

Conceptualizing Living Environment Factors Affecting Older Adults Quality of Life: A Literature Review

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ABSTRACT

Introduction: The purpose of the literature review is to document findings from previous researches to conceptualize factors affecting older adults quality of life.

Material and Methods: We searched through three databases of PubMed, Scopus and Web of Science in September 2020. Published articles from 1990 through 2020 were screened. The community-based prevention programs were categorized into four groups: self-monitoring, educational interventions directed to the patient, educational interventions directed to the health professional and health professional (nurse or pharmacist) led care.

Results: We included 63 articles in the final review. All reviewed articles were then conceptualized into four different environmental factors namely psychological environment, physical environment, social environment and economy environment.

Conclusion: This literature review conceptualized credible evidence supporting the older adults living environment factors associated to quality of life that can be used as a base in environmental health researches. The conceptual framework can be used to understand the relationship between different environmental factors and QOL as a basis for policy making and service provision planning for sustainable aging.

KEY WORDS

ageing, quality of life, social environment, economy environment, physical environment

INTRODUCTION

With rapid demographic transition occurring, Malaysia is a rapidly ageing society, as we will achieve the status of an ageing society soon, and in a shorter span of time as opposed to more developed countries, which took longer to achieve the same. Current estimates of the above 65 years' age group are at 2.3 million or 6.2% of the total 32.4 million populations (DOSM 2010). Malaysia is expected to double its elderly population within 23 years. While it took France 138 years to achieve this doubling, Sweden 85 years, Australia 73 years and the United States of America 69 years respectively, countries such as Brazil, China, India and Japan took only 25 years to make the same progression (Kinsella et.al. 2009). Worldwide, there are 25 countries that have already attained the status of an aged nation, with Japan leading the list where 26.3% of the population are more than 65 years old (World Atlas 2018). Most developed countries have already completed this doubling. This rapid ageing at an accelerated speed will have a profound effect on the social, cultural, economic landscapes, as well as the health delivery system of the country, which we need to plan to prepare for.

Despite the national census data classifying elders as those aged 65 and above, Malaysia classifies elders as persons aged 60 years and above for its policy development related to older persons, following the United Nations World Assembly on Ageing held in Vienna in 1982. The proportion of elderly aged 60 years or more is higher, at 9.9% or 3.3 million of the 32.4 million estimated total population (DOSM 2010). Successful ageing is a goal sought by all, to maintain functional ability and well-being of the elderly, despite various morbidities or health problems encountered. The ageing population in Malaysia is further compounded by an unequal distribution of elderly due to a large migration

of young population to the cities leaving a large cohort of elderly in rural areas (JKM 2017), therefore the needs of the elderly in terms of health services, finances, protection and welfare must be identified and catered for (Mat R et.al 2003; Ambigga et.al 2011; Tey et.al 2015)

There is a close relationship between quality of life and the environment (Diener and Suh, 1997, UNECE 2009). People's lives are strongly affected by the health of their physical environment. Since nationally represented baseline prevalence of elderly health and health related issues are obtained by the government through national surveys, in depth research on environmental aspect will reflect another important dimension in the quality of life of the elderly living in the study area. Sustainability is an important research area globally and has attracted the interest of scholars across the globe within the context of rural development, poverty eradication and environmental management due to the interest in One Health Concept.

According to the World Population Prospects database (United Nation, 2013), there is an estimated 895.3 million older persons aged 60 years or over in the world today with 504.2 million or 56.3% of them residing in Asia in 2015. By 2050, the number of older persons will more than double to 2 billion, where one out of every five persons in the world will be an elderly (WHO, 2018). At that time, the total older population, for the first time in human history, is expected to outnumber the younger population (aged 14 years or lower). To tackle this issue, every aspect of life needs to be assessed be it social, physical, psychological or environment.

This review aims to summarise factors that affects Quality of Life of older adults based on published articles for the past decade. The purpose of the literature review was to document the research that examines the predictors of the institutionalization of the elderly. The review is grounded in the framework of "Ageing in place," which acknowledg-

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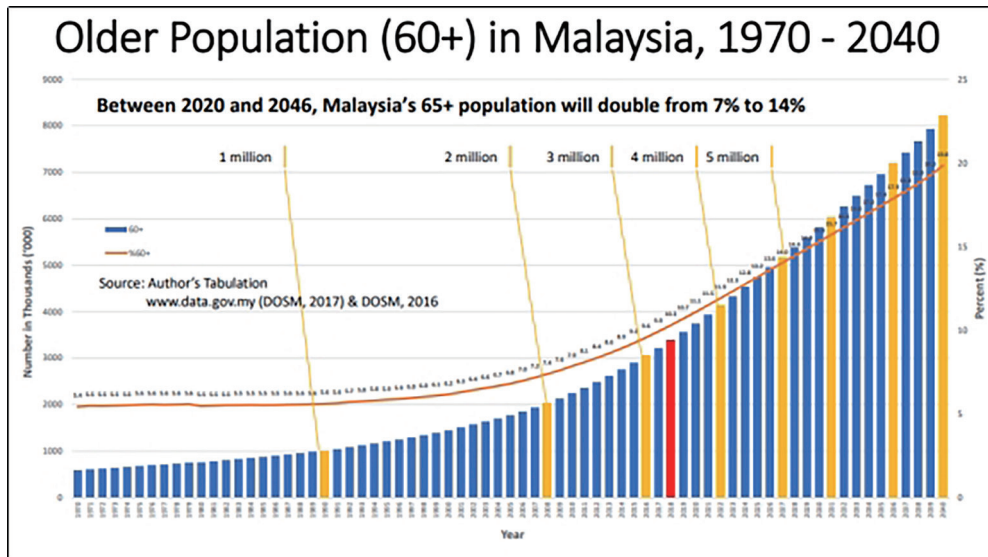


Figure 1: Elderly Population Statistics in Malaysia Projection (DOSM 2018)

es that older adults wish to live in their own communities for as long as possible and that home and community services will support this aim while being cost-effective.

METHODS

Eligibility Criteria

This literature review included all published materials either peer reviewed, preprint or expedited published articles restricted to observational study designs including cohort, case-control, cross-sectional, control cohort before and after (CChBA) and interrupted time series (ITS) studies that evaluate the environmental factors for outcome of older adults QOL. We also reviewed guidelines, opinion papers and communication that shows potential evidence associated with living environment of the older adults.

Selection Criteria

Inclusion and exclusion criteria were determined for this literature review to ensure search focus. Inclusion criteria in this study include 1) publication in the English language between January 1990 and November 2020; 2) outcome of the research directed towards older adults life quality; 3) studies which observe either personal, social, economy or physical environment in the elderly setting; and 4) free articles. Exclusion criteria for this systematic review include 1) No QOL outcome among the study population; 2) studies on targeted population such as institutionalization; and 3) non-English Articles.

Search strategy

We searched through three databases of PubMed, Scopus and Web of Science in September 2020. The literature search entailed a preliminary findings of 289 journals, books, and government documents of which 63 were reviewed. All reviewed documents were published between 1990 and 2020. Among the excluded studies, 28 studies were focused on screening tools, 81 studies did not fulfil the period of study and 117 studies were not consistent with the intent of the review. The majority of the publications were from the fields of social work, sociology, psychology, nursing, medicine, and health economics. The review focused on predictors of older adults (60 years of age and older), quality of life and environment. The main search terms were old*, elder*, senior*, quality of life, life qualit*, predict*, factor*, Ageing environment*, psycholog*, social environment*, built environment* and economy environment*. The majority of the studies were quantitative population-based and longitudinal studies.

AGEING POPULATION

Background

Ageing is a multidimensional concept which can be defined from many different perspectives. From a human development perspective, ageing is viewed as a lifelong process from conception, birth, maturity to death. From a societal perspective, ageing is seen as an aggregated statistic of the births and deaths of the population in a society that reflected a successful health outcome of the country's socioeconomic development. The environment, sociocultural and temporal context will also have reciprocal influence on the outcomes and experience of ageing. The significance of the growth of the aged population prompted the United Nations to convene two World Assemblies in 1980 and 2002, respectively. The World Population Ageing Report (United Nations, 2002) summarized that:

1. Population ageing is unprecedented, without parallel in the history of humanity;
2. Population ageing is pervasive, a global phenomenon affecting every man, woman and child;
3. Population ageing is profound, having major consequences and implications for all facets of human life;
4. Population ageing is enduring. During the twentieth century the proportion of older persons continued to rise, and this trend is expected to continue into the twenty-first century.

Global Ageing Scenario

According to the World Population Prospects database (United Nation, 2013), there is an estimated 895.3 million older persons aged 60 years or over in the world today with 504.2 million or 56.3% of them residing in Asia in 2015. By 2050, the number of older persons will more than double to 2 billion, where one out of every five persons in the world will be an elderly (WHO, 2018). At that time, the total older population, for the first time in human history, is expected to outnumber the younger population (aged 14 years or lower). This development is both a triumph and a challenge to all societies. It is a triumph because people are living longer due to better health care and improved living conditions. It is also a challenge because societies have never experienced this large number of older persons with their unprecedented longevity.

Like many other countries around the world, Malaysia is also experiencing a rapid growth of the older population. This is a direct consequence of the decades of socio-economic development and public health policies where falling fertility and rising longevity have resulted in the rise of new generations.

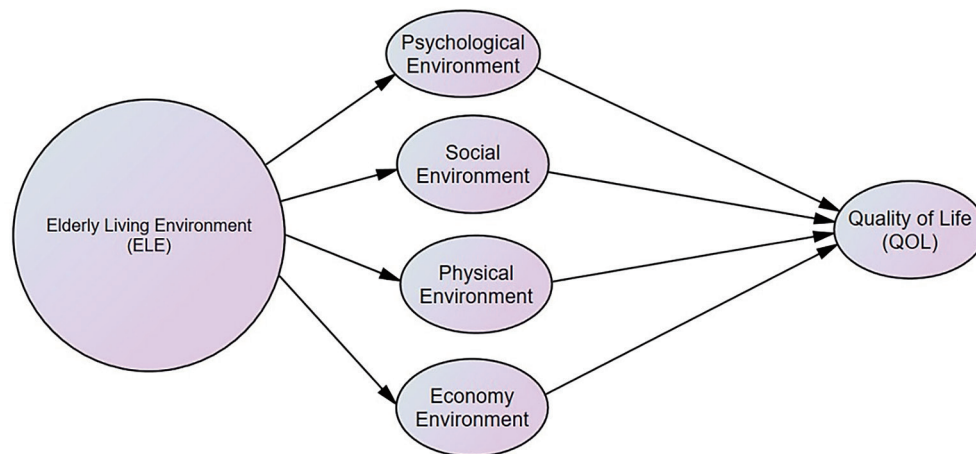


Figure 2: Elderly Living Environment Factors Affecting Older Adults QOL Conceptual Framework

Ageing in Malaysia

An Ageing population is defined as one in which those aged 65 years and above make up at least 15 percent of the total population. According to a statement by Malaysia's Chief Statistician on July 2019, the 15 percent threshold would be crossed in 2040 (Figure 1). The past ten years have seen a change in Malaysia's age structure. The share of the population between 0 to 14 years had been decreasing steadily, while the inverse was true for those aged 65 and above (DOSM, 2018). As Malaysia prepares itself to be an ageing nation, it is obvious that much thought has to be given to grapple with the problems and challenges that would arise. According to University Malaya's Social Wellbeing Research Centre, the number of Malaysians aged 60 and above is projected to reach 3.5 million in 2020 and 6.3 million in 2040 which is about 20 per cent of the population (Pulse 2019). The most common problems that senior citizens all over the world are facing include deteriorating health, malnutrition, lack of proper shelter, fear, depression, senility, isolation, boredom, non-productivity and financial incapacity. These problems can be grouped into two categories: physical and mental health, and financial capacity (WHO,2018)

Ageing and Quality of Life (QOL)

The concept of QOL is multifaceted. The World Health Organization defines QOL as an individual's perception of life in the context of culture and value system in which he or she lives and in relation to his or her goals, expectations, standards and concerns (Qadri *et al.*, 2013). The concept of QOL is broad and encompasses the individual's physical and mental health, level of independence, social liaisons, personal beliefs, spiritual beliefs, coping skills and connection to their environment (Devi & Roopa, 2013; Qadri *et al.*, 2013). Quality of life goes beyond morbidity and mortality. Generally, researchers tend to view QOL as life satisfaction on the whole. In public health and medicine, QOL is viewed as a person's discernment of happiness and life satisfaction as well as position in life in their cultural and value systems in relation to their expectations, values, and concerns (Keshavarzi *et al.*, 2015).

The first wave of the English Longitudinal Study of Ageing (ELSA) found that QOL in older adults increased from age fifty and peaked at sixty-eight years and declines gradually to the same level as age fifty, at age eighty-six. This is thought to be as a result of maintained functional ability around age fifty as most would have still been in active labour force; or enjoying their retirement bonuses at around retirement age 60-65 years, and as a result still maintain a decent level of independence. Individuals adapt to old age and accept its consequent challenges; explaining why their QOL is at the same level as those in the fifty years' age group (Netuveli, Wiggins, Hildon, Montgomery, & Blane, 2006).

Several other studies reported similar findings with more than 80% of the population 65 years and above reporting good QOL. Several studies concluded that older people reported better QOL than younger folks. This was thought to be because they accepted physiological changes as challenges that came with ageing and maintained good social and religious relationships (Bazaadut, 2014; Cavrini, Broccoli, Puccini, & Zoli, 2012; Gabriel & Bowling, 2004). Reduced QOL therefore does not cor-

relate directly to increase in age.

While population ageing is celebrated worldwide, the WHO has called for "adding life to years and active ageing policy" to aid older people to remain active, valued and engaged for as long as possible during the last years of their life (Bazaadut, 2014; World Health Organization, 1985, 2000). Assessment of QOL in older people population surveys are becoming popular in advanced countries. It serves as a tool to measure successful ageing, and also provides a means of monitoring the value of social-economic policies, welfare programmes, and health care (Bazaadut, 2014). Most researchers agree that QOL consists of both objectively measurable conditions and subjective aspects of good life. Objective indicators of QOL are those that exist outside the body of the person, such as economic resources, health functioning, and social contact; while subjective indicators of QOL are those that are observed, experienced, and appraised by the individual; such as life satisfaction, happiness, morale, and positive outlook (Lu, 2012). The tools/models used in assessing QOL are dependent on the field of research such as health sciences, social sciences, gerontology among others. Some tools limit assessment of QOL in the elderly to sick and fragile older people and not healthy free-living elderly (Fry, 2000).

Environmental Factors Affecting QOL in Older People

Some of the known causes of declining QOL in older people include risk or existence of chronic illness, decline in functional ability, reduced financial independence, inadequate healthcare, poor shelter and social isolation (Bazaadut, 2014; Khan & Tahir, 2014). These challenges gravely affect their QOL. Maintaining good QOL and increasing number of healthy years lived is currently of great public health concern and is one of the principal goals of the Healthy People 2010 initiative (Acree *et al.*, 2006; Phelan, Anderson, LaCroix, & Larson, 2004). The following subsections detail the components of QOL as are relevant to this study.

Psychological Environment

Psychological problems like depression, anxiety, addictions, excessive stress and worry have an impact on an individual's QOL. A healthy psychological state improves interpersonal relationships, enables us make good life choices, maintain physical health and tolerate ups and downs of life (World Health Organization, 2001). Mental health affects people's lives and actions and the way they view their life circumstances. It dictates whether a person will be optimistic or pessimistic about a situation (Gabriel & Bowling, 2004). A study done in Eastern Poland concluded that family situation of seniors affected the level of quality of life. Living with their relatives may be expected to be favourable for seniors because it translates into better performance in physical, psychological and social domains (Chruściel, P *et al.* 2018). Loneliness, which frequently accompanies old age, leads to the deterioration of the quality of life. The same result was seen in a study done in Canada (Chan, C *et al.* 2018). For most older people, being self-reliant is important and they enjoy life better when they do not have to depend on others for simple things like shopping and household tasks (Gabriel & Bowling, 2004). Being independent allows them to enjoy life, see their family and friends, and take up hobbies as well as get involved with social activi-

ties. Independence is threatened by poor health and morbidity, and even lack of access to transport. However, independence is boosted by financial security and other factors like reduction in work constraints (Gabriel & Bowling, 2004).

Physical environment

The quality of an elderly persons living situation has a direct effect on their QOL since it affects physical health status, social interaction, access to services, independence and mobility (Devos & Palloni, 2002; Wong, 2003). Elderly persons living alone are more likely to need outside support in the case of illness or disability and are at greater risk of social segregation (Tawiah, 2013). A study in China found that the most vulnerable group of older people are those who live entirely by themselves as this situation negatively affects their HRQOL (Sun, Lucas, Meng, & Zhang, 2011). Although the relationship between the indoor environment and health has been widely examined in working age adults, research focusing on elderly people is relatively recent. At an indoor level, differences were found in the two studies, in which variables related to temperature, such as feeling cold or lack of thermal insulation, were associated with mortality of the elderly (Vandentorren *et al.* 2003; Zuluaga *et al.* 2011). Many national and international studies have focused on the relationship between the built environment and injuries. The approach in these studies was through examination of distinct variables, especially falls, home injuries, home hazards and hip-fracture risk. All the studies linked at least one built environment variable (built environment variable) with this issue. For example, Dogan *et al.* (2005) found an association between bathing facilities and home injuries. Violence is a complex phenomenon that affects both developed and developing countries. In Malaysia and countries worldwide, violence against older people is expressed in terms of socio-economy status, genders, races and age groups within the various spheres of public, institution and family (Guimaraes *et al.* 2007). Therefore, violence against the elderly significantly affects the environment in which they live and interact. One study done assessing urban residential environments and senior citizens' longevity found that the presence of parks, tree lined streets and space for taking strolls was associated with higher five-year survival (Takano *et al.* 2002)

Economy Environment

Older people also tend to associate a good QOL with being financially comfortable (Gabriel & Bowling, 2004). It is important to them to have enough money to pay bills and cater for unexpected expenses (Gabriel & Bowling, 2004). In Ghana, at age 60, elderly people retire from active service. Most retire into poverty, isolation and abandonment (Bazaadut, 2014). Few Sub-Saharan African countries provide a social security system for the aged. Out of this few, most do not have health-care packages for older persons (Aboderin & Ferreira, 2009; McIntyre, 2004; Susan, 2008). A study done in Iran indicated that literacy level, income and economic status have direct relationship with quality of life (Farzad *et al.* 2016). Widowhood is a condition that is created throughout the world due to dissolution of marriage; due to divorce and spouse death as a result of natural events. Researches show that in both cases, women are more affected by long-term social and economic consequences than men (Heck and Pamuk 1997). In the U.S, adult males 75 years and above who lived alone were found to have poorer diets than those living with a spouse. This outcome was higher in women and was found in those women between 55-64 years.

Social Environment

Social relations in the elderly consist of social networks (connections among group of known people) and social support from family, friends and neighbours result in improved health outcome and well-being. In developing countries, social connections (family and kinship) and activities are important elements of QOL and promote high self-esteem in the elderly. Lack of social connections result in isolation and poor QOL since the sense of belongingness and emotional, physical and psychological support become absent (Bond, 2004; Mollenkopf & Walker, 2007). Poor social relations lead to increased disease susceptibility and increased mortality resulting in reduced QOL among the elderly (Cavallero, Morino-Abbele, & Bertocci, 2007; Zhang, Norris, Gregg, & Beckles, 2007). Situations of urbanization and modernization (Tang, 2009) causing most elderly folks to be abandoned; consequently, negatively impacting their QOL (Bowling *et al.*, 2003). Loneliness increases with advancing age; and is compounded by the onset of disease and disability, loss of partners, seclusion from children and reduced

social participation (Tesch-Roemer, 2012). Ageing in place is seen as a desirable concept for many as it provides an option other than institutional care where a person can remain independent even as their health conditions change over time (Hagen S.A. 2013). Previous studies have all indicated that a majority of elderly people prefer to age in place rather than relocate to another place or a residential care facility (Hartje S.C 2004, Tan Y.L. 2014). Another study have also shown that the concept of ageing in place not only refers to the physical environment or living at home, but also focuses on the improvement of services and facilities that affect the wellbeing of elderly persons (British Columbia Ministry of Health, 2004; Australian Local Government Association, 2006)

CONCLUSION

This literature review conceptualized credible evidence supporting the older adults living environment factors associated to quality of life that can be used as a base in environmental health researches. The conceptual framework can be used to understand the relationship between different environmental factors and QOL as a basis for policy making and service provision planning for sustainable aging.

COMPETING INTEREST

No potential conflicts of interest relevant to this article were reported.

ETHICAL APPROVAL

Ethical approval is not required.

CONSENT

Consents are not required.

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