implementation, and the outcomes and impacts of age-friendly initiatives. Therefore, this study proposed to map and compare published studies in global and national contexts.

2 Methods

This study applied for a systematic literature review based on the PRISMA 2020 standards to identify the criteria, sources information, search strategy, selection process, data collection process, and data set[7]. PRISMA 2020 provides a checklist of 27 elements as well as a guidance on techniques for finding, analyzing, and synthesizing studies with five phases[8].

Phase 1 is about research questions (RQ). They are organized around four areas: (a) Quartile or Sinta levels of journals (RQ1), documentary characteristics geographical location (RQ2), and research methodologies used (RQ3); (b) domain and dimension of an age-friendly environment identified in the literature (RQ4)[1,3]; (c) the factors that contribute to successful implementation (RQ5)[9]; and (d) the outcomes (RQ6) [10] and impacts (RQ7)[11] of age-friendly environment initiatives in the analyzed studies.

Phase 2: Eligibility criteria and sources of information. eligibility requirements and data sources. This includes English or Indonesian articles published in scholarly journals between January 2021 and Mid-2023 that have the terms "accessibility", "accessibility standards", "age-friendly environment", "active ageing", "healthy ageing", "quality of life", "supportive environment for health", or "universal design" in their title, abstract, keywords, or key phrase[11]. Theoretical and empirical studies with quantitative or qualitative methods are also included[7]. The exclusion criteria applied to involve articles that (1) do not have methods and are (2) identified as grey literature such as books or proceedings.

Phase 3: Search strategies. Scopus and Sinta were used for the selection of articles. The global index comes from Scopus as the most reputable index. While the national index comes from the science and technology index (Sinta) developed by the Ministry of Education and Culture of the Republic of Indonesia. The time of published journal articles was limited to two and half years between 2021-mid 2023. The time limitation is based on the national context where the Indonesian government legalized Presidential Regulation Number 88 of 2021 concerning the National Strategy for Aging[12].

Phase 4: Process of study selection. Initial searches for Scopus and Sinta produced 143 and 121 articles, respectively. Following the inclusion-exclusion criteria, all researchers evaluated the 264 papers based on the title and abstract. When the findings were combined, there were 27 articles from Sinta and 41 articles from Scopus. In a second round of selection, the remaining 56 were examined independently by researchers in full text, and the decision was made to omit 208 articles. The 56 articles (n=56) were added that completed the final sample of documents for systematic review.

Phase 5: Data coding and synthesis. For data collecting, the Mendeley bibliographic management was employed. A coding sheet was used for data synthesis. VOS Viewer were used for the analysis of the conceptual network[13]. In the review, the two researchers, first independently and then by consensus, acted in the different phases of selection according to criteria for prior inclusion and definitive inclusion[14].

3 Result and Discussion

3.1 Cluster of keywords about age-friendly environment

This analysis discovered a number of clusters caused by the co-occurrence of keywords in the articles. The term "adult" connected to "intervention", "neighborhood", and "difference" was detected in the first cluster by the color green. The second cluster, red color identified the term of “development” was related to “ageing”, “experience”, “initiative”, and “care”. The third cluster, blue color identified the term of “age friendly city” related to “opportunity”, “transportation”, and “outdoor space”. The final cluster, yellow color identified the terms of “experience related to “urban environment”, “diversity”, and “active ageing”.

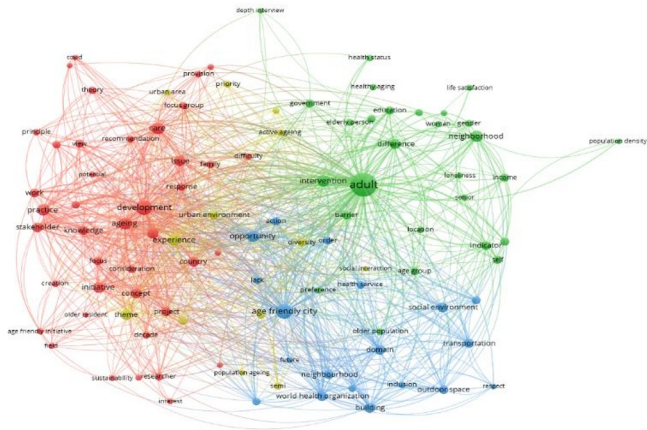


Fig. 1. Cluster of finding keywords about age-friendly environment

3.2 Documentary characteristics

This study found more studies about age-friendly environment were indexed in the Scopus (73%) than the articles were indexed in the SINTA (23%). In the Scopus index, the articles were found more from Europe (41.46%), Asia (31.71%). America (17.07%), and Australia (9.76%). In term of research methods, both articles from Scopus and SINTA Index were found more for quantitative approach (39.28%), mixed-method approach (33.93%) than qualitative approach (26.79%).

3.3 Domain and dimension of an age-friendly environment

Table 1. Domain and dimension of an age-friendly environment

No.	Domain	Dimension	F (N=56)	%
1.	Physical Environment	Outdoor environment	41	73.21
		Transport and mobility	11	19.64
		Housing	10	17.86
2.	Social Environment	Social participation	8	14.29
		Social inclusion and non-discrimination	4	7.14
		Civic engagement and employment	16	28.57
3.	Municipal Service	Communication and information	6	10.71
		Community and health service	33	58.93

This study found the most domain and dimension of an age-friendly was about outdoor environment dimension (73.21%) from physical environmental domain. While from the

municipal service dimension, the most found articles were about community and health service (58.93%). From social environment domain, the most article published was about civic engagement and employment (28.57%).

3.4 Factors to successful age-friendly environment implementation

This study found the contributing factors to successful age-friendly environment implementation was participation to elderly people (73.41%), multi-stakeholder collaboration (53.71%), inclusion of older persons (41.07%), policies that tackled both the physical and social environment (37.50%), government commitment (37.50%), strong partnership (35.71%), good leadership (10.71%), and concordance with religion and local culture (5.36%).

3.5 Outcomes and impacts of age-friendly environment initiatives

This study found the highest outcomes in the observed publication was health (80%), physical (75%), well-being (73.41%), social (71.43%), and economic (44.64%) outcomes. In term of impacts of age-friendly environment initiatives, this study found there are two impacts as the highest discussion in the observed publication. The two impacts were about environment and physical activity (78.57%). Other impacts were about health and well-being (75%), social (71.43%), participation (55.36%) and economic (41.07%).

As a systematic literature review, this study found the age-friendly environment concept is still in emerging studies. The basic foundation of the concept which come from WHO Europe office [11] is going to implement in other studies about environment and city[1], health, well-being, and social impact[10,15], policy[3,16], and community[9]. The recent studies about age-friendly environment concept also proposed inclusive model in vulnerable areas[17], social participation[18] and sustainable development goals[19]. In Indonesia context, the studies still focuses on the age-friendly cities readiness[20] and frailty status of elderly people[21].

4 Conclusion

This study found the academic publication about age-friendly environment were concentrated in Europe region and quantitative method. In term of the age-friendly environment concept, outdoor environment from physical environment domain and community and health service from municipal service were dominant to be observed and discussed. The participation of elderly people and multi-stakeholder collaborations were expecting to be contributing factor to successful age-friendly environment implementation. The previous studies were more concerned about health, physical, well-being and social outcomes for age-friendly environment initiatives. Finally, the environment, physical activity, health, well-being, social, and participation impact have been addressed for age-friendly environment initiatives. Future study should concentrate on social inclusion, engagement, and non-discrimination, as well as communication and information in both a global and local (Indonesia) context.

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