



The Impact of Population Ageing: A Review

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Abstract

Background: Population aging refers to the increase in number and percentage of older population aged 60 yr and above, and at the same time, decreasing in number and percentage of the young population aged 15 yr old and below. Starting in developed countries, population aging has now become a distinctive demographic phenomenon in developing countries. Nowadays developing countries have become the home to the largest proportion of older people in the world. This paper aimed to analyze the impact of population aging in Malaysia.

Methods: We employed a secondary data analysis related to the impact of population aging in Malaysia. In analyzing the data, the paper detailed, segmented, coded and, formulated the text into themes through a thematic approach. The themes that emerged from the data were family changes, migration of youth, support and care, health problems, financial security as well as housing problems. These emerged themes mapped the shared patterns of the impacts of the population aging.

Results: With the increasing of the older population in Malaysia, there are various impacts of population aging emerged, particularly in terms of family changes, youth migration to cities, support and care, health, financial security and housing. The discussion in this article is revolved around these impacts.

Conclusion: The growth of older people and the impact emerging from it has certain policy implications for the government of the country. Thus, the government needs to prepare for adequate policies and resources for future older people.

Keywords: Older person; Population aging; Life expectancy; Family support; Quality of life

Introduction

While the discourse on senior citizens has long been developed in industrial nations in Europe and North America, the discourse on it, on the other hand, is a new effort in developing countries, including Malaysia. Before the 20th century, not many people reached old age eligible to be called senior citizens (1). The revolution in modern medical technology that took place in the ear-

ly 20th century has caused many deadly diseases to be cured and reduced death rates in most nations of the world (2). Thus, the life expectancy of the population in many countries is fast increasing and the number of senior citizens increased. Many nations in developing countries have experienced a change from situations of high fertility and high mortality to low fertility



and low mortality, a process called demographic transition (1). Observing demographic history, the growth of senior citizens is closely linked to the pace of the demographic transition of a country. The confluence of lowered fertility and improved health and longevity has generated growing numbers and proportions of older populations throughout the world (2). Declining in the proportion of young people and declining in mortality rates, particularly at older ages, lead to an increase in the number of senior citizens in the population structure. These changes coupled with an increase in longevity produce an increasing number of senior citizens. Continual increases in life expectancy at older ages have been the norm in most countries worldwide (1).

Thus, the aging of the population is a worldwide phenomenon. Malaysia is a country in Southeast Asia that is in the process of experiencing population aging. Although today, Malaysia still has a relatively small population of 60 and older and is still not be categorized as the aged nation as compared to industrialized countries in Europe and North America, the number and percentages of this category of the population are increasing. In 1970 the population of 60 and over in Malaysia was 539,118 only, and it has increased to 745,152 in 1980. By percentage, it increased from 5.2% 1970), to 5.7% (1980) and increased further to 6.6% (2000) and is expected to reach 11.3% by 2020 (3) (Table 1).

Table 1: Number of older population in Malaysia aged 60 + (1970–2020)

Year	Number	Percentage
1970	539 118	5.2
1980	745 152	5.7
1991	1 032 310	5.9
2000	1 450 000	6.6
2010	2 094 000	8.3
2020	3 216 000	11.3

Sources: Department of Statistics Malaysia (4-11), United Nations (3)

The objective of this paper was to analyze the impact of population aging in Malaysia. The aging of the population in Malaysia, as in other developing countries as well, by far is still not considered an urgent problem, but the increasing number of senior citizens in society has imposed new socioeconomic impacts for the country as the country right now is still struggling to attain a reasonable level of economic development. In other words, population aging will impose various impacts on the economy of the nations, because the sustained growth of older population will need enough resources to maintain their changing need and well-being. Like in other developing countries, Malaysia will also be facing various problems regarding the impact of population aging eventually. According to various reports, poverty, for example, tends to increase with age (12). Poverty is not only happened in developing countries, where report from HelpAge International (13), elderly people are the poorest population group, but poverty is also can be found in developed countries where over one in three elderly persons there, lives in poor, or near-poor family (14).

Methods

To discuss the impact of population aging in Malaysia, this study used secondary sources. The main source of the data and discussion for this article are derived from previous studies (1, 2, 15-17). While reviewing secondary sources from the above sources and other related sources, many secondary data regarding senior citizens have been collected. Data, such as the impact of the growth of senior citizens all over the world, carry very valuable information that is particularly very

important for researchers of the older population. Because this secondary data carries very valuable information, an initiative to share this information is an urgent need. Secondary data analysis is a technique of research that analyzes the existing information from various sources collected by other researchers for another primary purpose (18, 19). In recent years, researchers outside Malaysia tend to see that utilizing existing information for research is becoming more prevalent (19-21). This is because with technological advances, a vast amount of data successfully collected, compiled, and archived, is now easily accessible for research (19).

Data gathered from the various secondary sources of population aging in Malaysia on the issue, have been analyzed through a thematic analysis approach. In analyzing the data, findings were described by formulating the text into themes through a thematic analysis approach. The thematic analysis approach is a part of making sense of the information by distilling and describing the text and naming the essential features in themes (22). The developed themes would map the shared patterns of an attribute, descriptor, element, and concept in the study (22, 23). The development of themes aims to convey appropriately the subjective meanings and social reality in the study (23). At this step, the researchers analyzed the various secondary sources on the issue to identify the major themes as well as sub-themes. The researchers discussed the emergent themes and reached concordance with the findings of the impact of population aging in Malaysia. These emerged themes mapped the shared patterns of the impacts of the population aging.

Results and Discussion

The results highlighted six major themes emerged. The first theme was the family changes. This theme had three subthemes, first the diminishing size of the family, second, the rise in sin-

gle-parent families and third, the type of family has changed from extended to nuclear ones. The second major theme was the migration of youth to cities. This theme had two subthemes. The first was that the resources for care decline and second, the relationship between elderly parents with their adult children become problematic. The third major theme was the need for support and care. This theme had also two subthemes, first the physical ability and health decline and second, the ability to continue working declines. The fourth major theme was the health problem. This theme had three subthemes, first the need for healthcare support, second the high medical cost and third, the transportation problem or facilities to see a doctor. The fifth major theme was financial security. This theme had two subthemes, first the deprivation of income and second, the need for financial support. The sixth major theme was the housing problems. This theme had three subthemes, first the poor quality of housing, second the highly crowded settlement and third, the homeless. All the changes have been affected the welfare and the quality of life of the senior citizens. All themes are shown in Fig. 1, while subthemes in Fig. 2.

The aging of the population is a success story of the development process (2), but it also poses various problems to the elderly themselves (24-31). Various scholars believe that population aging has become a demographic reality that deserves serious attention (32). The impacts of population aging are generally related to family changes, migration of youth to cities, need for support and care, need for attention to health problems, need for financial security and, housing problems. All these impacts are not only exclusive to the impact of population aging in Malaysia, but also impacting all countries all over the world. Thus, the discussion on the impact of population aging in this paper will be aligned with this statement.

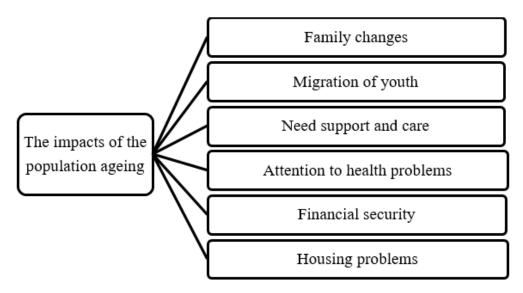


Fig. 1: The themes of the impacts of the population aging

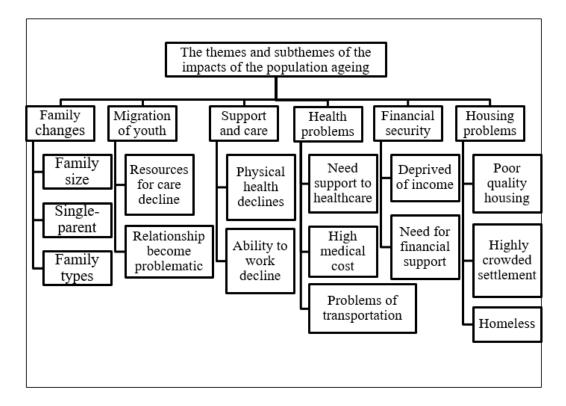


Fig. 2: The themes and subthemes of the impacts of the population aging

Family Change

Family institution all over the world has changed remarkably. Family in Malaysia is currently undergoing rapid changes as well. These changes are seen as having a detrimental effect on the well-being of senior citizens. Because of modernization and industrialization, and now globalization has forced the family institution to adapt to these changes. Among the notable aspects of these changes are the diminishing size of the

family and the number of single-parent families that have been arisen. The accepted types of family also changed from extended to nuclear ones. Due to the decline in family size and the increasing number of single mothers in the community, the welfare of senior citizens can be affected. This is because the family is the foundation for support and care. Individuals in family institution are the primary source of care.

By decreasing the size of the family, the sources of care will be declined. At the same time, the norm of the extended family is becoming less popular. Adult children who have married will soon start their own lives that are far from their parent's homes. Such changes have an impact on senior citizens because most of these senior citizens, due to lack of income, cannot still live independently. They are normally dependent on their children. Among the noticeable family, changes are the changes in the patterns of living arrangement of elderly people. Available data shows that the number of elderly people living alone is increasing, while at the same time the number of elderly people living with spouses, children and other family members is decreasing (17) (Table 2).

Table 2: Patterns of living arrangement of elderly people (%)

The patterns of arrangement	1998	1999	2014
Alone	5.2	8.9	13.3
With Spouse + children + other family members	92.5	91.1	85.0
With other people	2.3	-	1.7

In Singapore as a comparison, 61.3% of elderly people were living with spouses and children, or with children only (33).

Migration of Youth

younger generation to cities was very rare. They, when establishing their own home, will live together in the same village. Today, younger generation is no longer involved in the traditional agricultural sector of the village. This, among other reasons, is due to its dependence on natural phenomena that making the agriculture sector as a sector with high risk and full of uncertainty (34). They need to secure a strong economic position for their future, and therefore they have to migrate to cities that offer a variety of employment opportunities. At the same time, the senior citizens in the village are losing resources for care. The older generation whose their children emigrated to the cities are facing care problems in the village. While certain types of support can be provided without the presence of the younger generation in the home, there are times when senior citizens need children to back home to provide the best care. Geographical distance plays an important role in determining how often

The migration of youth to cities is an inevitable

phenomenon. In the past, the migration of the

young people visit the elderly in the village. Thus, with the rapid migration of youth to cities, the senior citizens in the village may be facing care problems; whereas care is an important element that enhances the well-being of these senior citizens. Several studies conducted in various places in Malaysia by Wan Ibrahim Wan Ahmad show that a lot of elderly parents in rural areas are left without care. He shows that not all married children who migrated to cities area visited their elderly parents during the week prior to the study conducted because of geographical distance. Many these married children are coming back to their village to see their elderly parents once a month, or at least once in more than two months' time (17) and see Table 3.

Support and Care

Older people in developing countries are mostly poor in physical ability because old age is often accompanied by a decline in physical health. As the physical capacity of senior citizen decreases, their economic resources will also decrease. They are generally no longer able to work, and this has led to a decline in their quality of lives. Whenever there are older people in the families, the families are forced to dedicate their time not only to the work and care of their own children, but also to the care of their elderly parents (35). Senior citizens need support and care, whether from their

own family members, friends, neighbors as informal supports, or supports from government as formal ones. Formal support will be functioning as providing services intended to supplement, complement or to replace informal supports from family and others (36).

Table 3: Frequency of visit of married children

Frequency	Number	Percent	
Always	25	15.1	
Once a month	53	31.9	
Once in 2 months	22	13.3	
Once in more than 2 months	62	37.3	
Never	4	2.4	

The responsibility of providing support to senior citizens needs to be shared between the informal and formal support (37). The needs of senior citizens can be effectively met when there is a close and balanced cooperation between informal and formal support (38). Informal support itself is considered unable to function properly without the cooperation of formal support. In developed countries older people would rather live in their own homes rather than choose to live with their children. The elderly in there, because of the many resources they have and the friendly facilities available, prefer to live alone. With the exception of poor senior citizens, and in need of intensive care, healthy older people with their own financial resources prefer to stay independent, or at least with their spouses only.

Most senior citizens in Malaysia do not have an appropriate source of income as their old age financial security. They have to continue to work despite reaching the very old age (39), leaving children and family members fully responsible for the care (40, 41). Not all senior citizens are well cared for by their family members. Many senior citizens are left behind without care. There is a tendency that more and more senior citizens are abandoned. The displaced senior citizens are facing various issues such as love, care, financial, health, accommodation, and security. Although many senior citizens are left behind without care, and living with children will not be a norm in the future, many elderly parents in Malaysia are still hoping that they can still be living with their adult children (17) (Table 4).

Table 4: Distribution of living arrangement in the future

Living Arrangement	Number	Percent
Spouses + Children	42	70.0
Welfare Homes	4	6.7
Pondok	7	11.7
No Response	7	11.7
Number	60	100.0

Health Problems

The health problem is considered an important issue related to many other aspects of senior citizens. Healthy older people are generally more

prosperous. Medical facilities are an important aspect in the context of addressing health problems of senior citizens. Although all the governments have a responsibility for the healthcare facilities and well-being, including disease prevention of elderly people (12), the accessibility of senior citizens as well as their family members to healthcare centers is also an issue that needs attention. Are medical facilities, public hospitals or government medical clinics in Malaysia adequate or appropriate for these senior citizens? Is this facility easily accessible to them? Nations with a lot of senior citizens are facing the question of health services to meet the growing needs of older people.

In terms of geographical distribution, most of senior citizens in Malaysia live in rural areas. From our experience with the life of rural senior citizens shows that the accessibility of rural senior citizens in modern medicine is low. If there is a health problem, these senior citizens may want to look for other alternative sources. Senior citizens who want to get treatment at a government clinic, may have difficulty seeing a doctor because of transportation problems and often they do not have children to send them to the clinics. Another problem is high medical cost. Many illnesses require a great deal of money, while elderly patients generally require them to get ongoing treatment.

In Korean community, chronic disease increases depression among senior citizens, and it negatively affects subjective health status and quality of life (42). While in Malaysia, kidney disease, for example, is a form of illness that often attacks senior citizens, costing them a lot of money, while the facilities at government hospitals are limited. Not many senior citizens have the opportunity to receive treatment at a government hospital for this disease. Due to the lack of such facilities, senior citizens have to receive treatment at a private hospital or a private hemodialysis center frequently needed a very high cost.

Financial Security

Financial security is another social welfare issue of senior citizens. This is because when people reach old age, they are no longer have the ability to continue working. However, most senior citizens in Malaysia, whether they want to or not, have to continue to work despite their advanced

years. They will only stop working when they are no longer capable of doing any work. The opportunity for employment, if available, also offer less wages to senior citizens.

This situation is causing senior citizens to be deprived of income and to be trapped in poverty. Poor problems exist because these senior citizens have no financial guarantee to support their old age. Only a small proportion of senior citizens in Malaysia are eligible for a pension scheme for their old age security. The adequacy of income from these schemes is largely dependent on the deduction to the Employees Provident Fund. Due to low wages while in the public sector, retirement allowance received is also very low and sometimes insufficient for living expenses.

Other senior citizens have to rely on their children for financial security in old age and allowance from the Social Welfare Department. The results of a study conducted (41) on rural senior citizens in Kelantan show that most of senior citizens there are having a relatively low income, with an average of RM298.00 per month (1 USD = RM4.047). Information on the role of family support can also be seen in other studies (43-45). From this information, senior citizens are poor, indicating that they need financial support from other sources, such as children or the government.

Housing Problems

Housing problems are another problem faced by most senior citizens all over the world particularly older persons in developing countries like Malaysia, especially in rural areas. Many senior citizens live in an old house and do not have adequate support facilities. Because they are poor, they do not have the ability to live in comfortable house. If we visit the village, we have the opportunity to meet such senior citizens living in poor quality houses. House is an important element to the life satisfaction and health, and thus, affect the well-being of senior citizens. The quality of the home is closely related to well-being of older people, and the relationship is strengthened when there are elderly people with health problems are present in such home (46).

Without a good and suitable house, it can also be affected the quality of life of older people. Most of the older people in rural Malaysia, particularly older people in island community lives in a highly crowded settlement (47). Many of them are also homeless. Homeless senior citizens are facing high risk and also will be facing a host of social, psychological and financial problems. The poor health of senior citizens requires a comfortable home. Housing problem is one of the reasons for older individuals' decreasing quality of life and dependence on others' help for survival (42).

Conclusion

People all over the world nowadays is living longer and many of them, healthier lives. The growing of the older population in the community produces a phenomenon referred to as population ageing. Population ageing refers to the increasing in number, percentage of older people aged 60 yr, above, at the same time the number and percentage of the young age population aged 15 yr old, and below in a population structure is decreasing. Demographers believe that the increasing of older person happened due to decreasing in birth rates and increasing in life expectancy. The structure of the population in these countries has undergone changes, and it is expected that in 2020, Malaysia will have a large proportion of older people in the population structure. The ageing of the population is a success story of the development process, but it also poses a number of problems to the elderly themselves. In the context of Malaysia, the country has to face problems such as family changes, youth migration to cities, support and care, health, financial security and housing. As a whole, the growth of older people and issues emerging from it have certain policy implications for the government of the country. Thus, the government need to prepare for the adequate policies and resources for the future older people.

Ethical Considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors. As no primary data collection was undertaken, no additional formal ethical assessment and informed consent were required.

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Conflict of interest

The authors have no conflict of interest to disclose.

References

- Kinsella K, Taeuber Cynthia M (1993). An aging world II. U.S. Bureau of the Census, International Population Reports P95/92-3. Washington D.C: U.S Government Printing Office.
- Kinsella K, Victoria A Velkoff (2001). An ageing world: 2001. U.S. Bureau of the Census, International Population Reports P95/92-3. Washington D.C: U.S Government Printing Office.
- United Nations (1991). Sex and age distributions of population. New York: Department of International Economics and Social Affair. Retrieved from https://shop.un.org/books/sex-andage-distributions-popul-30893
- Department of Statistics Malaysia (1973). Age distribution. Kuala Lumpur: Department of Statistics, Malaysia.
- Department of Statistics Malaysia (1977). General report 1970. Kuala Lumpur: Department of Statistics, Malaysia.

- 6. Department of Statistics Malaysia (1984). *Population report for administrative district.* Kuala Lumpur: Department of Statistics, Malaysia.
- 7. Department of Statistics Malaysia (1995). *General* report of the population census volume 2. Kuala Lumpur: Department of Statistics, Malaysia.
- 8. Department of Statistics Malaysia (2001). *Population distribution and basic demographic characteristics*. Kuala Lumpur: Department of Statistics, Malaysia.
- Department of Statistics Malaysia (2011). Population distribution and basic demographic characteristics 2010. Kuala Lumpur: Department of Statistics, Malaysia.
- 10. Department of Statistics Malaysia (2017a). *Current* population estimates 2017. Kuala Lumpur: Department of Statistics, Malaysia.
- 11. Department of Statistics Malaysia (2017b). Population and Demographic Ageing, BPPD Newslatter1, August 1–2. Retrieved from https://www.dosm.gov.my/v1/upload s/file/6_Newletter/ Ageing.pdf
- 12. United Nations (2017). Addressing the challenges of population ageing in Asia and the Pacific. Bangkok: ESCAP.
- 13. HelpAge International (1999). Ageing and Development Newsletter 3: May.
- 14. Jariah M, Tengku Aizan H, Sharifah AH (2015). Measuring poverty among elderly Malaysians. *Asian Journal for Poverty Studies* 1(1): 73-81.
- Kinsella K, Wan He (2009). An ageing world: 2008.
 U.S. Census Bureau, International Population Reports P95/09-1. Washington D.C: U.S Government Printing Office.
- 16. Wan Ibrahim WA, I Komang Astina, Budijanto (2015). Demographic transition and population ageing. *Mediterranean Journal of Social Sciences May* 6(3): 213-18.
- 17. Wan Ibrahim Wan Ahmad (2018). Population aging and old age in Malaysia: The changing role of the family and major challenges ahead. In: Thomas R Klassen, Masa Higo, Nopraenue S Dhirathiti, Thesesa W Devasahayam. (Eds.). Ageing in Asia-Pacific: Interdisciplinary and comparative perspectives. London: Routledge.
- 18. Boslaugh S (2007). Secondary data sources for public health: A practical guide. New York: Cambridge.
- 19. Johnston MP (2014). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries* (QQML) 3: 619-26.

- Andrews L, Higgins A, Andrews M W, Lalor JG (2012). Classic grounded theory to analyse secondary data: Reality and reflections. *The* Grounded Theory Review 11(1): 12-26.
- 21. Smith E (2008). Using secondary data in educational and social research. New York: McGraw-Hill Education.
- 22. Creswell, John W (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Fourth Edition. Boston: Pearson.
- 23. Vaismoradi M, Jones J, Turunen H, Snelgrove S (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice* 6(5): 100-110.
- 24. Limanonda, Bhassorn (1991). Health and welfare policies for the elderly. In: *Asia population studies series no. 108, population ageing in Asia.* New York: United Nations.
- 25. Hugo G (1992). Ageing in Indonesia: A neglected area of policy concern. In David. R. Phillips (Ed.). *Ageing in East and South-East Asia*. London: Edward Arnold.
- 26. Wan Ibrahim WA (2007). Perubahan demografi dan kajian mengenai warga tua di Malaysia: Sumbangan sarjana tempatan. [Demographic changes and research of older people in Malaysia: The contribution of the local scholars]. *Journal of Social Development*, 10: 23-49.
- 27. Kalache, Alexander, Sandhi Maria Barreto, Inggrid Keller (2005). Demographic revolution in all cultures and societies. In: Malcolm L. Johnson. Age and ageing. Cambridge: Cambridge University Press.
- 28. Martin Linda G (1988). The aging of Asia. *Journal of Gerontology: Social Science* 43(4): 99-113.
- 29. Hardywinoto, Tony Setiabudhi (2005). Panduan gerontology, tinjauan dari berbagai aspek: Menjaga keseimbangan kualitas hidup para lanjut usia [Gerontology guidelines, reviews from various aspects: Maintaining a balanced quality of life for the elderly]. Jakarta: Gramedia Pustaka Utama.
- 30. Ghazy Mujahid (2006). Population ageing in east and south-east Asia, 1950 2050: Implications for elderly care. *Asia-Pacific Population Journal* 21(2): 25-44.
- 31. Masa Hugo (2018). Ageing and old age in modern society. In: Thomas R Klassen, Masa Higo, Nopraenue S Dhirathiti, Theresa W Devasahayam. Eds, *Ageing in Asia-Pacific: Inter-disciplinary and comparative perspectives.* London

- and New York: Routledge Taylor and Francis Group.
- 32. Cristea M, Noja G G (2019): European agriculture under immigration effects: New empirical evidence. *Agricultural Economics Czech* 65: 112–22.
- 33. Leng Leng Thang, Suen Johan (2018). Growing old in Singapore: Working of the "many helping hands" policy approach. In: Thomas R Klassen, Masa Higo, Nopraenue S Dhirathiti, Thesesa W Devasahayam. (Eds.). Ageing in Asia-Pacific: Interdisciplinary and comparative perspectives. London: Routledge.
- 34. Komang Astina I, Wan Ibrahim WA (2011). Penuaan penduduk dan permasalahannya di Indonesia. [The population aging and its problems in Indonesia]. *Jurnal Pembangunan Sosial* [Journal of Social Development] 14: 89-107.
- 35. Cantor M, Little V (1985). Aging and social care. In: Binstock R H, Shanas E. Eds, *Handbook of aging and the social sciences*. Second Edition. New York: Van Nostrand.
- 36. Shanas E (1980). Older people and their families: The new pioneers. *Marriage and the family*, 9-15.
- 37. Litwak E (1985). Helping the elderly: The complementary roles of informal networks and formal systems. New York: Guilford.
- 38. Masitah MMY, Nazileh R (1988). Sosio economic consequences of the ageing of population survey 1986: Malaysia country report. Kuala Lumpur: National Population & Family Development Board.
- 39. Chen Ai Ju, Jones GW (1989). *Ageing in Asean: Its sosio-economic consequences.* Singapore: Institute of South East Asian Study.

- 40. Ogawa N (1992). Resources for the elderly in economic development. In: Hal L. Kendig et al. Ed, *Family support for the elderly: The international experience*. Oxford: Oxford University.
- 41. Wan Ibrahim Wan Ahmad (1999). Hubungan sosial, sokongan, dan kesejahteraan warga tua: Satu kajian di pedesaan Kelantan. [Social relations, support, and well-being of older people: A study in the rural Kelantan] [PhD Thesis]. Universiti Putra Malaysia, Malaysia
- 42. Kim S, Kim M, Han D (2020). Incidence rates of disability and its associated factors among Korean community-dwelling older adults. *Iran J Public Health* 49(9): 1718-1726.
- 43. Zainab l, Wan-Ibrahim WA, Zuria M, et al (2012). An alternative living arrangement for older Malaysian. *Advance in Natural and Applied Sciences* 6(8): 1568-72.
- 44. Zainab I, Wan Ibrahim WA, Elmi B (2012). Religious participations among the older persons in Malaysia. *Advances in Natural and Applied Sciences* 6(3): 388-91.
- 45. Zainab I, Wan-Ibrahim WA (2014). Social welfare issues of older population in Malaysia. *World Applied Sciences Journal* 30(7): 887-90.
- 46. Eastman K Sampson (1978). Housing satisfaction, life satisfaction, and disability. *Housing and Society* 5(3): 27-34.
- 47. Norizan Abdul Ghani, Sulaiman Md. Yassin, Wan Ibrahim Wan Ahmad, Wan Salihin Wong Abdullah (2010). Island communities: Level of quality of life, settlements and housing in Pulau Perhentian, Terengganu, Malaysia. *The Social Sciences* 5(5): 433-39.

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