

ENABLERS AND BARRIERS TO THE REALISATION OF AN AGE-FRIENDLY ENVIRONMENT IN MALAYSIA: A THEMATIC REVIEW

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ABSTRACT

One of the best ways to support the quality of life for older populations is by promoting an age-friendly environment. Older people must have access to quality healthcare and support systems to remain in the community when they decide to live alone. Thus, a literature review aimed at exploring the enablers and barriers to realising an age-friendly environment for older people is required to understand the modifications needed to adapt to such an environment to support the older populations in Malaysia. The thematic analysis resulted in two themes: (i) the elements of an age-friendly environment in Malaysia and (ii) the enablers and barriers to creating an age-friendly environment. This study enlightens the need for an age-friendly environment and allows for targeted policies and interventions to promote age-friendly features in the living environment, efficiently addressing the challenges of our ageing society. The study also adds to the body of knowledge by providing valuable insights into creating supportive environments for older individuals and fostering their overall well-being.

Keywords: Ageing society, Age-friendly environment, Sustainable, older people, Thematic analysis



INTRODUCTION

On a global scale, a rapidly ageing population requires more social and welfare support. The population aged ≥ 60 years has increased more rapidly than other age groups worldwide and has outnumbered the population of children aged ≤ 5 years (World Health Organisation, 2021). Aged people made up 9.3% of the world's population as of 2020, and the percentage is expected to increase to almost 16% by 2050. In Malaysia, individuals aged ≥ 60 years represented 11.2% of the country's total population in 2021 (Department of Statistics Malaysia, 2021). Malaysia has transitioned into an ageing society and is on track to become an aged society (15.0% of the population ≥ 60 years) in less than 10 years, that is by 2030 (Ministry of Women, Family, and Community Development, 2011). Such a rapid increase in the ageing population implies that the older population should be treated fairly in the development process of a country.

The governments of developing countries, including Malaysia, have started to seriously consider creating an environment that caters to the requirements of older people. However, both enablers and barriers complicate the creation of such an ecosystem. An ageing population not only places an additional burden on social security and healthcare systems but also raises concerns about older people's access to social participation, entertainment, and employment opportunities. According to Dawidowicz et al. (2020), it is important to identify the current and future active ageing places in cities, which have direct and indirect implications for health, welfare, care, and living arrangements. For instance, in 2017, 77.6% of older individuals chose to age where they reside (The Star, 2017); however, they might not age well in homes that are neither inaccessible nor unaffordable. Instead, older people may benefit from ageing in a community with social networks, familiar services, and a sense of comfort and safety.

Although an age-friendly environment has attracted the attention of researchers from different disciplines over the last decade, this idea is still relatively new in Malaysia. If older people decide to live alone, then they need to have good healthcare and support systems to remain in the community. However, at present, clear age-friendly policies for older people are lacking, and the cities and communities in Malaysia are responsible for catering to the welfare support of older people (Foo Chung et al., 2020). At

this moment, Malaysia only had the National Policy for the Elderly in 1995, the revised National Policy for Older Persons in 2011, and the adopted one, namely the National Health Policy for Older Persons in 2008.

This study aligns with the Sustainable Development Goals and the 11th Malaysia Plan theme to improve people's well-being (Ministry of Economic Affairs, 2018). Hence, the first step is to review the literature on how an age-friendly environment can be implemented to support older people. This thematic review aims to explore the enablers and barriers to realising an age-friendly environment for older people. Besides providing a better understanding of the need for an age-friendly environment, a review of research on the ageing experience in a community environment also allows targeted policies and interventions to promote age-friendly features in the living environment to better address the challenges faced by our ageing society.

LITERATURE REVIEW

Ageing population in Malaysia

Based on data from the Department of Statistics Malaysia in 2021, individuals aged ≥ 60 years accounted for 11.2% of the country's total population. This indicates that Malaysia has already entered the phase of being an ageing society. Furthermore, projections suggest that Malaysia is on track to become an aged society, where individuals aged 60 years and above are expected to make up 15.0% of the population by the year 2030, as stated by the Ministry of Women, Family, and Community Development in 2011. The growth in the older population in Malaysia is attributed to factors such as longer life expectancy and low rates of birth, mortality, and fertility. As a result, the older population in the country steadily increased from 6.2% in 2000 to 7.9% in 2010 and 10.7% in 2020 (Department of Statistics Malaysia, 2020) (Table 1).

Table 1. Percentage of Population Aged 60 Years and Above

Year	Population aged 60 years and above (%)
2000	6.2

2010	7.9
2020	10.7
2030	15.0

Source: Department of Statistics Malaysia

Although the definition of old age varies across countries, cultures, and periods, 60 to 65 years of age has been widely accepted as the beginning of old age (Sen, 1994). According to the World Health Organisation (WHO), a country's population is considered old when individuals aged ≥ 60 years constitute 15.0% of the total population (Ministry of Women, Family, and Community Development, 2011). Notably, Malaysia adopts the definition of ageing as stipulated by the United Nations, stating that older people are those aged ≥ 60 years. Ageing is a process that starts with conception and lasts until death. Besides, ageing is also associated with psychological, social, and physical changes (Ministry of Health, 2008), and this phenomenon has led to a greater demand for age-friendly environments for older people.

Realising an Age-friendly Environment

The rapid growth of the ageing population implies that this population should be treated fairly in the development process. In 2003, the term "age-friendly environment" was used to determine whether a city had an age-friendly environment based on the presence of four domains (Feldman & Oberlink, 2003): determining needs, promoting social and civic engagement, enhancing independence among older people who are weak and disabled, and strengthening physical and mental health. Next, Alley et al. (2007) defined an age-friendly environment as a city that offers residents access to safe, secure, and affordable housing, healthcare, transportation, and involvement opportunities in the community. Most of the later studies then identify the characteristics crucial to older people's ability to age in the community.

In addressing issues associated with rapid ageing, the WHO proposed the Active Ageing Framework in 2002 and Age-Friendly Cities and Communities (AFCC) in 2007. These two frameworks aim to address the arising challenges and needs due to a rapid increase in the ageing population globally. Age-friendly cities that aim to create an environment that enables older people to engage in social participation, entertainment, volunteering,

or employment were introduced after active ageing to encourage a healthy lifestyle for older people (WHO, 2002). This participation creates significant opportunities for sustainable development; thus, older people are key players in communities owing to their experience, knowledge, and skills.

When the WHO published age-friendly guidelines for cities and communities in 2007, the idea of age-friendly cities gained attention worldwide. An age-friendly city, in accordance with these guidelines, promotes active ageing by optimising opportunities for health, participation, and security to enhance the quality of life as individuals age (WHO, 2007). As such, the city upgrades its structures and services for more accessibility to older people with a range of needs and abilities. Active older people may also continuously participate in social, economic, cultural, spiritual, and civic activities. WHO (2016) segregated the domains of an age-friendly city into three clusters and translated them into age-friendly environment domains (Table 2).

Table 2. Three Clusters for the Domains of (AFCC)

Outdoor environment	Physical environment
Transport and mobility	
Housing	
Social participation	Social environment
Social inclusion and nondiscrimination	
Civic engagement and employment	
Communication and information	Municipal services
Community and health services	

Source: WHO (2016)

Furthermore, van Hoof et al. (2021) listed the following 10 queries pertaining to the core ideas of creating an age-friendly environment:

- i. Defining age-friendly cities and outlining the history behind the establishment movement of AFCC.
- ii. The model used for creating AFCC and the efforts involved in building the environmental aspects of the model.
- iii. Characteristics of age-friendly cities.
- iv. Aspects of transportation that characterise age-friendly cities.
- v. Aspects of outdoor spaces included in age-friendly cities.
- vi. Aspects of technology employed in age-friendly cities' built environment.
- vii. Tools and instruments for measuring and mapping the impact of AFCC

solutions on the built environment.

viii.Characteristics of a good example of AFCC that can be learned and followed.

ix.Obstacles to AFCC development.

Collectively, WHO (2016) and van Hoof et al. (2021) outlined the critical role of development actors, especially policymakers, in addressing the need to improve economic and social development for older generations through the physical environment, social environment, and governance. However, van Hoof et al. (2021) suggested other characteristics of age-friendly cities, which include understanding the movement of AFCC locally by defining age-friendly cities and outlining their history. Accordingly, technological aspects that are more user-friendly to older people must be expanded. In addition, it is also important to clarify the methods used to assess and measure the impact of AFCC on the environment, particularly in the areas that require the most attention and improvement, in order to meet such arising needs.

The ageing population is indeed one of the most significant demographic trends in developed nations. Ageing stimulates and transforms development policies to achieve holistic and inclusive development. Furthermore, living arrangements for the older population contribute to life satisfaction and economic, physical, and social well-being (United Nations, 2019). Therefore, an age-friendly environment is crucial for promoting active ageing because it can mitigate the impact of the rising ageing population on economic development.

Age-friendly Environment Practices worldwide

The rapid increase in older populations around the world has led to a greater demand for environments that can respond to older people's needs, such as better policies and legislation that protect the rights of older people and ensure their participation in society. In 2010, the WHO established the Global Network of Age-Friendly Cities and Communities (GNAFCC) to encourage information exchange, experience, and mutual knowledge among cities and communities worldwide and create a conducive environment for older people (WHO, 2018). Communities, cities, and other subnational levels of government are selected as members of this global

network based on their commitment to making progress toward becoming more age-friendly. For instance, most developed countries formulate their national policies by involving community-based initiatives for older people living independently at home (WHO, 2015). Cities have also been provided with a significant platform for peer support and knowledge sharing by the UK Network of Age-Friendly Communities. This facilitates support for the age-friendly agenda at the international, national, and local levels (Rémillard-Boilard, 2018).

Some countries have improved their facilities and services to fulfil older people's needs. In the United States, low-income older individuals receive support from the CAPABLE programme through an interdisciplinary team, which visits the residences of older people and determines how to make their residences more suited to their needs (Arup, 2019). In Australia, an aged-care policy empowers older people with more choices of support to enable ageing (Stones & Gullifer, 2016), while in the UK, the care approach includes delivering support services to older people to remain at home instead of moving to nursing homes or hospitals (Burgess & Morrison, 2016). In Singapore, Kampung Admiralty is introduced as a residential development for older people. This area offers a wealth of features to support its residents' health and community involvement, including a medical centre, active ageing senior programming centre, childcare centre, supermarket, bank, and other retail amenities (Arup, 2019).

In Malaysia, two cities—Ipoh and Taiping submitted a commitment letter to the GNAFCC in 2019 to become more age-friendly (WHO, n.d.). Taiping was selected to conduct the first phase of Malaysia's age-friendly cities pilot project (The Star, 2019). The United Nations Development Programme also conducted a pilot project in Taiping to create an age-friendly city after the Taiping Municipal Council met various criteria based on the WHO (WHO, n.d.).

METHODOLOGY

This study employed a two-stage qualitative approach to first review the realisation of an age-friendly environment based on the literature in the context of Malaysia and subsequently the enablers and barriers in the

development of an age-friendly environment.

Targeted literature review

A targeted literature review was conducted to explore the realisation of an age-friendly environment in Malaysia, with Google being the primary source of information. Instead of using scholarly databases such as Web of Science or Scopus, the Google Scholar database was used for the search. This stage was carried out to collect other articles that are neither indexed by scholarly databases nor subject to peer review. The terms used for the literature search were "age-friendly" OR "elderly-friendly" AND "Malaysia." The document type selected was limited to articles from journals and proceedings, and the language was limited to English. Articles from 2016 to 2022 citing studies conducted in Malaysia were then selected (Table 3).

Table 3. Inclusion and Exclusion Criteria

Criteria	Inclusion criteria	Exclusion criteria
Timeline	2016 – 2022	Before 2016
Location	Conducted within Malaysia	Conducted outside Malaysia
Type of materials	Journals and proceedings	Other forms of materials
Language	English	Non-English

Source: Author

Thematic Analysis

According to Braun & Clarke (2008), thematic analysis is a method of identifying, analysing, and reporting patterns (themes) within data, which involves the following six-step process:

- i. Becoming familiar with the data
- ii. Generating basic codes
- iii. Searching for themes
- iv. Reviewing themes
- v. Defining and naming themes
- vi. Writing the report

In this analysis, after exploring the articles, the authors read and reread the articles and took note of all the initial ideas for creating an age-friendly

environment in Malaysia. This step helps the authors to become familiar with the content and understand the materials on the whole. Following several rounds of screening, 13 articles were finalised for the next step (Table 4).

Table 4. Number of Papers Reviewed by Year

Year	Articles
2016	2
2017	3
2018	1
2020	4
2021	2
2022	1
Total	13

Source: Author

Next, the authors systematically coded the findings from the selected articles. These codes represent important ideas and concepts of the materials. As shown in Figure 1, a word cloud from the 13 articles captured the term "physical," which was used 8 times, whereas the terms "community," "health," "safety," and "activity" were mentioned 6 times, respectively. Subsequently, the authors began to search for potential themes among the generated codes. In general, the themes are patterns or meaningful clusters of codes that relate to the current research objective, which aims to explore the enablers and barriers to realising an age-friendly environment for older people. After exploring and reviewing the potential themes, the authors clearly defined and named the suitable themes for this study (Table 5 and Figure 2).



Figure 1. Word Cloud Generated from 13 Articles

Source: Author

RESULTS

A total of 13 articles have been reviewed in the current study (Table 4). Since the main objective of this study is to identify available information on an age-friendly environment in Malaysia, the discussion concerning selected articles that are related to creating a better environment for older people has been considered for analysis. Resultantly, the analysis revealed two overarching themes related to an age-friendly environment for older people in Malaysia, which emerged from the findings of previous studies (Table 5 and Figure 2).

Theme 1: Key elements of an age-friendly environment in Malaysia

Table 5. Elements of An Age-friendly Environment in Malaysia

Theme 1: Key elements of an age-friendly environment in Malaysia	Element	Sources (Author, year)
	Outdoor spaces and buildings	(Chang et al., 2022), (Teh et al., 2021), (Ying et al., 2021), (Lai et al., 2016)
	Transportation	(Chang et al., 2022), (Teh et al., 2021), (Ying et al., 2021), (Lai et al., 2016)
	Housing	(Chang et al., 2022), (Ying et al., 2021), (Ismail, Nordin, et al., 2020), (Ismail, Muhamad Halil, et al., 2020a), (Ismail, Muhamad Halil, et al., 2020b), (Mohd Aini et al., 2017), (Lai et al., 2016)
	Social participation	(Chang et al., 2022)
	Respect and social inclusion	(Chang et al., 2022)
	Civic participation and employment	(Chang et al., 2022), (Teh et al., 2021), (Ying et al., 2021), (Lai et al., 2016)
	Communication and information	(Chang et al., 2022), (Teh et al., 2021), (Ying et al., 2021), (Lai et al., 2016)
	Community support and health services	(Chang et al., 2022), (Teh et al., 2021), (Ying et al., 2021), (Lai et al., 2016)
	Neighbourhood	(Ahmad Khalid et al., 2020), (Tan & Lee, 2018), (Mohd Aini et al., 2017), (Elsawahli, Ahmad, et al., 2017), (Elsawahli, Shah Ali, et al., 2017), (Elsawahli et al., 2016)

Of the selected 13 articles, only one examined how the eight domains of AFCC influence the realisation of an age-friendly environment (Chang et al., 2022). Chang et al. (2022) determined older people's perceptions regarding the importance and accessibility of age-friendly features in eight GNAFCC-specified domains. Furthermore, Lai et al. (2016) studied the

relationships between the domains of an age-friendly community and active ageing and social connectedness and found that not all eight main domains were deemed necessary by the respondents.

Housing emerged as a topic that has received the most attention from researchers in Malaysia (Chang et al., 2022; Ismail, Muhamad Halil, et al., 2020a, 2020b; Ismail, Nordin, et al., 2020; Lai et al., 2016; Mohd Aini et al., 2017; Ying et al., 2021). Statistically, housing served as the most important component in explaining age-friendly models (Lai et al., 2016). According to Mohd Aini et al. (2017) in their study, older people expressed a strong desire to stay in their existing homes, surrounded by family, friends, and proper facilities. Health, safety, convenience, amenity, and community were the features of housing that older people preferred (Ismail, Muhamad Halil, et al., 2020a, 2020b; Ismail, Nordin, et al., 2020), particularly in the design of bathrooms, bedrooms, kitchens, floors, living areas, and staircases. However, Chang et al. (2022) discovered that older people encountered difficulties while locating inexpensive housing choices and obtaining financial support for either purchase or house renovation.

Theme 2. Enablers and Barriers to the Realisation of an Age-Friendly Environment in Malaysia

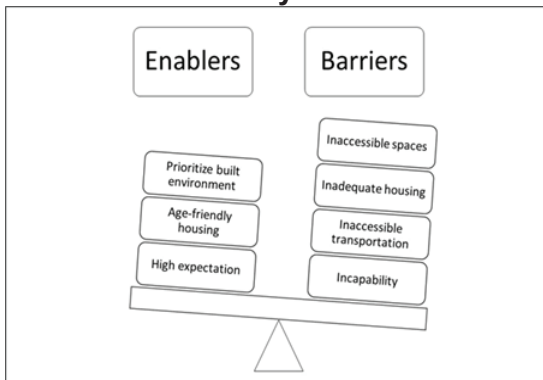


Figure 2. Enablers and Barriers

Source: Author

Supportive Built Environment

The built environment is one of the most important elements in the process of creating an age-friendly environment. The term "built

environment" refers to the physical characteristics of a community's infrastructure, including outdoor spaces and buildings, housing, and transportation. As defined by WHO's Age-Friendly Cities initiative, an age-friendly city is designed to meet all residents' needs, including older people. Several features of the built environment can become either enablers or barriers to realising an age-friendly environment.

To create an age-friendly environment in Malaysia, built environments such as accessible public transportation and housing, affordable and accessible healthcare services, and age-friendly outdoor spaces and buildings must come first before social environments (Lai et al., 2016). This is because social environments are more challenging to change than built environments. While constructing an environment that is friendly to people of all ages, both the physical and social aspects should be considered to minimise the structural barriers.

As reported by Ismail, Muhamad Halil, et al. (2020a, 2020b) in their studies, health, safety, convenience, amenity, and community were among the preferred elderly housing features. Meanwhile, Ismail, Nordin, et al. (2020) emphasised the significance of age-friendly housing design features. Housing consumers from different generations preferred designs that cater to the capacities of older people residing in their own homes. Besides, it is important to ascertain that every feature of the house, such as the bathroom, bedroom, kitchen, floor, living room, and staircase, is safe for older people. However, the realisation of an age-friendly environment in Malaysia is hampered by issues such as financial assistance for house modification and purchase as well as a lack of inexpensive housing choices for older people (Chang et al., 2022).

In addition to housing, accessibility to public transportation is also regarded as an important feature in creating an age-friendly environment. A lack of reliable and accessible transportation in the city can cause older people to experience transportation barriers (Lai et al., 2016). When older people cannot drive, or the public transportation system is unavailable or inaccessible, active community participation can be difficult. In Malaysia, problems such as insufficient elderly priority parking bays and the need for home visits by healthcare professionals have become the main issues in perceived age-friendliness among older people (Chang et al., 2022).

Since the idea of an age-friendly environment is still relatively new in Malaysia, not all outdoor spaces and buildings are created to cater to the demands of older people (Lai et al., 2016). As a result, various built environments have yet to be fully developed with older people's needs in mind. Plans for constructing outdoor spaces, increasing accessibility, and improving walkability are also severely lacking. Thus, an age-friendly neighbourhood should be equipped with features that prioritise the residents' physical activity (Ahmad Khalid et al., 2020).

Variations in socio-demographic characteristics

There is growing evidence that socio-demographic characteristics can play a role as enablers or barriers to realising an age-friendly environment. Chang et al. (2022), for instance, found that the identified gap in age-friendliness among older people living in cities was influenced by differences in places of residence; these older people reported high gap scores for parks, the internet, volunteer activities, and modified restrooms. Comparatively, older people in non-city centres reported high gap scores for healthcare providers, care homes, and cultural events.

Additionally, variations in gender and age groups influenced older people's perceptions of outdoor spaces, buildings, and transportation (Teh et al., 2021). In their study, older female adults had high expectations of city cleanliness, personal safety, building accessibility, and the availability of seating at designated transit stations, while older male adults anticipated better outdoor seating, public transportation services, and road conditions for pedestrians crossing.

Meanwhile, Ahmad Khalid et al. (2020) in their study reported differences in the perspectives of both older and younger groups on the needs of an age-friendly neighbourhood in Malaysia. For example, the older group prioritised safety and accessibility, while the younger group prioritised social activities and facilities. However, both groups agreed that an age-friendly neighbourhood is important and should prioritise physical activity among its residents.

With the ageing process, health condition deteriorates, and the abilities

of aged individuals are lower than younger individuals. Age does not create a homogeneous group of people, but rather promotes individual variability. Hence, the realisation of an age-friendly environment is influenced by the characteristics and abilities of city dwellers, particularly older people. However, the infrastructure and facilities require a change to address the demands of this group.

DISCUSSION

This thematic review aims to explore the enablers and barriers to realising an age-friendly environment in Malaysia; however, studies (2016–2022) focusing on this aspect are scarce. Based on the two sub-themes (built environment and socio-demographic characteristics) identified, the idea of an age-friendly environment is evidently still somewhat new in Malaysia. Drawing from previous studies on the elements of an age-friendly environment in Malaysia, all eight AFCC domains had an impact on the realisation of this environment. The AFCC initiative by WHO (2007) supports older people by developing cities that are more tuned in to their needs and requirements (Buffel, 2019), but not all eight domains may be covered by programmes, projects, and initiatives to the same extent. According to van Hoof et al. (2018), this may be the result of a city's or country's level of maturity in being age-friendly, the outcome of policy decisions made by governing bodies, or a combination of both. Most previous studies in Malaysia are also oriented towards specific aspects of the environment, such as housing.

The local governments play a crucial role in the implementation of age-friendly policies, as they are responsible for addressing the unique sustainable development challenges encountered in their respective municipalities. In Malaysia, the institutional framework has been established across the government's three tiers to effectively plan, coordinate, implement, and monitor these policies. Therefore, these policies should not be examined in isolation because they coexist, interlink, and sometimes overlap with one another (Karim, 2021). By understanding the interconnected nature of these policies, stakeholders can gain a comprehensive perspective on Malaysia's efforts to create and successfully implement an age-friendly environment.

According to Brooks-Cleator et al. (2019), housing is one of the components of a supportive community for the appropriate ageing process. When older people are satisfied with their existing house, they are most probably satisfied with their living environment (Moor et al., 2022). At an older age, moving is a challenging decision influenced by numerous factors. Thus, many older people abstain from relocating unless it is necessary (Koutani, 2019).

In terms of the enablers and barriers to realising an age-friendly environment in Malaysia, most previous studies highlighted the need for a supportive built environment for older people. When designing and creating an age-friendly city, the natural and built environments should be modified such that the residents will be of different capacities; hence, this should not only cater to the needs of the majority (WHO, 2007). The built or physical environment has a significant influence on the mobility, independence, and quality of life of older people as well as their ability to age in place. This aligns with the Sustainable Development Goals' aim of creating inclusive and accessible cities that cater to the needs of all individuals, especially older people.

Due to changes in the physiological and psychological capacities of older people and the loss of or reduction in autonomy, the living spaces will either facilitate the life of older people or make it difficult for them, as the physical and spatial conditioning factors and user perception of these spaces may influence the ageing process (Paiva et al., 2015). As asserted by Moor et al. (2022), older people tend to be dissatisfied with their living conditions when they experience nuisance in public spaces. Spaces or places can be divided between safe and protected, or dangerous and threatening. Insufficient pedestrian walkways, inadequate lighting and excessive landscape elements can all contribute to discomfort in residential areas (Zainol et al., 2022). While older individuals consider their homes safe and secure (van Hoof et al., 2018), the outside world is often seen as unsafe and dangerous (Mohammad & Abbas, 2012). Older people spend approximately 80% of their day at home; thus, they always emphasise the importance of being independent in their own houses and neighbourhood (Van Dijk et al., 2015).

Older people do not comprise a homogenous population; their different

backgrounds often influence their perceptions of how an age-friendly environment is realised. In this environment, a one-size-fits-all model is no longer relevant as there are variations in social class, gender, age group, cognitive status, and geographic setting (Weil & Smith, 2016). As such, older people's environment can influence where they choose or are forced to reside (Ewen et al., 2017).

CONCLUSION

Given the high ageing population in Malaysia, cities in this country must adopt policies and practices that are friendlier to older people. While it is challenging to plan these changes and allow the current and future generations of older people to benefit from age-friendly policies and practices, those who are tasked with the responsibility of planning for an age-friendly environment should mitigate this challenge. Due to the scarce studies on an age-friendly environment in Malaysia between 2016 and 2022, there are limitations in the availability of comprehensive data and findings, which may lead to incomplete or limited conclusions.

In an age-friendly environment, especially in the Malaysian context, the scope of actions should be more clearly defined, and the results should be measured or quantified. Additionally, increased connections should be established between policymakers and funding institutions. Public agencies, along with private companies, can also allocate funding and investment toward age-friendly projects and initiatives such as financing the development of accessible infrastructure, public spaces, and amenities that cater to the needs of older individuals. In line with the planning for the creation of environments that support older people, such actions may contribute to the reduction of social isolation experienced by older people and further improve their access to essential services and opportunities. Nonetheless, creating an environment that is friendly to people of all ages is beneficial for not only older people but also everyone.

AUTHORS' CONTRIBUTION

Noorlailahusna Mohd Yusof drafted the manuscript, reviewed the literature,

designed the methodology, organised the results, and wrote the conclusions. Suziana Mat Yasin reviewed the literature and supervised the research.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
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Cawangan Perak



Tuan,

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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

Setuju.

27.1.2023

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

PROF. MADYA DR. NUR HISHAM IBRAHIM
REKTOR
UNIVERSITI TEKNOLOGI MARA
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