

Social Isolation among Ageing Population in Malaysia

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Abstract

Social isolation is an increasingly significant issue within the social sciences and healthcare, particularly concerning aging populations. Defined by a deficiency in social interactions and meaningful relationships, social isolation has profound effects on the well-being of older adults. In Malaysia, the demographic shift towards an aging population, fueled by rising life expectancy and declining fertility rates, exacerbates the risk of social isolation. Contributory factors include deteriorating health, unemployment, and evolving family structures. This study explores issues related to social isolation among the elderly in Malaysia, including its contributing factors, impacts, and potential solutions for addressing these challenges. The findings underscore the urgent need for comprehensive interventions, such as policy reforms, community-based initiatives, and spiritual support programs, to improve the quality of life and foster social connectedness among older adults. The outcome also suggests that the main stakeholders especially government agencies, society members and the older adults must work together towards understanding and supporting the existing policies.

Keywords: Elderly, Well-Being, Social Isolation, Community Support, Social Connectedness.

Introduction

In the social science and healthcare fields, social isolation has been identified as a widespread issue and one of the key emerging concerns associated with aging (Donovan & Blazer, 2020). Due to its complexity, social isolation is defined in various ways within social and gerontological literature (Tragantzopoulou & Giannouli, 2021). It is often described as the lack or reduction of social interactions, contacts, and relationships with others, especially with family and friends, as well as low levels of societal integration and involvement, and a limited number of social contacts and interactions (Rohr et al., 2021). Based on these definitions,

social isolation can be understood as the objective aspects of personal relationships that can be measured by the size and composition of one's social network and the frequency of meaningful and supportive interactions within that network (Czaja, Moxley, and Rogers, 2021).

Population demographics have garnered significant attention in contemporary society (McCallum, 2023). This demographic imbalance is not solely a result of natural aging but is also influenced by social factors, including social isolation among the elderly (Huxhold, Suanet, and Wetzel, 2022). With increasing life expectancy and declining birth rates in many regions globally, there is a notable shift in population composition towards older age groups (Andreev and Dupre, 2021). Concerns regarding social isolation and loneliness among older individuals have heightened as the global population ages and more individuals experience living alone (Wigfield and Alden, 2018).

According to the United Nations (2020), the proportion of the global population aged 65 and above is projected to nearly double from 9.3% to 16.0% by 2050 which leading to a rise in the number of older individuals living independently. These demographic changes carry extensive implications for societies, impacting workforce composition, healthcare requirements, and social welfare systems (Osareme et al., 2024). However, underlying this broader demographic shift is a subtler yet significant issue: the prevalence of social isolation among the elderly, which further compounds the imbalance in age distributions within populations (Burholt et al., 2020).

Furthermore, modern lifestyles, which include increased reliance on technology and shifting family structures, can contribute to feelings of isolation and loneliness among older adults (Latikka et al, 2021). Examining the impact of social isolation on population demographics reveals the complex interplay between social factors and demographic trends, emphasising the importance of addressing social isolation as a means of achieving a more balanced age distribution within communities (Franssen et al, 2020). Scrivens (2024) mentioned that understanding the complex relationship between social isolation and population demographics is crucial for developing effective strategies to balance demographic changes. Social isolation has far-reaching consequences for community cohesion, social support networks, and public health, in addition to its impact on individuals (Maleku et al,2022). (Han et al (2021) stated that societies can work towards a more balanced age distribution and create age-friendly environments that benefit people of all ages by implementing interventions that promote social inclusion, community engagement, and support networks for the elderly. These efforts are critical in creating resilient and inclusive communities that promote the well-being and dignity of all people, regardless of age. Therefore, this study want to explore issues related to social isolation among the elderly in Malaysia, including its contributing factors, impacts, and potential solutions for addressing these challenges.

Literature Review

Ageing Population

The elderly population in Asian countries has grown rapidly amid social and economic transformations (Tengku Aizan, 2015). This growth has significant impacts on economic development and security, healthcare systems, and the ability of family support structures to

maintain the well-being of older adults. Malaysia is on track to become an aging nation by 2030, as indicated by the Department of Statistics Malaysia (2022). The percentage of the population categorized as elderly increased to 4.1% in 2022 from 2021. According to the United Nations (UN) definition, Malaysia is already considered an aging country, with the median age rising from 30.1 years in 2021 to 30.4 years in 2022 (Department of Statistics Malaysia, 2022). It is projected that by 2030, approximately 15.3% of Malaysia's population will be over 60, and as of 2022, about 11.1% or 3.6 million Malaysians are already over the age of 60 (Department of Statistics Malaysia, 2022).

With aging, there is an increased risk of social isolation (Freedman, 2020). One significant consequence of an aging population is the heightened strain on healthcare services (Tun, 2021). As individuals age, the demand for medical care and long-term assistance significantly increases, putting pressure on the healthcare system and necessitating a reevaluation of healthcare policies and infrastructure to meet the needs of the expanding elderly population. In conclusion, Malaysia's aging population presents a complex and multifaceted challenge that requires careful consideration and planning. By acknowledging the implications of an aging population and implementing strategic measures, Malaysia can effectively address the needs of its elderly citizens and maximise the potential of an aging society.

Social Isolation

Social isolation is characterised as the objective absence of social connections, support, and interaction with others (Elmer, 2020). It differs from loneliness, which is the subjective feeling of being alone and lacking social connections (Kekkonen, 2020). Loneliness is a personal emotional experience, while social isolation is quantifiable and observable (Seeman, 2022). Among the elderly, social isolation can arise from various factors such as reduced social circles due to life changes, physical and cognitive decline, chronic health conditions, and economic constraints (Medical Dimensions of Social Isolation, 2020). Additionally, societal attitudes and stereotypes regarding aging can lead to exclusion and marginalization (Jose, 2022). To address social isolation among older individuals, communities and support networks must recognize and tackle these contributing elements.

Social isolation within the elderly demographic has become a pressing issue in modern society, carrying implications for both individual well-being and public health (Ganesan, 2021). Social isolation and loneliness are acknowledged as serious difficulties affecting older persons, with several studies highlighting their devastating impact on the health and well-being of people aged 50 and up (Clair, 2021). Many older persons experience risk factors such as living alone, losing family or friends, chronic illnesses, and sensory impairments, all of which can contribute to or worsen social isolation and loneliness. Evidence suggests that these disorders can be as harmful to their health as smoking or obesity, emphasizing the need for public health measures and additional study (Social Isolation and Loneliness in Older Adults, 2020).

Several studies have brought attention to the common occurrence and negative consequences of social isolation in the elderly population. For example, a longitudinal study carried out by Cornwell and Waite (2009), revealed that social isolation was correlated with a heightened mortality risk among older adults, even when adjusting for different demographic

and health-related variables. Likewise, Shankar et al (2011), conducted research showing that social isolation was associated with an elevated likelihood of developing chronic health issues like cardiovascular diseases and depression in older individuals. Furthermore, research has identified various factors that contribute to social isolation in older adults, including changes in social circles, the death of a spouse or close friend, limited mobility, and retirement (Victor et al., 2005). These findings highlight the need of addressing social isolation among the elderly through personalized interventions and community efforts aimed at fostering social connections and improving the well-being of seniors.

However, interventions designed for socially isolated youth could offer valuable lessons for developing strategies tailored to older individuals. Interdisciplinary approaches that concentrate on interventions based in homes and communities appear to hold promise for young people facing social isolation. These interventions foster a sense of empowerment and anticipation, indicating that comparable strategies could potentially help alleviate social isolation among the elderly. It is crucial to establish a supportive environment that encourages social reconnection and provides the essential support systems for this demographic (Social Isolation Experienced by Youth in Social Withdrawal: Toward an Interdisciplinary Analysis and Practice, Wong et al., 2020). While social isolation can affect individuals of all ages, its manifestations and consequences in older adults might differ. The social technology currently available tends to address health needs rather than take a holistic approach that includes social connectedness. The lack of targeted social technology that addresses the specific nuances of older people's social interaction indicates the necessity for more research into the daily lives of the elderly to create better-suited solutions social isolation of older people (Pedell et al., 2010).

Issues and Challenges of Ageing Population

It cannot be denied that the life expectancy of the population is improving not only in Malaysia but it is also happening in foreign countries due to medical progress and economic development (Alavi et al., 2011). This increase in population leads to an increase in the population aged 65 years and above which can be categorized as elderly (Jaafar et al., 2021). Statistics from the Department of Statistics Malaysia (DoSM) show an increase in the composition of individuals aged 65 and above which is 7.2% in 2022 and increased to 7.4% in 2023 which includes 2.5 million people. Furthermore, DOSM expects that in 2024, the demographics of the population in Malaysia will show an almost equal distribution between the young (18.6%) and the elderly which is 14.5%. The demographic of the elderly is expected to exceed six million which shows the transition for the elderly society in Malaysia.

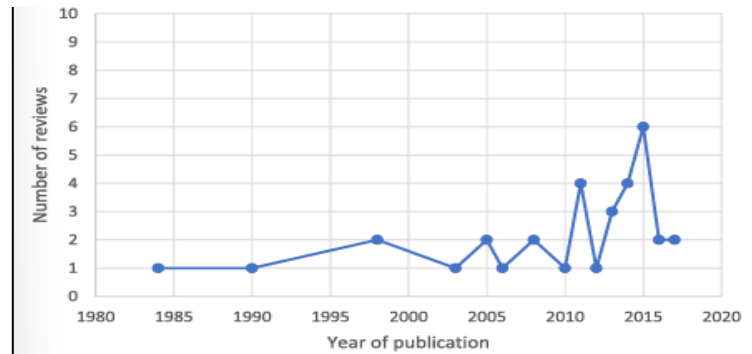
The increase in the number of people who are ageing has led to the issue of social isolation. Social isolation can be defined as a negative feeling that can occur in any individual due to a lack of social contact or dissatisfaction with relationships. Furthermore, this social isolation can lead to increased morbidity and mortality if not addressed immediately (Gu et al., 2021). This shows that social isolation or the lack of social interaction and support can negatively impact a person's physical and mental health which potentially resulting in serious health problems or even premature death if not properly managed. According to Ibrahim & Ahmad (2022), marginalization can be defined as the absence or limitation of the amount of social interaction between individuals. The elderly tend to feel marginalized or marginalized

due to poor quality social relationships even though they have a high level of social interaction.

Social connections play a crucial role in the well-being of the elderly by offering emotional support, companionship, and a sense of belonging (Suragam, 2021). Nevertheless, the growing prevalence of social isolation among older individuals is a significant worry. As indicated by Ganesan (2021), social isolation can lead to various adverse outcomes, such as an elevated risk of mental health conditions like depression and anxiety, along with physical health issues. Recognizing the impacts of social isolation on the elderly is essential for creating effective interventions and support systems. By tackling this issue, we can strive to enhance the overall well-being and quality of life for older people (Public Health, 2020).

Statistic on Social Isolation Research Among Elderly

Based on Figure 1, the number of reviews published between 1984 and 2017 is depicted in the graph above. This graph shows the trend in the publication of reviews on social isolation and silent interventions for the elderly. There were just two reviews published annually between 1984 and 2000, which is a low and steady quantity of reviews. The number of reviews published annually increased gradually but steadily after 2000. However, the number of published reviews increased significantly after 2010, reaching a peak of eight in 2016. This suggests that, within the past ten years, research on strategies to lessen social isolation and loneliness among the elderly has received more attention. Overall, this graph demonstrates that, particularly after 2010, the problem of loneliness and social isolation among the elderly has drawn more attention and in-depth research in the past few decades.



(Source: Fakoya, McCorry & Donnelly, 2020)

Figure 1: Number of review articles on loneliness and social isolation interventions published from 1984 to 2018

There are three type of loneliness which is social loneliness, emotional loneliness and family loneliness (Siti Zuhaida, Azera Hasra & Suraya Hanim, 2021). Based on study conducted by Siti Zuhaida, Azera Hasra & Suraya Hanim (2021) emotional loneliness is the most common among Malaysian elderly where 40.3% of respondents experienced social loneliness. Regarding social loneliness, 37.6% of respondents stated that they experienced social loneliness. While only 10.8% respondents reported experienced family loneliness. This makes family loneliness the lowest level of loneliness experienced by elderly in Malaysia. The principal causes of loneliness in the elderly can have serious consequences for their health and mental well-being (Sokolova & Sokolova, 2024). According to Sokolova & Sokolova (2024),

social isolation is associated with a higher risk of chronic illnesses such as heart disease, hypertension, and depression. Additionally, a lack of social contacts is linked to an increased incidence of dementia and contributes to the development of Alzheimer's disease (Sokolova & Sokolova, 2024).

Types of loneliness	Percentage experienced loneliness (%)
Social loneliness	37.6
Emotional loneliness	40.3
Family loneliness	10.8

(Source: Siti Zuhaida, Azera Hasra & Suraya Hanim, 2021)

Table 1: Types and Percentage of Loneliness Among Malaysian Elderly (n=380)

Methodology

In this conceptual paper on social isolation among the elderly in Malaysia, thematic analysis is used to explore and interpret key themes related to the issue. This approach involves examining the literature and theoretical frameworks to identify recurring themes and patterns that shed light on the factors contributing to social isolation, its impacts, and potential solutions. By analyzing these themes, the paper aims to deepen the understanding of how social isolation affects elderly individuals in Malaysia and to develop a comprehensive framework for addressing the issue effectively.

Factor of Social Isolation Among Elderly

Health

There are several factors that lead to social isolation among the elderly, one of which is the level of health. Health levels can include physical health and mental health. This is said to be so because individuals with health problems such as spinal cord injury, TBI and other severe health problems and mental illness will lead to social isolation (Ibrahim & Ahmad, 2020). Furthermore, chronic diseases, disabilities and mental health problems experienced by the elderly such as depression and anxiety will make it difficult for them to engage in social activities. This situation causes them to feel lonely and isolated because they cannot do social activities with the rest of the community. In addition, there are also elderly people who have lost their spouses or close friends. This prompts them to feel lonely and sad because they have no one to share problems with or so on (Razman & Shaban, 2023).

Unemployment

Next, the unemployment factor is also one of the factors that encourage social isolation among the elderly. This is said to be so because the unemployment that occurs in the community will cause an individual to not have an income that can help him to support his life. This situation causes an individual to experience a multidimensional poverty problem and they will be set aside from other groups of society (Ibrahim, 2020). Economically, the lack of income causes the community to be below the poverty line because they are unable to meet their daily needs. A study from Indri (2016) emphasizes that individuals who are marginalized from the system and social relations are caused by poverty. According to him, the life challenge experienced by those who are poor is the inability to meet the necessities of life such as housing, food, clothing and health.

Family

Lastly, the social isolation factor that occurs among the elderly is caused by the level of the family. Malaysia is a country that firmly adheres to the concept of "filial piety", which is a concept that emphasizes the need to respect and appreciate the elderly (Ng, 2019). This concept explains the responsibility of children to care for and provide for their parents' needs. However, this pattern of life has limitations due to unavoidable constraints. For example, today's society has high career demands and makes it difficult for them to support life and bear the responsibility of being a child to his parents. This situation causes the time and attention given to parents to decrease and causes parents to feel lonely and do not have enough time for them to spend time together (Ibrahim & Ahmad, 2022).

Strategies and Solution

Improve Policies Related to The Elderly

In addition, there are several suggestions that can be made to deal with the problem of social isolation from getting worse among the elderly. Among the recommendations that can be made is to improve policies related to the elderly in Malaysia. For example, Malaysia has also taken steps to address the issue by adopting an active aging policy framework to optimize opportunities for the social and mental well-being of the community. This is because it can help to promote a good quality of life as people age. The National Social Welfare Policy (1990) is one of the policies that have been implemented in Malaysia. The National Social Welfare Policy was established to help the elderly improve their standard of living and well-being through welfare programs and services.

Spiritual Intervention Program

In addition, another suggestion that can be made to overcome the issue of social isolation among the elderly is to create a spiritual intervention program. Spiritual intervention programs are important to society, especially to the elderly because it can help to improve their well-being. This is said because for the elderly who are Muslims, a calm state of mind is very important especially when reaching the end of life (Jaafar et al., 2021). A study by Tengku Aizan (2015) found that empirical studies to examine the relationship between psychological aspects and spiritual aspects for the elderly are still under-conducted. Therefore, this program needs to be carried out because there are many issues that occur among the elderly related to the psychology of the elderly such as depression, loneliness, mental health problems and so on.

Proposed Model of Social Isolation Among Ageing Population in Malaysia

The proposed model is a framework that can be seen about social isolation among the elderly as shown in Figure 2. Social isolation aging refers to the lack of social connections, support and interaction with others (Elmer, 2020). According to Jaafar et.al, (2021) composition of individuals aged 65 and above. This matter will indirectly relate to the issue of social isolation among elders in Malaysia. Social isolation also happens because of various factors which is physical & cognitive, level of health, and shrinking social circle. In addition, this issue also has a higher risk of mortality. Therefore, there are two suggestions that can be done to overcome this issue, namely by improving policies related to the elderly in Malaysia and creating a spiritual intervention program.

Social isolation among aging individuals is influenced by several interrelated factors that significantly impact their overall well-being. One major factor is the physical and cognitive decline that often accompanies aging. These declines can manifest in various medical conditions that limit an individual's mobility, reduce cognitive functioning, and consequently diminish their ability to engage in social activities. This physical and cognitive deterioration forms a significant barrier to maintaining social connections, contributing to a heightened sense of isolation. The overall level of health plays a critical role as well, with Ibrahim and Ahmad (2020) highlighting that poor health status in older adults increases dependency on others, limits their social participation, and enhances feelings of loneliness. Poor health not only affects the individual's capacity to socialize but also restricts their access to social support and community resources, further isolating them. Additionally, the shrinking social circle is a significant concern. As people age, they often experience the loss of friends, family members, and peers due to various factors such as death, relocation, or deteriorating health. The decline in social connections can result in deep-seated feelings of loneliness and isolation. The medical aspects of social isolation, as explored in 2020, underscore how the loss of a strong social support system can negatively impact the mental and emotional well-being of older adults. These factors collectively form an intricate set of obstacles that foster social isolation among the elderly, underscoring the necessity for holistic approaches to tackle and alleviate these concerns, ultimately improving the quality of life for aging individuals.

The risk of social isolation among aging individuals is significantly linked to a higher risk of mortality. Cornwell and Waite (2009), highlight that older adults who experience social isolation face a substantially increased likelihood of death compared to their socially connected peers. This heightened risk can be attributed to several factors. Socially isolated individuals often have limited access to healthcare and social support, which can lead to neglect of medical needs and a decline in physical health. Additionally, isolation can exacerbate mental health issues such as depression and anxiety, further diminishing overall well-being. The lack of social interaction and emotional support weakens the immune system, making isolated older adults more vulnerable to illnesses and chronic conditions. Furthermore, without a network of friends and family, these individuals may not receive timely help in emergencies, further elevating their risk of mortality. Therefore, addressing social isolation is crucial for improving the health and longevity of the elderly population.

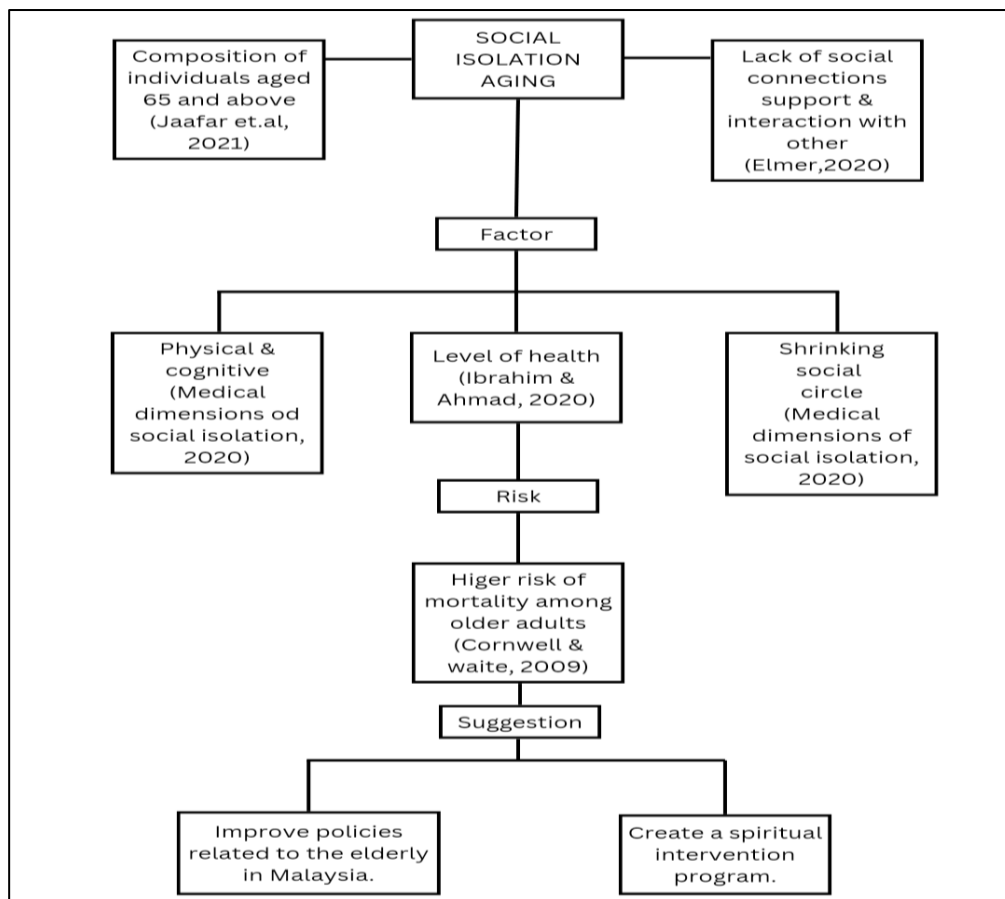


Figure 2: The Proposed Model of Social Isolation Among Ageing Population in Malaysia

Therefore, the potential scientific model proposed includes the integration of various elements, taking into account scientific practicality and reasoning, including factors such as physical and cognitive dimensions (Medical Dimensions of Social Isolation, 2020), health levels (Ibrahim & Ahmad, 2020), shrinking social circles (Medical Dimensions of Social Isolation, 2020), and the associated risks. Hence, the primary recommendation to address this issue is to enhance policies related to the elderly in Malaysia. Malaysia has already taken steps to tackle this issue by implementing the Active Ageing Policy framework aimed at optimizing opportunities for social and mental well-being within society. This initiative seeks to promote a high quality of life alongside the increasing aging population, thereby fostering societal welfare. Another suggestion is to establish a spiritual intervention program, which is crucial for the community, especially for the elderly, as it can significantly improve their well-being. Research suggests that maintaining a peaceful state of mind is particularly important for elderly individuals of Islamic faith as they approach the end of their lives (Jaafar et al., 2021).

Conclusion

The issue of social isolation among the elderly has emerged as a major worry in the context of an ageing global population (Walsh et al., 2021). With rising life expectancy and decreased childbearing rates, there is a clear demographic shift toward older age groups, emphasizing the significance of tackling aging-related concerns, including social isolation (Vaupel, Villavicencio & Bergeron, 2021). Social isolation, defined as a lack of meaningful social connections and relationships, can lead to serious health consequences, including increased

morbidity and mortality (Donovan and Blazer, 2020). Demographic data in Malaysia show an increasing senior population, which has important consequences for social welfare systems and community health (Ismail et al., 2021). Factors contributing to social isolation among the elderly include health issues, unemployment, and changing family dynamics. (Koehn, Ferrer and Brotman, 2022). Health problems such as chronic diseases and mental illnesses hinder the elderly from engaging in social activities, exacerbating feelings of loneliness. Unemployment and economic hardships further isolate the elderly by limiting their ability to participate in societal activities (Okechukwu, 2021).

Addressing social isolation requires multifaceted interventions (Ma et al, 2020). Policy improvements, such as active aging frameworks and welfare programs, can enhance the quality of life for older adults (Fulmer et al, 2021). Besides that, spiritual intervention programs also can provide mental and emotional support, promoting well-being among elderly populations. (Abdolahrezaee et al 2020). Community-based programs and targeted interventions are crucial in fostering social connectedness and improving the overall well-being of the elderly (Smith et al., 2023). The issue of social isolation is not confined to Malaysia but is a global challenge that demands comprehensive strategies (Tan at al, 2023). Therefore, addressing social isolation through public health interventions, community engagement, and supportive networks is essential for creating age-friendly environments (Hossen et al 2023). These efforts will contribute to resilient and inclusive communities, ensuring the dignity and well-being of individuals across all ages (Sanche et al., 2020).

References

- Abdolahrezaee, N., Khanmohammadi, A., Dadfar, M., Rashedi, V., & Behnam, L. (2020). Prediction of hope, physical health, and mental health by mediating variable of religious spiritual well-being in elderly. *Mental Health, Religion & Culture*, 23(10), 928-940.
- Burholt, V., Winter, B., Aartsen, M., Constantinou, C., Dahlberg, L., & Feliciano, V. (2020). A critical review and development of a conceptual model of exclusion from social relations for older people. *European Journal of Ageing*, 17(1), 3-19.
- Clair, R., Gordon, M., Kroon, M., & Reilly, C. (2021). The effects of social isolation on well-being and life satisfaction during pandemic. *Humanities and Social Sciences Communications*, 8(1).1-14
- Department of Statistics Malaysia (2022). *Populasi Warga Emas di Malaysia*. Putrajaya: Jabatan Perangkaan Malaysia.
- Donovan, N. J., & Blazer, D. (2020). Social isolation and loneliness in older adults: Review and commentary of a national academies report. *The American Journal of Geriatric Psychiatry*, 28(12), 1233-1244.
- Elmer, T., & Stadtfeld, C. (2020). Depressive symptoms are associated with social isolation in face-to-face interaction networks. *Scientific reports*, 10(1), 1444.
- Fakoya, O. A., McCorry, N. K., & Donnelly, M. (2020). Loneliness and social isolation interventions for older adults: a scoping review of reviews. *BMC Public Health*, 20(1). 1-8.
- Franssen, T., Stijnen, M., Hamers, F., & Schneider, F. (2020). Age differences in demographic, social and health-related factors associated with loneliness across the adult life span (19–65 years): a cross-sectional study in the Netherlands. *BMC Public Health*, 20, 1-12.
- Freedman, A., & Nicolle, J. (2020). Social isolation and loneliness: The new geriatric giants: Approach for primary care. *Canadian Family Physician*, 66(3), 176-182.

- Fulmer, T., Reuben, D. B., Auerbach, J., Fick, D. M., Galambos, C., & Johnson, K. S. (2021). Actualizing better health and health care for older adults: Commentary describes six vital directions to improve the care and quality of life for all older Americans. *Health Affairs*, 40(2), 219-225.
- Ganesan, B., Al-Jumaily, A., Fong, K. N., Prasad, P., Meena, S. K., & Tong, R. K. Y. (2021). Impact of coronavirus disease 2019 (COVID-19) outbreak quarantine, isolation, and lockdown policies on mental health and suicide. *Frontiers in Psychiatry*, 12, 1-7.
- Gu, D., Andreev, K., & Dupre, M. E. (2021). Major trends in population growth around the world. *China CDC Weekly*, 3(28), 604-612.
- Han, J., Chan, E. H. W., Qian, Q. K., & Yung, E. H. K. (2021). Achieving sustainable urban development with an ageing population: An “age-friendly city and community” approach. *Sustainability*, 13(15), 8614.
- Huxhold, O., Suanet, B., & Wetzell, M. (2022). Perceived social exclusion and loneliness: Two distinct but related phenomena. *Sociological Science*, 9, 430-453.
- Hossen, M. S., Pauzi, H. B. M., & Salleh, S. F. B. (2023). Enhancing elderly well-being through age-friendly community, social engagement and social support. *American Journal Science Education Research*, 135, 1-9.
- Ismail, Z., Ahmad, W. I. W., Hamjah, S. H., & Astina, I. K. (2021). The impact of population ageing: A review. *Iranian Journal of Public Health*, 50(12), 2451.
- Jose, J. P., Cherayi, S. J., & Sudhakar, S. (2022). Age identity and social exclusion of older persons: A psychosocial perspective. *Ageing International*, 47(2), 115-133.
- Kekkonen, V., Tolmunen, T., Kraav, S. L., Hintikka, J., Kivimäki, P., Kaarre, O., & Laukkanen, E. (2020). Adolescents' peer contacts promote life satisfaction in young adulthood—A connection mediated by the subjective experience of not being lonely. *Personality and Individual Differences*, 167, 110264.
- Koehn, S., Ferrer, I., & Brotman, S. (2022). Between loneliness and belonging: Narratives of social isolation among immigrant older adults in Canada. *Ageing & Society*, 42(5), 1117-1137.
- Latikka, R., Rubio-Hernández, R., Lohan, E. S., Rantala, J., Nieto Fernández, F., Laitinen, A., & Oksanen, A. (2021). Older adults' loneliness, social isolation, and physical information and communication technology in the era of ambient assisted living: A systematic literature review. *Journal of Medical Internet Research*, 23(12), 28022.
- Ma, R., Mann, F., Wang, J., Lloyd-Evans, B., Terhune, J., Al-Shihabi, A., & Johnson, S. (2020). The effectiveness of interventions for reducing subjective and objective social isolation among people with mental health problems: a systematic review. *Social Psychiatry and Psychiatric Epidemiology*, 55, 839-876.
- Maleku, A., España, M., Jarrott, S., Karandikar, S., & Parekh, R. (2022). We are aging too! Exploring the social impact of late-life migration among older immigrants in the United States. *Journal of Immigrant & Refugee Studies*, 20(3), 365-382.
- McCallum, J. (2023). *Australia's new aged: issues for young and old*. Routledge.
- National Academies of Sciences. (2020). *Social isolation and loneliness in older adults: Opportunities for the health care system*. National Academies Press.
- Okechukwu, C. E. (2021). The impact of loneliness on physical and mental health among older adults in the era of coronavirus disease 2019 pandemic. *Apollo Medicine*, 18(1), 29-32.
- Osareme, J., Muonde, M., Maduka, C. P., Olorunsogo, T. O., & Omotayo, O. (2024). Demographic shifts and healthcare: A review of aging populations and systemic challenges. *International Journal of Science and Research Archive*, 11(1), 383-395.

- Sánchez-González, D., Rojo-Pérez, F., Rodríguez-Rodríguez, V., & Fernández-Mayoralas, G. (2020). Environmental and psychosocial interventions in age-friendly communities and active ageing: A systematic review. *International Journal of Environmental Research and Public Health*, 17(22), 8305.
- Scrivens, N. (2024). *Synchronicity-Exploring the Impact of Socio-Technical Interventions on Social Isolation* [Doctoral dissertation, University of Kent]. Ken Academic Repository.
- Seemann, A. (2022). The psychological structure of loneliness. *International Journal of Environmental Research and Public Health*, 19(3), 1061.
- Siti Zuhaida, H., Azera Hasra, I., & Suraya Hanim, A. B. (2021). Loneliness and health outcomes among Malaysian older adults. *Makara Journal of Health Research*, 2(3), 87-93.
- Smith, M. L., Racoosin, J., Wilkerson, R., Ivey, R. M., Hawkley, L., Holt-Lunstad, J., & Cudjoe, T. K. (2023). Societal-and community-level strategies to improve social connectedness among older adults. *Frontiers in Public Health*, 11, 1176895.
- Sokolova, O., & Sokolova, O. (2024, May 25). *menghadapi kesepian dan pengasingan pada orang tua: Kesan terhadap kualiti hidup*. DarwynHealth.
- Suragarn, U., Hain, D., & Pfaff, G. (2021). Approaches to enhance social connection in older adults: an integrative review of literature. *Aging and Health Research*, 1(3), 100029.
- Tan, C. Y., Ng, J. Y., Lin, M. H., & Yong, M. H. (2023). Effects of perceived social isolation, fear of social isolation, and gratitude during COVID-19 pandemic on anxiety in Malaysia. *Journal of Pacific Rim Psychology*, 17, 1-9.
- Tengku Aizan, A. H., Azzida, D. & Siew, M. C. (2019). The role of social network, social support, religiosity and depression among elderly Malaysians who had experienced major life event. *The Medical Journal of Malaysia*, 74(3), 198-204.
- Tragantzopoulou, P., & Giannouli, V. (2021). Social isolation and loneliness in old age: Exploring their role in mental and physical health. *Psychiatriki*, 32(1), 59-66.
- Tun, S. Y. Y., Madanian, S., & Mirza, F. (2021). Internet of things (IoT) applications for elderly care: a reflective review. *Aging Clinical and Experimental Research*, 33, 855-867.
- Vaupel, J. W., Villavicencio, F., & Bergeron-Boucher, M. P. (2021). Demographic perspectives on the rise of longevity. *Proceedings of the National Academy of Sciences*, 118(9), 1-9.
- Walsh, K., Scharf, T., Van Regenmortel, S., & Wanka, A. (2021). The intersection of ageing and social exclusion. *Social exclusion in later life: Interdisciplinary and policy perspectives*, 3-21.