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**THE MULTIDIMENSIONAL
WELL-BEING OF ASIAN SENIOR
CITIZENS: A SYSTEMATIC REVIEW**

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Abstract

Since the 1960s, global societies have experienced a decline in both fertility and mortality rates; this trend has led to rapidly aging populations worldwide. In such a scenario, aging populations have become a significant challenge, especially for developing Asian economies where both healthcare and pension systems still need to be properly shaped. Thus, this paper aims to provide an up-to-date systematic review of the empirical and theoretical literature on the well-being of elderly people in developing Asia. First, we analyze the current framework, and we provide a definition for the concept of multidimensional well-being. Then, we discuss the main relevant empirical and theoretical outcomes from the literature, focusing on those related to the three main dimensions of well-being (i.e., socioeconomic, mental, and physical). Furthermore, we highlight the current barriers and the future challenges that policymakers in aging economies will face. Finally, we suggest priorities for policy initiatives in developing Asia, and we emphasize areas of future research.

Keywords: aging, developing Asia, well-being, mental, socioeconomic, physical

JEL Classification: I14, I15, I31, J14, O53

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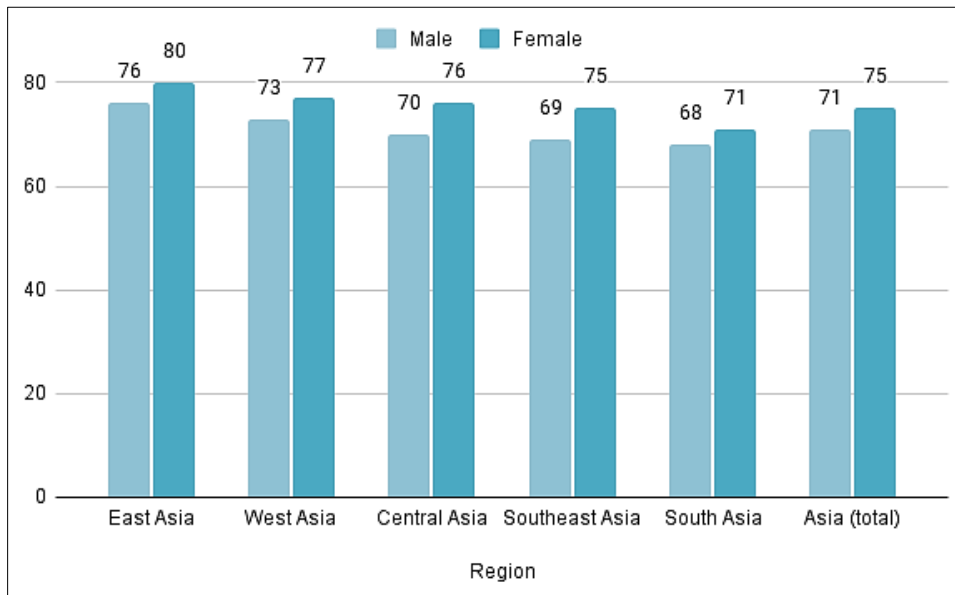
1. INTRODUCTION

Since the 1960s, humanity has been facing a fall in fertility and mortality rates, giving rise to aging societies (Bloom et al. 2010). Although data show that the number of elderly individuals is currently at its maximum historical level (United Nations 2015), the situation is expected to keep escalating in the coming decades: While there were around 703 million people aged 65 or over worldwide in 2019, this number is predicted to double to 1.5 billion by 2050 (United Nations 2019). While greater longevity is undoubtedly a positive result of social, economic, and technological development, the rapid pace at which this has increased has profound, far-reaching implications (OECD-WHO 2020). Besides being harmful for potential economic growth (Otsu and Shibayama 2016), the rapid increase in the share of the elderly population could threaten public social safety net systems (see Appendix, Figures A and B).

Aside from being economically unproductive, aging bodies also suffer from limited regenerative biological activities, leading more citizens to be subject to age-related diseases, which could hamper both their mental and physical conditions (He and Tang 2021). At the same time, this biological process will also be marked by significant socioeconomic changes, characterized by retirement, relocation to new living arrangements, and an alteration in lifestyle, as well as by the deaths of some beloved ones (Kadariya et al. 2019). It is clear that rapid aging will not just be an individual issue that can be tackled within single households: Given its broader social implications, the phenomenon will lead to unexpected challenges for those economies where old-age support systems are not yet properly shaped.

In particular, the trend of an aging population has become a significant threat for the Asian baby boomers¹ generation. Since 2000, the life expectancy in Asia and Pacific economies has risen by around six years in LMICs and by four years in HICs (see Appendix, Figure C). Figure 1 shows that Asians are currently expected to live for up to more than 70 years, i.e., 71 for males and 75 for females (Statista Research Department 2021). However, in the last two decades, average fertility rates have decreased, going from 2.6 children to the current level of 2.1 per woman (OECD-WHO 2020). This relevant shift in age structure has been driven by the wider use of contraceptives and better access to reproductive healthcare, in conjunction with an increase in female labor force participation and in total years of education (Bloom et al. 2010). Hence, projections for the year 2050 indicate that the number of elderly will be particularly large in the Asian continent, with high-income economies such as Japan, Singapore, and the Republic of Korea having more than a third of their population aged above 65.

¹ Baby boomers are the demographic cohort born between 1946 and 1964, which took place in the post-World War II era (Sheehan 2011). They are known as the first generation to create tension with the previous ones. While in the West, boomers' childhoods saw significant reforms in education and an increase in wealth. Asia went through instability: Boomers lived through the Chinese Cultural Revolution and experienced the success of the Asian Tigers.

Figure 1: Average Life Expectancy (Individuals Born in Asia in the Year 2020)

Source: Population Reference Bureau (2020).

In such a scenario, the cultural transition has made things worse. While for centuries, Asian economies have relied heavily on intergenerational support and co-residence (Huda 2020; Teerawichitchainan, Pothisiri, and Long 2015), the processes of industrialization and internationalization have brought a substantial shift in family values and in the role of filial piety² (Silverstein, Cong, and Li 2006). Industrialization has slowly weakened conventional family standards by relying on new ideals, namely individual accomplishment and economic freedom. Consequently, these changing household structures, combined with migration and new values, have gradually weakened informal support systems. Since the nuclear family has slowly become the most adopted household structure in Asia (Sengupta and Benjamin 2015), the rapidly growing senior population has started seeking help from the state. Unfortunately, most Asian social security systems are still characterized by the failure to meet the needs of geriatric care and related services. In light of these facts, the topic of Asian elders' well-being has become more relevant than ever.

According to the WHO Constitution (1949), "*well-being*" is a vital concept that depends on basic resources for an enjoyable state of health. More than the lack of ill health, it describes the status enabling people to "develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community" (Goswami 2008: 7). Although contentment conditions of senior citizens have been analyzed in depth in developed Western countries, the literature focusing on the welfare and happiness of elders in developing regions is relatively scant. Nonetheless, providing well-being to elders has proven to be a complex task for governments and institutions of many Asian economies (Khan and Husnain 2019). Therefore, our paper aims to enhance the understanding of senior citizens' living conditions in developing Asia by examining the issues that impact their socioeconomic, mental, and physical well-being. In this context, we review a wide body of literature on

² For Confucius, filial piety is a ritual based on respect to one's parents and ancestors, as well as an inward personal attitude. Filial piety is thus related to the awareness of repaying the burden borne by one's parents, by reciprocating the care received throughout life.

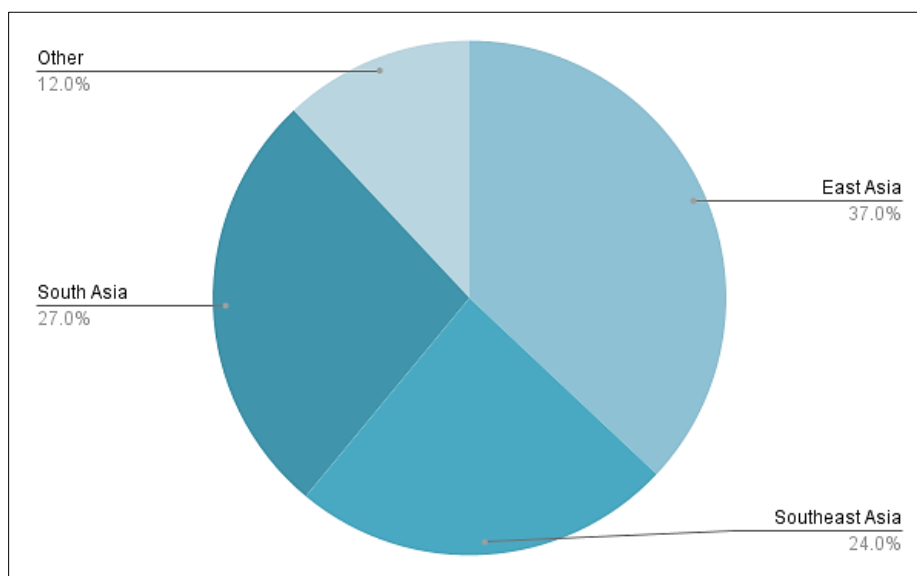
the subject; our paper, structured as a systematic review, builds upon the material collected.

In Section 2, we explain the method used to review the empirical studies, while in Section 3 we discuss the empirical determinants of elderlies' well-being, as well as the indirect links between the three main dimensions. Section 4 examines the policy implications derived from the systematic review. Finally, Section 5 offers concluding remarks and provides suggestions for future research.

2. METHODS

Since it aims to gather the basic concepts and findings from previous studies, a systematic review is the optimal approach for mapping the relevant features of a subject (Munn et al. 2018). Rather than exploring the structured questions of causality through econometric methods, a systematic review is aimed at identifying, selecting, and critically analyzing all relevant research related to a specific topic. In this paper, data sources were selected in a random way through an online search, following Downe-Wamboldt's (1992) content analysis method, where a range of relevant keywords are employed as a selection criterion. The selected period of the empirical articles is from 1990 to 2021 in order to filter the available material and collect only the most recent publications; yet, three papers published before 1990 were included due to their relevance in the field (i.e., Markides and Martin 1979; Cain 1986; Kaufman 1988). In the end, a total of 97 empirical and theoretical studies available on Google Scholar and JSTOR on senior citizens' well-being were read and reviewed, with a specific focus on the Asian continent; subsequently, the information collected were analyzed to fulfill the aim of the paper.

Figure 2: Empirical and Theoretical Papers by Regional Shares

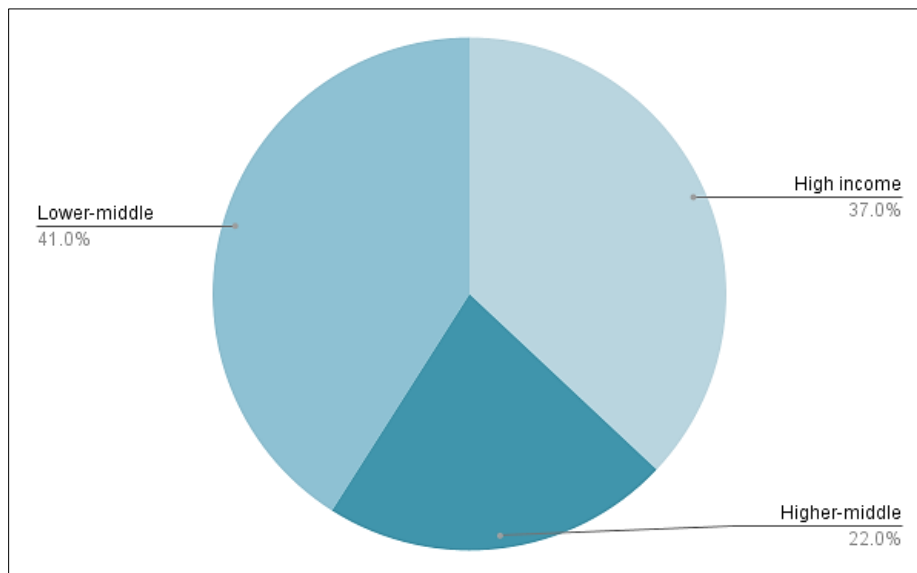


Source: Authors, based on papers retrieved for systematic review.

Microsoft Excel 2011 software was used to gather the papers and to summarize the collected information. As shown in Figure 2, of the academic studies analyzed, 37% of papers were related to East Asia, 27% to South Asia, 24% to Southeast Asia, and the remaining 12% to other regions. Among those economies, 0% (n=0) were low-income

economies, 41% (n=51) were lower-middle income, 22% (n=27) were higher-middle income, and 37% (n=46) were high income countries, as displayed in Figure 3. Academic studies took place in both rural and urban contexts and were undertaken on localized, national, regional, and inter-regional scales. In fact, papers such as the one by Das, Sengupta, and Paul (2018) highlight the strong heterogeneity between economies and regions and how different factors might or might not significantly impact the level of well-being. Nonetheless, our systematic review aims to provide a broad and detailed overview of the living conditions of millions of Asian elderlies.

Figure 3: Countries from Empirical and Theoretical Papers, by Income Classification



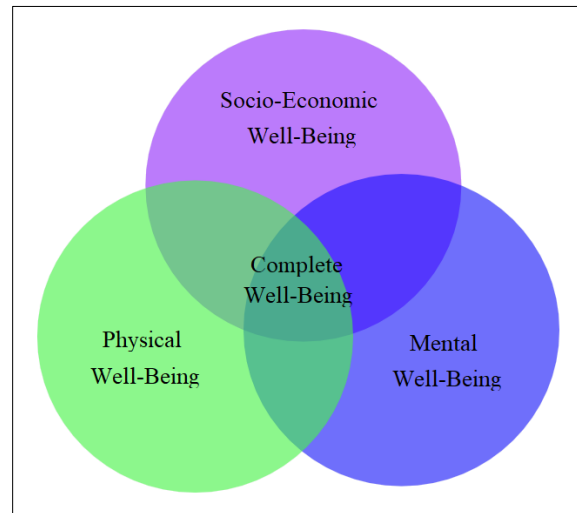
Source: Authors. Chart based on papers retrieved for systematic review and country classification done by World Bank (2020).

3. WELL-BEING: A MULTIDIMENSIONAL CONCEPT

Despite several criticisms by scholars and NGOs, gross domestic product (GDP) has remained the pivotal indicator in determining a country's degree of success. Nonetheless, there has been an impressive production of alternative social welfare indicators aimed at better understanding the degree of national development and the living conditions of citizens. Among those, subjective and objective well-being indexes have recently gained the attention of several institutions (Fleurbay and Blanchet 2013). In particular, well-being has been broadly recognized as multidimensional and builds upon strictly interlinked factors. For example, in 1990, Pakistani economist Mahbub ul Haq created the first successful composite index to measure the extent of well-being, namely the Human Development Index (HDI), which is currently adopted by the United Nations (Stanton 2007). A few years later, the European Commission's "Going beyond GDP initiative" (2007) claimed that the well-being indicators should not only rely on standards of living but also include other dimensions such as health, education, political voice, and environmental factors. Although the HDI already offers a composite index based on life expectancy, education, and per capita income (Malik 2013), in 2011, the OECD created the Better Life Index (BLI) by combining the fulfillments of 11 indicators (Durand 2015). Since then, many new composite indices

have been developed to gather a holistic measure of well-being using the interlinks between several dimensions.

In the following subsections, we will review the empirical studies that analyze the major determinants of a hypothetical multidimensional index of elderlies' well-being in developing Asia. In particular, attention will be focused on the three main dimensions of elderlies' well-being displayed in the diagram below³, namely the socioeconomic, mental, and physical ones; several granular determinants will also be considered (Pinar 2019).



3.1 Socioeconomic Well-Being

Economic well-being is broadly described in terms of financial security. Current financial security comprises meeting basic needs and managing day-to-day finances. Besides this, economic well-being also accounts for more specific features, such as the freedom to make personal choices and manage personal finances. However, financial security also relies on a long-term vision, based on the capacity to deal with future financial shocks or fulfill personal financial goals (Council on Social Work Education 2016).

Self-recognized economic well-being only occurs within a context of economic justice, where the local labor market provides opportunities for secure employment, which are adequately compensated. Therefore, in order to determine and evaluate the economic well-being of Asian elders, Clark (1989) aimed to create a conceptual framework of well-being by analyzing micro-economic theory. In particular, the utility maximization model subjected to a budget constraint was applied to both income and consumption levels of older persons. However, current data available in Asian economies were not sufficient to properly infer the economic status of senior citizens and to derive a comprehensive measure of the real levels of economic well-being among their households. As a matter of fact, the lack of detailed quantitative income data keeps mining the reliability of any findings in this field: In many cases, the numerical values related to income do not seem reliable, and some sources of income are ambiguous.

³ Graphical representation made by the authors.

3.1.1 Lifelong Gender Inequalities: Why Are Elderly Women Worse Off?

Although specific data on economic well-being are challenging to find (Clark 1989), the “relative terms” of the subject have allowed us to further investigate more granular issues. Therefore, we will now analyze the effect of gender on the economic conditions of Asian senior citizens and the related inequalities. Although it has been complicated to track gender differences in individual income (given the ambiguous inflows that might characterize them), empirics show that, in many Asian societies, elderly men enjoy a higher degree of economic well-being than women of the same age. Besides the sense of fulfillment of having a source of income, access to finances is fundamental for wider contentment, as it allows individuals to improve their living conditions.

According to the OECD-WHO (2020), “ageing wears mainly a woman’s face,” as, on average, women have a propensity to live longer than men, which triggers an unbalanced sex ratio (Gist and Velkoff 1997), as highlighted by the population pyramids (see Appendix, Figures D.1, D.2, D.3). As a matter of fact, having a longer life might not have a positive effect on women’s lives in developing areas. Elderly women are more at risk of falling into poverty due to a series of relative disadvantages experienced during their childhood and early adulthood; among those, we can mention the lower educational attainments and unpaid housework or caregiving. Furthermore, women’s economic activities tend to be in the informal sector and allow for a lower degree of financial independence (Rahman, Tareque, and Rahman 2009). By way of explanation, old age is characterized by the same gender differences that have marked individuals’ lives since childhood. In most cases, these differences find their roots in the pervasive inequalities upon which family and community life build.

In terms of economic well-being, women are far more disadvantaged, as they need to depend on their sons, husband, or male relatives. With more than half of the elderly females not having a personal income in Bangladesh (Rahman, Tareque, and Rahman 2009), the percentage of older women at different income levels varies significantly in relation to the financial conditions of households’ adult males. In fact, despite ill health and fatigue, men usually keep working in the formal or informal economy, while women tend to stay at home. This division of labor has an impact on the management of resources, as men have access to household finances more easily since they have been the ones covering the role of “breadwinners” for a longer time (Rudkin 1993). However, the differences in terms of families’ monthly income are far less consistent, especially in the case of widowhood, given that women are substantially more expected to live longer than their husbands. One possible explanation for this inconsistency is that widowed women tend to cohabit with married children, who may sustain them but not allow them financial independence. This is the reason why Vlassoff (1990) found that widows on their own are still relatively better off than those with married sons, at least in terms of personal income.

3.1.2 Accommodation Conditions and Housing

East Asian cities are also characterized by a high rate of homeless elderly individuals who might have had to trade their houses or land to pay back previous debts or to pay for medicines. Despite this, family circumstances (e.g., relationship breakdowns, domestic violence, or rifts over inheritance) are the most common causes of vagabondage (Pham 2020). Hence, homelessness is common among elders belonging to the lowest wealth quintile, and it affects all those who end up having no financial resources to afford to pay rent on their own.

Interestingly, besides homelessness, other factors are directly related to the living circumstances of elderly people. Tran and Vu Van (2017) found that housing features strongly affect the overall life satisfaction of elderly people, confirming that accommodation is an important life domain that influences individual well-being. Building upon economic theory with rational agents who maximize their individual wealth, data highlighted how people make rational choices when investing many financial resources in their houses. Consequently, economic background plays a pivotal role once more in defining contentment: It is indeed observed by Tran and Vu Van (2017) that life satisfaction is relatively higher for elderlies belonging to middle- or high-income households. Yet, in terms of housing satisfaction, individuals belonging to high-income households are as equally satisfied as those in low-income ones. Such a nonsignificant difference is probably unrelated to the housing conditions themselves, as richer individuals tend to own well-equipped houses (i.e., indoor toilets and kitchens) located in wealthy neighborhoods. In this case, dissatisfaction might be driven by the higher aspirations of rich individuals relative to their current housing conditions.

Gender inequalities also tend to arise in this context, since tradition expects elderly males to own most of the household dwelling. Surprisingly, Rahman, Tareque, and Rahman (2009) found that 34.6% of the houses in their sample legally belong to Bangladeshi women. Their paper also emphasized how the housing conditions of both male and female elderlies are quite similar in the rural Naogaon district, given that there is no gender difference for latrines or drinking water sources (i.e., tube well). However, it is important to underline that household characteristics might not reflect any kind of gender inequality but correspond to the economic development levels of a country. What is certain is that house ownership and the features of the accommodation are among the pivotal determinants of elderlies' well-being.

3.1.3 Socioeconomic Status: Inequalities and Dissatisfaction, but also a Sense of Community

Even if owning physical dwellings is a signal of economic ease, the degree of socioeconomic well-being of elderly people strongly depends on their overall living conditions and on the social environment they belong to. For instance, empirical evidence has been found for the presence of inequalities among members of the same society, which negatively affect the life of elderlies. Elderly people in rural areas who are farmers, poor, or both are the most sensitive to socioeconomic inequalities. Comparing their income to the mean income of the reference group, unwealthy elderlies suffer from negative consequences for their quality of life. It is clear that this situation triggers a vicious cycle where an aging population has the overall effect of aggravating the perception of inequality.

Such inequalities tend to develop ambiguous market-driven forces, which might not be the optimal way of stimulating the economies of developing regions. One of the most striking outcomes is linked to the high elderly labor force participation in South and Southeast Asia. Many unprivileged workers who belong to the informal sector are obliged to participate in economic activities even during old age, given that their social status and lack of finances do not allow them to retire. A paper by Ghosh (2017) attempted to find the drivers of choice of various occupations during old age and to dig into the related earning dissatisfaction. Using a multinomial logit model, the author found that most disadvantaged elderlies rely only on daily self-employment and on the "casual wage" earnings of the informal sector. Working in such conditions implies that the elderlies are low-paid, thus aggravating their economic vulnerabilities. Results also showed that old workers from poor socioeconomic backgrounds are more likely to perceive the presence of inequalities and to be dissatisfied with their earnings.

Nonetheless, regional variations are significant and play a crucial role in the contentment of unorganized workers. This mainly depends on the variation in participation in formal economic activities, while the related satisfaction across geographical regions could be attributed to unequal economic growth and a lack of integrity in employment among all age groups. More specifically, areas with comparatively lower economic development also offer limited opportunities for elderlies to participate in the labor market and compel them to adopt vulnerable economic activities.

Hopefully, this dimension of well-being is not only negatively impacted by socioeconomic inequalities and income dissatisfaction but also relies on the broader feelings of belonging to a community and contributing to society (Econation 2020). The purely social facet of elderly individuals' well-being depends mainly on their ability to maintain good relationships, social stability, and peace. Their life satisfaction and subjective quality of life are strongly affected by their role and engagement in networks of communities of elderlies. Policy measures such as the creation of the Wonderful Life Program in the Republic of Korea could help senior citizens to maintain their leadership and communication skills, thanks to the help of staff who assist senior citizens in being aware of their own disposition in fostering the skills necessary for maintaining interpersonal relationships and in building better relationships. By using a nonequivalent control group pretest-posttest, Mi-kyeong, Sun-Jung, and Eun-Young (2019) verified the effectiveness and usefulness of the Korean program. Their findings illustrate that better awareness of well-being behaviors leads to better social conditions.

Therefore, educational programs that deal with a new image of elderly people as leaders of the local community or volunteers positively impact their role in society and help them develop new skills, such as self-management, relationship building, effective communication, problem solving, and conflict management for successful aging. Nonetheless, Thanakwang, Ingersoll–Dayton, and Soonthorndhada (2012) highlighted how large family and friendship networks play a crucial role in this field, given the significant direct effect they have on the social relations of older people. However, the size of these networks does not have a significant direct effect on psychological contentment: The effect is only indirect and depends on the amount of social support provided. Consequently, both family and friendship support has been proven to be significantly related to socioeconomic and mental well-being, with family support having a stronger impact (Thanakwang, Ingersoll–Dayton, and Soonthorndhada 2012).

3.2 Mental Well-being

In general terms, mental well-being is related to individuals' thoughts and feelings and their ability to cope with the ups and downs of daily life (WHO 2018). In particular, the feelings of happiness and gratefulness of elders depend to a certain extent on the quality of their family relations and their living arrangements (Miao and Wu 2021). The Asian traditional living patterns are characterized by intergenerational coresidence, where family members live together to care for children and older members. Nonetheless, since the 1990s, the composition of households has started to deviate from its historic path: From 1990 to 2010, the number of households consisting only of elderly couples increased by 72.3% (Hu and Peng 2015). The most recent data from the People's Republic of China (PRC) also show that "three-person households constituted the largest percentage share in both 2000 and 2010 (27%), whereas the two-person household became the second largest group of households in 2010 (23%). Large households are no longer popular, as the six-or-more-person households

constituted 15.4% in 1990, decreasing to only 8.1% in 2000, and going further down to 6.6% in 2010” (Zeng and Wang 2018, 133).

For centuries, younger family members have covered the pivotal role of providing informal support to the older ones. Although adult children tend to keep making financial transfers to elderly people with poor health, nowadays, emotional support is no longer provided to the same extent as before (Huda 2020). The number of families cohabiting in the rural and urban sectors has decreased, and old individuals have started dealing with these new and unexpected living conditions, which have, in turn, an impact on their psychological health. However, the likelihood of coresidence is usually lower among well-off elderlies, female elderlies without a spouse, and those with poor health. Seen as a mutually advantageous arrangement, adult children seem to prefer to live with their aging parents if they can benefit from it (Pal 2007).

Despite this, by analyzing three Southeast Asian kinship systems, scholars (see Teerawichitchainan, Pothisiri, and Long 2015) gathered evidence that living with a child of “culturally preferred gender” enriches the emotional health of elderly people in Viet Nam and Thailand in a significant way, whereas Kochar, (2000) listed all the benefits from intergenerational cohabitation in rural Pakistan. Surprisingly, the empirical results found by Wei and Tsay (2024) indicated that those who have experienced living in a nuclear family have developed a “nonlinear relationship between the geographic proximity of their adult children and their own mental well-being” (1). Compared to the choice of coresidence, “elderlies enjoy higher life satisfaction if they live separately from their adult children, but only with them residing close by” (1). Coresidence turns out to have a positive impact on elderlies’ well-being if set side by side with a situation in which adult children live far away.

3.2.1 Family Support and Frequency of Interaction

The combination of modernization processes and migration to urban areas has induced a change in traditional values and to the evolution of the concept of filial piety (Ichimura et al. 2017). Therefore, other types of psychological support from both family and friends have been developed to improve older individuals’ well-being. Based on the findings of Sudnongbua, LaGrow, and Boddy (2010), older adults appreciate visits and frequent phone calls, as these help them not to feel abandoned or left on their own. Their study also found that most of the elderlies sampled in Thai rural regions have regular contact with their children and receive some psychological support from them. Although Sun (2002) revealed that living far from children does not impact the degree to which elderly parents in the PRC are economically supported, the author highlighted how distance constrains them from dealing with negative feelings and being supported in daily activities.

Children with older, physically weaker, and widowed parents tend to give psychological support and help with daily tasks, whereas children with parents that are less educated are more prone to sustain them through monetary transfers only (Sun 2002). However, more than financial aid, many old parents need to feel their children close to them. For instance, in the PRC and Indonesia, elderly mothers’ well-being is strongly linked to the psychological help they provide to their adult daughters: These positive feelings can be enhanced by constant support, preferably in person (Schwarz et al. 2010). Notwithstanding, recurrent visits are not closely linked with true parental support, as adult children might solicit parental help for caring for grandchildren. In any case, the situation seems to be more complex in urban areas, where long working hours in offices appear to be one of the important causes of work-family tension. Doing long work shifts has significant repercussions for workers’ interactions with their aging parents. In line with this, Kim, Lee, and Do (2019) provided evidence that doing one

extra hour of work per week lowers the frequency of visits of male adult children by 6.5%, thereby increasing, in turn, the feeling of negligence among elderlies.

Now more than ever, frequent interactions with the family's oldest members are necessary to improve their mental well-being. In fact, common age-related mental health illnesses are currently being worsened by both the COVID-19 restrictions and safety measures aimed at reducing in-person contact. Combined with the already existing lack of independence and the fear of death (Cassum et al. 2020), the new sentiment of frailty, loneliness, and anxiety triggered by the pandemic has led to a stronger sense of dissatisfaction with life. By decreasing in-person social connections to respect physical distancing, the COVID-19 crisis has undoubtedly increased the number of cases of depression among older citizens all around the world. Given that all the harmful emotions from perceived social isolation have reduced happiness and well-being, constant intergenerational communication with elderly parents can be seen as the only tool to relieve their precarious conditions. If not tackled in advance, these pessimistic feelings may lead to severe mental illness that cannot be cured even after the end of the pandemic (Subramaniam et al. 2016).

3.2.2 Depression and Mental Illness

Although mental well-being is not a synonym for mental health, these mental statuses can strongly influence each other: Living with a mental health condition may lead an individual to more often experience situations of lower mental well-being. Therefore, studies have started focusing on understanding which factors trigger depression and how the disease impacts well-being. Subramaniam et al. (2016) highlighted the negative impact of factors such as a high degree of mental disability, poorer life satisfaction, and medical comorbidity. In contrast, Ichimura et al. (2017) concluded that education level, labor force participation, connection with children, social interaction, and physical health are highly correlated with depression among the elderly in the Republic of Korea, the PRC, and Japan; however, the magnitude of these effects varied across economies, together with the significance of factors such as age, marriage, and wealth.

On the other hand, Sengupta and Benjamin (2015) found that, in the Indian context, the prevalence is significantly higher among urban residents (10.1%), females (10.8%), elderlies above the age of 80 (24.5%), those living alone without a spouse (12.8%), nuclear families (18.2%), illiterates (10.7%), those not working (10.2%), and the poor (14%). Surprisingly, access to pensions does not seem to be a key trigger for depression (Ichimura et al. 2017). However, one must bear in mind that recognizing depression is not a straightforward task and that traditional diagnosis may fail to recognize more subtle characteristics of this mental disease. For instance, numerous senior Singaporean citizens (13.4%) seem to suffer from subsyndromal depression, a disease not medically identified as the patient continues to present depressive symptoms that still do not satisfy any rigorous diagnosis (Subramaniam et al. 2016). In accordance with the same data set, elderlies suffering from subsyndromal depression are found to share many of the psychosocial correlates and risk factors of depression. In particular, the negative impact of subsyndromal depression on elderlies' general health and well-being is significant but lower than clinically diagnosed depression.

Among the mental disorders faced by elders globally, depression accounts for the highest burden (Bhamani et al. 2015; Cong et al. 2015; Grover and Malhotra 2015; Singh et al. 2017). As depression is a key cause of cognitive impairment (i.e., 44.5% of the aging population with depression have low cognitive function), a highly significant association exists between quality of life and mental health. Singh et al. (2017) claim that bad cognitive sense and depression leads to a decline in quality of life by 7%. As

more than a fifth of individuals aged 60 or over are globally affected by mental and neurological disorders (Kadariya, Gautam, and Aro 2019), solutions need to be found to prevent adverse impacts on subjective living conditions.

3.2.3 Leisure: Impact of Physical, Creative, Contemplative, and Social Activities

Scholars have shown that frequent participation in leisure activity is key to successful aging. For instance, DeCarlo (1974) demonstrated that lifelong engagement with these activities positively influences well-being in old age. Later, Markides and Martin (1979) argued that recreation is the crucial driver of life satisfaction, while Kaufman (1988) found that levels of anxiety are inversely related to leisure. More recently, Cheung et al. (2009) concluded that participating in leisure activities reduces the feeling of loneliness and depression, while making it easier to cope with physical and emotional changes. In particular, this kind of activity provides a positive self-concept by allowing an individual to keep developing through the feeling of role continuity and the sense of self. As a matter of fact, all these studies build upon the Activity Theory of Aging (Cavan et al. 1949), which claims that healthy aging derives from activity and constant social interactions.

Given the relevance of the model of Cavan et al. (1949), Zimmer and Lin (1996) decided to dig into the conditions of Asian senior citizens. Therefore, the authors analyzed the well-being among older people in Taipei, China and their commitment to leisure activities, building upon the findings in Western countries. Firstly, the authors divided elderlies' recreation time into four main categories, namely *physical activities* (sport, walking, and gardening), *creative activities* (games, reading, hobbies, and handicrafts), *contemplative activities* (thinking and worshipping), and *social activities* (socializing). Although these broad categories might overlap, data showed an overall positive association between the frequency of leisure activity and mental well-being. The relation has also been maintained in more recent studies, but the preferred leisure activities for Asian seniors have changed (Lee, Lee, and Park 2014).

Most elderly people spend much of their time using media, particularly in watching TV, followed by leisure options such as craft and playing musical instruments. Finally, participation in sport and outdoor leisure activity is also important among the elderly, but the frequency of such participation changes significantly according to household, personal, and location characteristics. Out of the different sporting choices, most time is spent walking. Choo, Sohn, and Park (2016) claimed that the percentage of walking trips is the highest amongst elderlies when compared to other generations. However, as age increases among the elderly, mobility tends to decline naturally, due to age-related health issues.

In terms of the psychological domain, Lee, Lee, and Park (2014) found that the mental well-being of Republic of Korean elderlies is positively correlated with the use of media as well as the practice of hobbies and sports activities. Similar results are also found in Malaysia by Minhat and Amin (2012), who claim that social interactions are involved in performing leisure activity and contribute to the general well-being and mental health of elderlies. However, the most common daily leisure activities are not the most social ones: Based on data gathered in four Malay districts in Selangor, watching television and reading are the most widespread choices. In line with this, Lee, Lee and Park (2014) found that the sampled participants from Taipei, China spent the least amount of time engaging in activities that involved volunteering or social organizations, and within those, the most disliked category is watching or attending cultural events. A possible explanation had already been provided by Hsu (2007), who stated that participation in

social groups depends not only on the type of activity but also, and primarily, on one's opportunities to join it.

Participating in some social activities may enhance mental well-being by reducing cognitive function impairment among elders, especially if they involve nature (Sia et al. 2018). However, gender roles tend to influence the activities performed in the household, which leads to unequal leisure and social group participation opportunities. Gender seems to strongly impact the choice of activities and frequency of recreation in Taipei, China, as the percentage of men's participation (49.5%) is greater than that of elderly women (28.7%) in any social group (Zimmer and Lin 1996). However, the most significant difference is within the contemplative category, the only one where women outparticipate men; unfortunately, meditation and worship do not positively affect females' well-being scores (Zimmer and Lin 1996). Interestingly, participating in religious groups lowered the risk of mortality for women (Hsu 2007).

3.2.4 Affiliation and Participation: The Role of Religion

In traditional Asian societies, most elderly women are not allowed to engage in paid work: They are expected to dedicate their time to doing housework, taking care of children, and helping in the family enterprise or with farm work (Hsu 2007). Hence, one of the few ways to have a social life is through religious activities, such as regular worship meetings (Chou and Hofer 2014). Religious interactions gain importance through discussions about stressful personal situations, which tend to be relieved through the support of a less distressing religious frame (Myers, Wolfer, and Sherr 2013). Under these circumstances, religious activities have seemed to improve the mental well-being of participants and to increase their longevity. Especially for elderly women, being associated with a religious group has proven to positively affect their life span through the promotion of both spiritual and emotional health. However, classifying specific effects across different religions is not an easy task, as most creeds contain peculiar characteristics (Riddoch 2000). Furthermore, Tran et al. (2017) did not find a highly significant difference in satisfaction among elderlies from different religious groups in Viet Nam except for Buddhism and Caodism variables, which turned out to be negative and statistically significant compared to their nonreligious counterparts.

As expected, results also vary hugely across economies, in relation to the traditional values and the weight given to religion by both government and citizens. For instance, Inglehart (2010) found in a cross-country study a positive relationship between happiness and religion for the whole sample, and a negative relationship in a subsample from some ex-communist countries. Similarly, a strong negative relation between religion and happiness is highlighted by Brown and Tierney (2009) in a sample of elderlies in the PRC. According to the authors, this negative association can be explained by past (and current) religious controls or persecutions: Those episodes might have negatively affected the survey respondents. On the other hand, the religiosity theme has emerged as a positive source of well-being in Pakistan: In the study by Cassum et al. (2020), the majority of Pakistani elderlies mentioned that they had been praying in tough times, as prayer is a source of spiritual help and relaxation. Recitations of specific prayer and verses from holy books (e.g., the Quran and the Bible) gave them inner peace and serenity.

3.2.5 Physical Activities and Mental Health

Although leisure and contemplative practices are important stimuli, physical activities and exercises are the functions that seem to have a more holistic impact on elderlies' well-being. Specifically, physical activity involves all the bodily movements produced by the skeleton and muscles, including thus many daily actions such as playing,

cleaning, commuting, and participating in sports; however, as individuals get older, physical exercise is mainly identified as leisure time activities that rely on walking, doing mild exercise, and joining recreational physical tasks (Li et al. 2018; Kadariya Gautam, and Aro 2019). Regardless of the typology and the age of the individual, physical activities allow several body functions to be enhanced contemporaneously, by positively impacting mental health through factors such as frequency, regularity, and duration. Consequently, findings that frequent exercise boosts bodily processes and increases the overall psychological feeling of well-being are not infrequent in the literature (Garatachea et al. 2009; Lee and Hung 2011; Guderian, Johnson, and Mathiowetz 2013).

Given that for centuries, Southeast and South Asian economies have been characterized by inadequate mental health services aimed at dealing with elderlies' psychological plight (Maramis, Van Tuan, and Minas 2011), policies aimed at promoting exercising might be widely accepted by the society, becoming in turn pivotal for success. Through a positive stimulation of both the mind and body of senior citizens, frequent exercising could in fact decrease the risks of mortality and boost a sense of appeasement, improving in turn quality of life. In line with this idea, scholars have started better analyzing the relation between self-perceived mental health status among Asian elderlies and physical activity. According to Lee and Hung (2011), the sampled elderlies from Taipei, China analyzed spent (on average) 11.05 hours weekly on exercise, meaning around an hour and a half every day, and they find that exercise frequency has a statistically significant positive effect on well-being. Likewise, Wang et al. (2011) found that the mental health status of older Taipei, China adults tended to show "less deterioration among regular exercisers compared to irregular exercisers."

More recently, an experimental study conducted by using yoga as an interventional exercise showed that the mental health indicators were higher among those being treated; in particular, a higher frequency was associated with lower levels of depression (Chan and Chen 2017). Furthermore, Lee and Hung (2011), inspired by Taboonpong et al. (2008), found that Tai Chi exercise frequency is positively associated with the well-being of Thai senior citizens, through improved quality of sleep and physical performances. However, Kadariya, Gautam, and Aro (2019) recognized that more active people make a positive contribution to their mental health and well-being, but only if the activity is reasonable in terms of intensity and length of time.

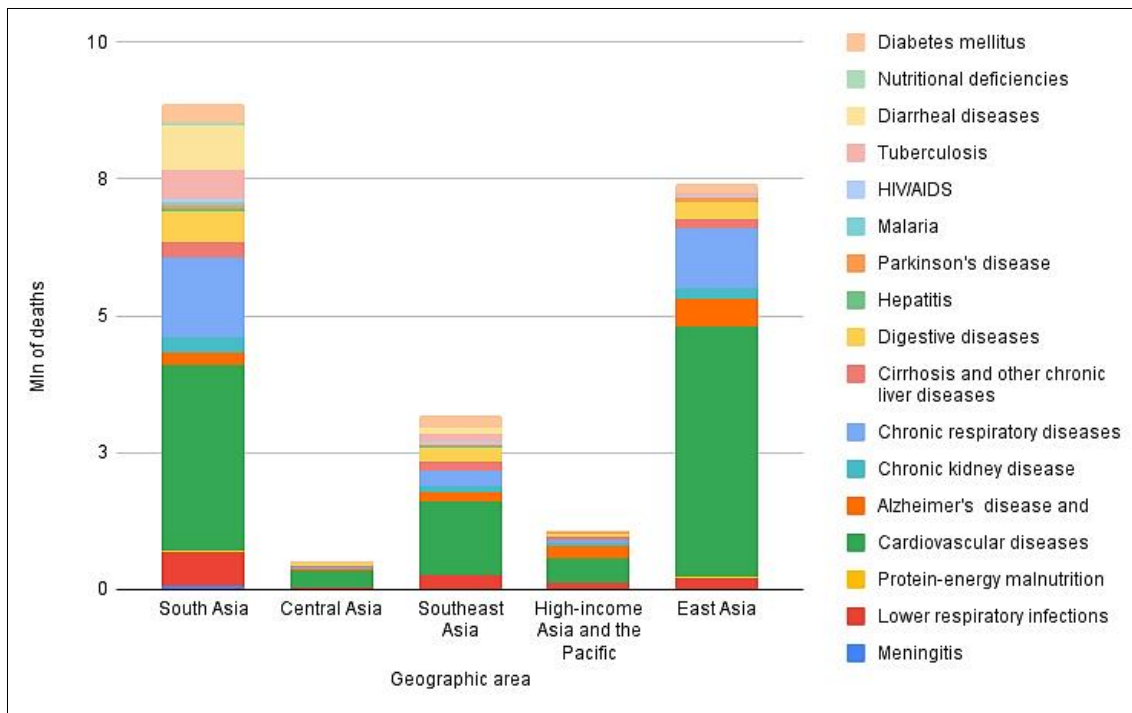
3.3 Physical Well-Being

Physical wellness accounts for the last dimension of elderlies' well-being analyzed in this systematic review. Defined as the "ability to maintain a healthy quality of life," physical well-being permits individuals to complete basic activities without a sense of fatigue (Australian National University 2020). However, a positive physical status depends not only on good biological health indicators but also on lifestyle choices aimed at ensuring good health, avoiding preventable diseases, and living in a balanced state of body and mind.

Yet, the personal perception of one's health also strongly impacts the degree of well-being, especially among older individuals. Using a 2010 Longitudinal Aging Study, Cramm et al. (2015) find that older Indians have a more positive perception of health but do not have a significant association with the objective health status. While self-reported health can grasp information about a person's perceptions, objective measures are associated with physical and cognitive dimensions. Aside from this, aging is the stage in the life cycle mostly marked by an overall decrease in physical wellness (Zimmer and Lin 1996). Despite the fact that health worsens while getting

older and that death is driven by several factors (as displayed in Figure 4), some optimal behaviors have been found to prevent new subjective and objective chronic diseases, as well as to decrease the risk of death.

Figure 4: Annual Number of Elderly Deaths by Cause in Asia by Region, 2017



Source: Institute for Health Metrics and Evaluation (2018).

3.3.1 The Impact of Physical Exercise on Bodily Conditions

In this era of major changes, elderlies should be seen as one of the most vulnerable groups in terms of health conditions. However, more common health issues such as chronic musculoskeletal pain (simply known as “back pain”) are the most challenging health issues faced by elderly people all over the world. For instance, as back pain usually results in affecting overall health and functional mobility, it does not have a positive impact on overall well-being. Data gathered among the population aged 50 and above in five South Asian economies show that the connection between back pain and physical activity is insignificant; however, the prevalence of back pain reported by the Nepali sample is more than three times greater than that reported by Indians (Bishwajit et al. 2017).

The literature has highlighted the clear medical benefits of physical activity for the elderly people in aging economies. In particular, the specific type of physical exercise frequently performed by elderlies has been described as leisure time physical activity (LTPA). Using large pooled data on Asian adults, Liu et al. (2018) find evidence that regular LTPA is associated with reduced all-cause and cause-specific mortality among East Asians. Yet, numerous factors affect the degree of participation in physical and outdoor activities; among others, the presence of specific environments (i.e., amenities) dedicated to outdoor activities has been recognized as an important determinant of frequent physical activity for senior citizens. Results from an instrumented regression analysis by Yeh, Chang, and Yang (2018) emphasized the key role of parks as environmental amenities: Elderlies who exercise there have significantly higher

physical activity levels than those who exercise at other locations. Moreover, the authors claim that proximity to parks actually enhances the willingness of exercisers.

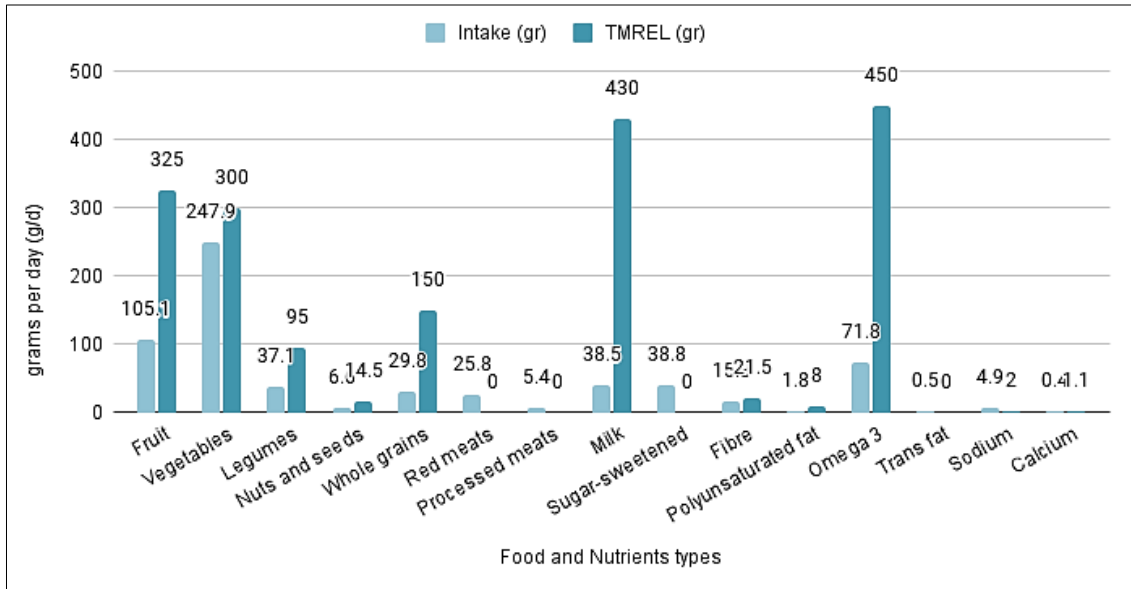
3.3.2 Malnutrition and its Two Faces

For centuries, developing Asia has suffered from a high degree of poverty in urban and rural areas, thereby increasing mortality risks for adult men and women. In this miserable context, living conditions are further worsened by malnutrition, which, among other things, impacts the probability of facing reproductive failure due to lower fertility levels and higher mortality risks. According to Jokela, Elovainio, and Kivimäki (2008), it is the meager intake of proteins, minerals, and vitamins that triggers the reduction in reproductive performance, due to an altered energy balance. Although poor undernourished adults tend to be infertile, malnutrition problems also affect newborns, who might have lacked key nutritional intakes during gestation. Inability to produce a child who survives increases the reproductive failure and impacts the demographic structure of economies that are already aging.

Malnutrition and insufficient nutritional intake are a plague that affects all the members of a society, especially in developing Asia (as can be seen in Figure 5). After they stop working, individuals tend to adopt a more sedentary life and to neglect the choice of a healthy diet, becoming even more vulnerable to malnutrition issues. These new health conditions are driven by all those life changes that arise with age, combined with a shortage of financial aid, a decrease in social interactions, and inadequate access to food. Lately, an analysis of so-called “functional status” has frequently been adopted, given that it allows experts to identify the ability of elderlies to carry out specific day-to-day activities autonomously, such as preparing their own food and consuming it. Thanks to this analysis, evidence has been gathered indicating that, in developing Asia, malnutrition (especially undernutrition) is a widespread crisis among the elderly, as their nutritional health is often neglected. Firstly, lonely elderlies might not be able to take care of themselves alone, or understand what an adequate portion of food is assumed to be, or have adequate financial means to pay for healthy foods. Secondly, families might prefer to give larger portions of food to those household members who work actively and “deserve it more.” Thirdly, most public and private nutritional intervention programs are rarely directed at senior citizens, being focused on infants, young children, and adolescents, not to mention pregnant and lactating mothers. However, healthy diets and ad hoc nutritional interventions could be pivotal tools in the prevention of degenerative conditions among the elderly, thus improving their life conditions; in fact, individuals with such conditions face a significant risk of malnutrition, creating a situation that reduces even further the well-being of the patient and increases the related healthcare costs. It may seem that malnutrition and morbidity form a vicious cycle that keeps worsening health over the years (Agarwalla, Saikia, and Baruah 2015; Chern and Lee 2015).

Unfortunately, not many tools have been developed to provide a precise estimate of undernutrition in this age group; however, Agarwalla, Saikia, and Baruah (2015) highlighted the role of the MNA, the abbreviation for “Mini Nutritional Assessment,” an endorsed instrument used for determining the malnutrition status of elderlies from developing areas. In India, Agarwalla, Saikia, and Baruah (2015) found that 15% of 360 sampled senior citizens were malnourished, 55% at risk of malnutrition, and only 30% well nourished, but 38.4% of elderlies were unaware of their worrying nutritional conditions. Interestingly, several reasons are linked with the discovered undernourishment and inadequate calorie intake, such as having problems with deglutition (e.g., chewing and swallowing, reported by 59.5%), loss of appetite (54.2%), financial problems (48.4%), and negligence of caretakers (47.8%).

Figure 5: Average Dietary Intakes of Foods and Nutrients by Asian Adults (Aged 25 and Older)



Source: Institute for Health Metrics and Evaluation (2020). | TMREL (“Theoretical Minimum Risk Level”) is defined as “the level of risk exposure that minimizes nutritional risk at the population level, or the level of risk that captures the maximum attributable burden.” | Intake refers to average daily intake. |

Although many sick elderly in developing Asia suffer from malnutrition, several changes regularly occur in aging bodies, even if the individual does not suffer from any disease and lives in a high-income area. In fact, the process of physiological aging affects the body mass and impacts its composition regardless of where the individual lives (Buffa et al. 2010). More specifically, the aging process always involves physiological and nutritional changes that manifest themselves through changes in height and weight: Muscle mass decreases, while fat mass starts accumulating in specific areas, modifying the adipose tissue redistribution (Dey et al., 1999). Moreover, the aging process results in poor energy regulation and altered hormonal levels and metabolic rates, which in turn affect anthropometric measurements (Goh et al. 2014). According to Fauziana et al. (2016), among senior Singaporeans, the prevalence of normal BMI⁴ is 52.5%, while obesity and overweight account for 8.7% and 33.4%. Besides the impact of age, participants who are not married are less likely to be overweight, while individuals with tertiary education or higher are more apt to have a lower WHR⁵. Based on their study, Fauziana et al. (2016) identified that overweight individuals have a greater probability of suffering from hypertension and heart conditions, whereas obese ones have a higher chance of having diabetes. Interestingly, other chronic conditions such as stroke and transient ischemic attacks (TIAs) are not significantly related to BMI and WHR.

3.3.3 Precarious Health and Access to Healthcare

The growing elderly population increases the likelihood that a larger proportion of citizens will suffer diseases or illnesses (Chen, Gan, and How 2018). Furthermore, in a scenario where vulnerable groups are faced with the inability to buy medicines and access healthcare, curing the simplest issues might not be perceived as a necessity by

⁴ Body mass index (BMI), calculated as body mass divided by the square of the body (WHO 2019).

⁵ The waist-to-hip ratio is based on circumferences (WHO 2008).

the most indigent; wrong health choices tend to create a vicious cycle that negatively impacts other physical dimensions of an individual's well-being. However, even within more traditional curative systems, there remains a remarkable fragmentation in basic healthcare provision, hampering the efficiency of centralized care for elderlies (WHO 2002). These are the reasons why the fast aging of the Asian people has led to increasing pressure for a reform in the healthcare systems and the related service delivery arrangements. In particular, it is necessary to combine different health services for elderlies, meaning that public systems should provide more coordinated care (He and Tang 2021). Thus, a system based on more integrated health services would be optimal: In this way, sick patients "[...] get the care they need, when they need it, in ways that are user-friendly, achieve the desired results and provide value for money" (Waddington and Egger 2008).

Before implementing any change, it is essential to understand the health situations, the medication/hospitalization preferences of senior citizens, and their determinants. Therefore, since societal and family structures are rapidly being transformed, Sanitha, Parida, and Awasthi (2019) decided to work on a comparative analysis of the Indian elderlies in Kerala, both those living under the same roof as younger family members and those staying at Indians OAHs, namely homes for the elderly. In such a context, the sample gathered has proven ideal for the aims of the analysis, given that only "4% reported good health condition, about 44% of them reported suffering from illness once in the last month, about 35% reported illness twice a month and about 18% reported illness more than twice a month" (314). Moreover, it is interesting to point out that among elderlies staying with their family, around a third finance their health expenditures out of their own pocket; this is quite rare, since the vast majority (47%) get their medical bills covered by their adult children. On the other hand, about 77% of those living in OAHs have reported living there free of charge. Contrary to expected results and real-life stories collected by local newspapers (see Joshi 2019; Ng, Yeh, and Shushan 2020; Pham 2020), around two thirds of the inmates are not planning to go home and live with their families, while the other one third continue to miss their children and grandchildren. In line with Sanitha, Parida, and Awasthi (2019), it seems clear that "in the absence of public provision of effective healthcare services in Kerala, elderlies spend out-of-pocket on health expenses and choose private hospitals for effective and better treatment" (308).

Access to healthcare and a properly integrated treatment depends not only on the government and charity nets but also on the degree of inequalities in society. Although the modernization process has changed some traditional values, deep-rooted family values and a sense of concern for elders are still a part of Asian ideologies (Cohen 1998). Therefore, in societies where aging is "anchored in the household" (Croll 2005), variation in old-age support is underpinned by welfare and social and gender relations. In line with these expected health discrepancies, Qureshi (2017) examined the Pakistani context, which is aging rapidly. Gender and social class appeared to be among the most important factors differentiating the health of Pakistani elders: Given that the country is based upon strict patriarchal-gender relations, data showed that women's health, on average, is worse than that of men. Among other unrelated issues, Pakistani women have a lower advantage in terms of survival and higher rates of disability, as well as a higher degree of communicable (e.g., heart) and NCD diseases. Aside from this, the amount of care provided to elders, regardless of sex, depends on the family's economic situation.

Yet, higher inequalities seem to be faced by those with the lowest status in society (for instance, widows). Over the last few decades, evidence has suggested that women enjoy higher life expectancies, thereby having a greater chance of facing widowhood. Nevertheless, they are at greater risk of suffering from more financial issues, abandonment, depression, and poor health conditions than widowers (Dhak 2009; Park, Jang, and Kim 2010). At the same time, among individuals reporting multiple morbidities or severe impairments, the likelihood of widows seeking healthcare services is lower than that of men (Agrawal and Arokiasamy 2010). However, Qureshi (2017) claimed that married women appear to be in a better situation when compared to widowed. In Pakistan, older women who have generated an abundant family and established a strong connection with their offspring may be able to live in better financial and physical conditions. Interestingly, the results are the opposite in India; for instance, Agrawal and Keshri (2014) find that widows report higher rates of morbidity and are less able to access healthcare services, and NCDDs are more widely prevalent among widows than their male counterparts.

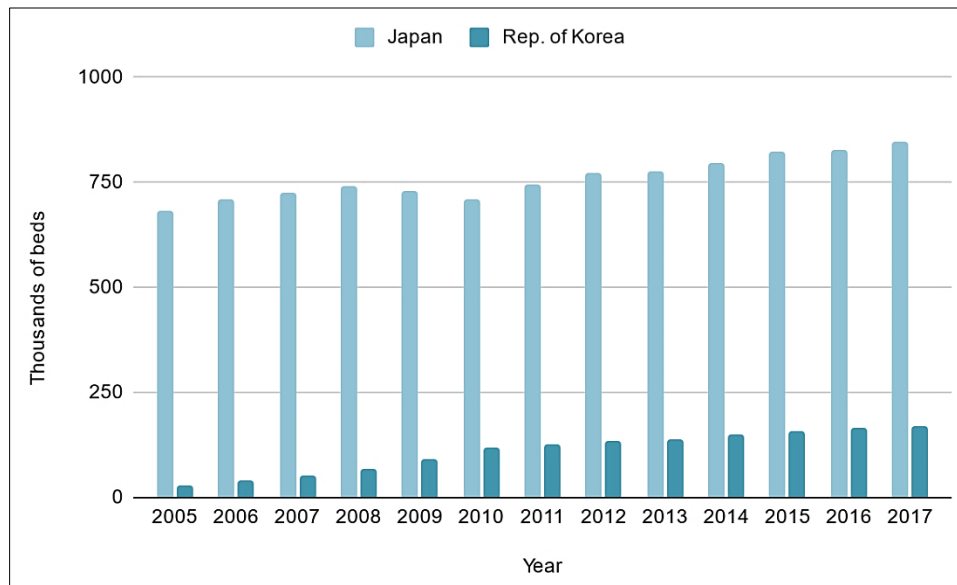
Some public assistance programs have been developed in wealthy Asian regions to mitigate healthcare inequalities in vulnerable families. However, Jeon et al. (2017) use the Government of the Republic of Korea's (1999) National Basic Livelihood Security System (NBLSS) and find that elderlies with disabilities are still not well protected, indicating that the pension and health systems are not adequate even in most developed Asia.

3.3.4 Subjective Physical Status and Life Satisfaction

According to the analysis performed in the previous section, it has emerged that successful and healthy aging varies across economies, groups, and individuals. Therefore, subjective life satisfaction (LS) significantly predicts successful and healthy aging. More specifically, these levels of LS indicate the subjective (physical) well-being, which is derived from the health conditions experienced by individuals aged 65 and over. This is the reason why Banjare, Dwivedi, and Pradhan (2015) focused on the various factors associated with the LS index among the rural elderlies in Odisha,⁶ India, and found that cognitive health is the most prominent and critical factor for setting the degree of LS among elders, regardless of gender. Elderlies who live alone, face disabilities, and conduct a sedentary lifestyle thus report significantly lower perceived LS for both genders. Among rural elderlies, individuals' social support also plays an influential role in determining contentment. However, as cognitive status depends strictly on health status and on (unseen) individuals' characteristics, Banjare, Dwivedi, and Pradhan (2015) argued that "[...] there should be well-trained staff and infrastructure in the geriatric units to cater for the needs of the rural elderly" (12); as a matter of fact, according to the authors, this point is almost entirely ignored in developing regions (as can also be seen in Figure 6 for Asian developed economies).

⁶ In 2011, the Government of India approved the name change of the State of Orissa to Odisha. This document reflects this change. However, when reference is made to policies that predate the name change, the formal name Orissa is retained.

Figure 6: Thousands of Beds in Residential Long-Term Care Facilities in Developed Asia



Source: OECD Stat (2021). *Health spending indicator*.

The paper mentioned above by Banjare, Dwivedi, and Pradhan (2015) clearly highlights how the subjective life satisfaction of Asian elderlies depends on interlinked factors that belong to each of the three dimensions of well-being we have analyzed thus far. Higher levels of overall life satisfaction are correlated with one's health conditions, socioeconomic status, adequacy of family support, living environment, and condition. Once more, we can see how well-being is a multidimensional concept and how mutually important factors play a crucial role in achieving successful aging. Therefore, Pinar (2019) emphasizes why considering the types of interactions between well-being dimensions is completely relevant, as it would allow the development of areas to improve the overall well-being of their senior citizens by catching the right signals. For example, if the three dimensions are perfect substitutes and a "multidimensional well-being index" is obtained with arithmetic mean aggregation, then local policymakers can choose to ameliorate the dimensions that are the easiest to manipulate and ones that are less expensive, in order to improve the overall level of well-being without much effort. However, in most cases, two or more dimensions tend to be seen as complements. Hence, policymakers should prioritize a balanced improvement in all the aspects impacting life contentment: Uneven achievements cannot boost overall well-being in the same way as balanced ones. Consequently, determining and considering these synergies would help governments arrange diverse policies and improve well-being outcomes. In line with this, the next section is dedicated to an overview of the barriers currently present in developing Asia and the challenges that those aging economies are facing.

4. CURRENT BARRIERS AND FUTURE CHALLENGES

Sociologists and social demographers describe the trend of aging societies as the demographic transition to the “fourth stage,” in which both birth and death rates stabilize at a low level, while longevity rises (Cardwell 2006). However, this shift requires changes in the current social composition, health and pension systems, economic cycles, culture, and politics. Consequently, governments are constantly challenged to develop policies aimed at adaptation and modification to face the existing barriers and solve issues posed by rapid aging. In particular, attention should focus on the rapid propagation of “common aging problems,” i.e., the shrinking labor force, accelerating costs of pensions and elderly services, as well as on the sociopolitical conservatism that might be offered by the majority of elderly voters (Pakulski 2016). Therefore, according to the Australian strategic policy for an aging society (Commonwealth of Australia 2015), governments around the world could deal with the unexpected issues arising from aging societies by first focusing their attention on four points, namely:

- A “*systematic monitoring of old-age problems*,” such as fragile health, seclusion, social seclusion, dependency, and deprivation.
- A “*systematic monitoring of aging society problems*,” such as reducing working populations, augmenting old-age dependency ratios and the related generational issues, increasing the cost of elderly public support, creation and mobilization of gray lobbies⁷ and conservatism.
- A “*selective and rejuvenating immigration*,” together with “integrative multiculturalism,” that boosts stimulus for employment and promotes social obligations.
- A “*systematic monitoring and promotion of productivity*,” together with amendments that support an improvement in productivity through productivity agreements and productivity enhancement that include, among others, education, skilling, and investment in technologies.

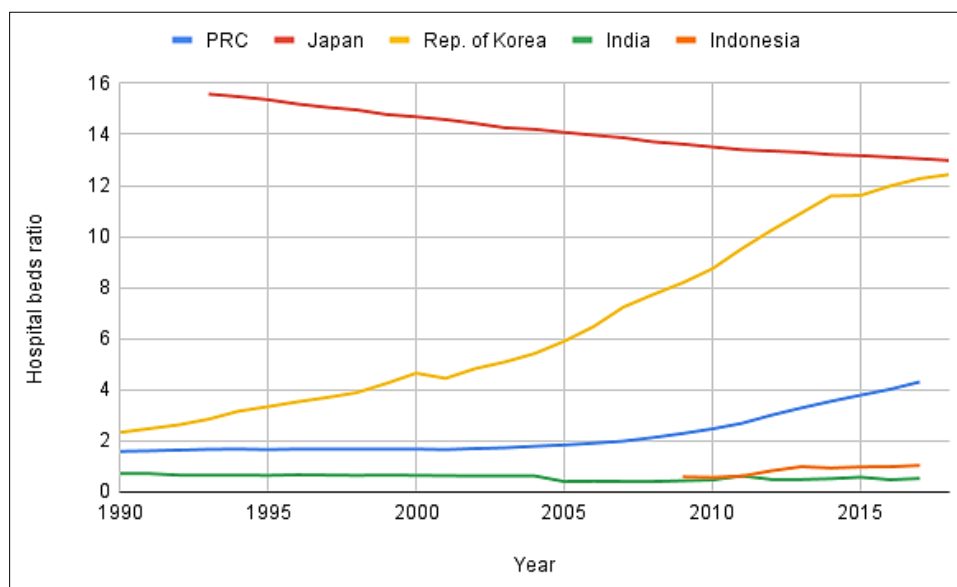
According to Pakulski (2016), the implementation of similar policies will be possible if governments start actively encouraging high labor force participation and employment among highly skilled individuals. As soon as inactivity has been reduced, it will be necessary to ameliorate the current pension system by encouraging individuals to save for their old age and by strengthening superannuation, namely regular payments made into a fund by an employee towards a future pension. Nonetheless, Pakulski (2016) emphasized how the fulfillment of the aforementioned potential strategies depends first on the ability to link all the elements together. Secondly, policymakers should be able to adapt their strategies to specific local conditions; in other words, developed and developing economies should shape their policies differently based on the needs of their citizens. Lastly, political presentation and promotion should play an important role, as they enable a systematic application. Based on these points, the following subsections contain the four major challenges that governments and policymakers will be facing in Asian developing economies, as well as the barriers that are currently slowing down any improvement process.

⁷ Elderlies are by far the most likely to vote in elections; this gives immense political power to the lobby of citizens aged 65 and over, usually known as the “gray lobby” due to the color of hair characterizing this demographic group (Nolan 2011).

4.1 Fragile and Inappropriate Healthcare Systems

Asian healthcare systems are particularly difficult to categorize. Prior to the market reforms in the 1980s, the PRC and other communist countries provided universal medical care. When this system collapsed, the cost, availability, and method of healthcare financing started varying markedly among PRC citizens of different socioeconomic situations (Heller 2006). Meanwhile, some economies (e.g., the Philippines, the Republic of Korea, and Thailand) have tried to adopt a more comprehensive public insurance system, albeit not always offering universal coverage (Tangcharoensathien et al. 2007). In contrast, Malaysia; Hong Kong, China; and Indonesia started offering universal access to care by relying on budget-financed systems; unfortunately, data show that the types of services received changed substantially based on one's earnings and place of residence (Wagstaff 2007). Therefore, even where care facilities are available, it is not uncommon that the health costs are paid out of pocket, limiting access to healthcare. That is why, in most economies, the private sector is a key provider. Moreover, the prevalence of private healthcare in developing areas potentially reflects the inadequacies of public healthcare (e.g., India) or highlights intrinsic failures in its design (e.g., Thailand). These elements are highlighted in Figure 7, where the number of public hospital beds (per 1,000 inhabitants) has been used to provide evidence for a sample of Asian economies.

Figure 7: Number of Public Hospital Beds per 1,000 Inhabitants



Source: OECD (2021). *Health spending indicator*.

It is worth examining the relationships between healthcare expenditure (HCE), real GDP, and share of government spending in HCE for improving the elderly care system. Starting from the seminal work of Newhouse (1977), several scholars estimated the income elasticity of HCE. Some studies reported a positive income elasticity of HCE (greater than one), implying that healthcare is a luxury good (see Newhouse 1977; Liu, Li, and Wang 2011; Mehrara et al. 2012), while other scholars found a negative income elasticity (less than one), meaning that healthcare is a necessary good (Sen 2005; Lago-Penas, Cantarero-Prieto, and Blazquez-Fernandez 2013; Hooda 2016).

If healthcare is a luxury good, the government should not intervene directly in managing HCE, but its demand should be left to market forces. Hence, for a luxury good, income growth will generate a greater demand for healthcare services, increasing HCE more rapidly (Moscone and Tosetti 2010; Farag et al. 2012). On the other hand, if healthcare shares the same features as a necessity good, active government involvement is needed to redistribute healthcare resources based on the exigencies of individuals (Di Matteo 2003; Baltagi and Moscone 2010). Khan and Husnain (2019) find that HCE has the features of a necessary good in 14 Asian economies examined (i.e., the estimated panel income elasticity is less than unity). Further, the same studies find that HCE remains necessary in SAARC countries (the lower-income region), and in ASEAN, the estimated income elasticity is insignificant. The finding of Khan and Husnain (2019) is not surprising as the higher income elasticity in poorer geographic regions is driven by the fact that public healthcare is regarded as “essential” to survive, compared to the wealthier ASEAN countries (Baltagi et al. 2017). With healthcare being classified as a necessity good (at least in the poorest regions), more redistribution of health resources should be required, along with a more active health policy.

This section of the paper will now focus on how policymakers could propose changes in the meager Asian public healthcare systems to improve the conditions of the baby boomers and future elderly generations. This subsection of the systematic review thus brings into focus the issues of current healthcare systems that must be urgently tackled. Appropriate formulation of healthcare regulations for elderlies needs continuous knowledge of the changing perceptions of the care systems and their use. Hence, a satisfactory number of well-trained staff and healthcare infrastructures should be present, making it possible to cater to and analyze the needs of the Asian elderly. Unlike most European countries, geriatric medicine and related studies have not been well established in the Asian continent (Chen 2020). However, the incredible aging speed of Asian economies – which has been much faster than European ones – might have partly driven the current relative shortage of geriatric medicine programs.

Hence, although aging societies have been established in most eastern and southeastern Asian economies, geriatric training programs (including undergraduate programs) remain underdeveloped. It is thus essential to incorporate geriatric medicine in the undergraduate curriculum to promote better care for older people in the future. Aside from this, staff should be equipped with key knowledge and skills in geriatric medicine, while specific areas of study should be developed to provide optimal care to the elderlies (Chen 2020). It is still important to underline that the shortage in geriatric services is due not only to inadequacy and negligence but also to the presence of a stigma towards elderly care. Consequently, policymakers should focus on creating programs to remove this persistent shame in treating senior citizens by building intergenerational solidarity among generations. It is imperative that physicians from all specialties are willing to help senior citizens without being ashamed of their job.

Although public hospitals treat senior citizens and provide discharge plans, no coordinated referral mechanisms occur when the patient exits a curative infrastructure. Hence, the current system does not guarantee care to the elderly after returning home, highlighting the shortage/absence of proper coordination between senior “cure” and “care” provisions (Lau et al. 2018). Even though strategic frameworks dedicated to elderlies seem to exist in most developed Asian nations (Hong Kong Hospital Authority 2012), the overall region is characterized by a significant fragmentation in the provision of health services. Policymakers should therefore enhance coordinated care, while containing rapid cost inflation. Fortunately, the examples of Asian economies such as

Hong Kong, China and Singapore demonstrate that the right policies could ameliorate how social care is offered.

In many developing economies, the inadequate provision of preventative and holistic care and the fragmentation of the primary care system have hardly impacted the whole system and its operation (Woo, Mak, and Yeung 2013). Thereupon, a move toward fully incorporated geriatric health services should be a priority policy agenda for elderly care. Therefore, a vertical approach to integration ought to be restructured to encourage consultation, participation, and co-production with the elderly. At the same time, a horizontal integration could help primary care professionals to deal with the complicated multiple morbidity problems of older adults (Woo, Mak, and Yeung 2013). The accomplishment of this ambitious but necessary objective lies in the simultaneous efforts of policymakers, health service funders, practitioners, health educators, and service users. One research suggests “that the unsatisfactory outcomes seen in many existing integration models often result from a poor appreciation of the needs and preferences of elderly users themselves” (He and Tang 2021: 351). Moreover, without substantial financial resources and the willingness to invest in healthcare, developing integrated and affordable LTC services may take time (Ansah et al. 2014). Hence, policymakers should focus on initiatives to nurture the growth of elderlies’ healthcare systems, while keeping the cost of the services fair. Financial incentives and instruments should be used to induce behavioral change among elderly users and should be aligned to encourage cost-effective preventive, promotive, and community care.

Prevention and promotion are the starting points through which governments across Asia could establish long-term social protection. Indeed, elderlies’ health diseases are considerably impacted by the factors associated with health promotion behavior (HPB). Because of this, Iddrisu et al. (2020) verified the impact of increasing involvement in HPB related to health diseases among elderlies in Malaysia. Focus had been put on “healthy eating, exercising, stress management, health responsibility, interpersonal relationship, spiritual growth, individual personal factors, and elderly perception in terms of HPB; diabetes mellitus, hypertension, hypercholesterolemia, minor stroke, kidney failure and heart problems are instead the diseases analysed” (Iddrisu et al. 2020: 152). Their findings prove that HPB reduces the related health disease, improving the life of individuals. Therefore, this paper emphasizes how health ministries could consider providing intensive and extensive guidelines to help prevent and control diseases in developing economies. Moreover, policymakers should adopt more advanced healthcare practices, delivering technical and policy advice, advocacy, and capacity building in health areas. Consequently, the health industry could intensify its internal technical capacity to deal with geriatric problems (Lonn et al. 2016).

4.2 Pension Systems: A Current Dilemma

Asian public pension schemes are characterized by their relatively low degree of coverage. Furthermore, the meager systems are usually hampered by the common practice of withdrawing pension savings before retirement (often taken as lump sums), preventing people from adequate income levels over their lifetime. In many developing economies, these insurance systems are a complete failure, since they have not been designed to be adequate, affordable, robust, sustainable, and equitable. Health and pension social insurance and labor market policies require significant work to sketch policy frameworks that could take into consideration the current challenges of aging people. Except for Singapore, there is not enough evidence of policies offering incentives for more extended labor force participation. Since a longer working life

could damage individuals' health and well-being, the policy should focus on more comprehensive social insurance systems and reform some existing key existing policy provision systems. Reorganization of the labor force participation system should include a steady rescheduling in the age of eligibility for retirement benefits, a neutrality in linking benefit levels to the length of the prospective retirement period, adequate incorporation (in benefit calculations) of the prospective longevity of cohorts at the time of retirement, a move towards payout methods that provide for income payouts rather than lump-sum payments, and restrictions on the use of funds before retirement (Heller 2006). At the same time, addressing the current healthcare challenges could positively impact the labor market structure; increasing access to medical care and changing unhealthy behavior related to diet, tobacco consumption, and exercise may be critical to successfully improving the quality and capacity of an aging labor force.

However, before reforming the labor market and the pension system, more drastic interventions should be planned to deal with the plights of the current generation. Recent data show that around a third of senior citizens in the Asia and the Pacific region receive a pension (UNFPA 2020). Consequently, due to a lack of adequate social protection and the inability to accumulate assets, many elderlies must deal with income insecurity, to cope with deprivation of basic services and to experience a high incidence of poverty (Jeyalakshmi, Chakrabarti, and Gupta 2011). According to local tradition, elderly people are taken care of by their children or grandchildren; such living arrangements should be mutually beneficial, since the elderlies should be able to provide childcare and take care of domestic work in exchange for emotional and economic support. Therefore, public pensions had been modest or nonexistent for centuries (Rajan 2007). Nowadays, development programs in low- and medium-income Asian economies mostly focus on poor nonelderly populations, whereas programs for elderlies, where they exist, are often meager and scant (Lloyd-Sherlock 2002). Although there is still a strong tradition of family, times are changing and we observe a weakening of informal support systems. Hence, the goal in many developing economies is to build programs that support elderlies financially and permit them to retire if they wish (Barrientos, Gorman, and Heslop 2003).

The results highlighted in the papers of Kaushal (2014) for India and Ning et al. (2016) for the PRC on their national pension schemes have important policy implications related to the pension systems in developing Asia. Firstly, the findings suggest that extensive coverage of pension programs may not have the redistribution effect desired: From the perspective of elderly labor supply, a public pension program for elderlies does not enhance the well-being of its recipients, especially those with ill health. In fact, implementing this kind of public transfer without considering the health status of the beneficiary may simply impoverish them. Secondly, the effect of labor market outcomes on elderlies could be confused with the behavior response of adult children, who may reduce the private transfers to their parents. Moreover, it is important to point out that, although increasing labor force participation rates among older workers is positive in the developed world (as it improves the fiscal stability of pension systems), in developing areas the effects of later retirement on individual well-being might be utterly negative. Keeping working in old age might harm the already-precarious health conditions of the most indigent, directly affecting healthcare costs that the state must bear. Therefore, the social security policies related to public pension schemes may be formulated to focus on the older elderlies and those with bad health. Policymakers should plan reforms focused on institutions and tools that minimize distortion of the labor supply for working-age adults. Only in this way will the labor market not be negatively impacted, and the well-being of senior citizens will be improved. Yet, besides the ambiguous impact on employment, pension schemes such as the PRC scheme analyzed by Ning et al. (2016) are found to be associated with an increase in

household expenditure, especially on medical care and education. This indicates that most of the income received in pensions is directly invested in human capital, in order to improve the health conditions of the elderlies and the level of education of their family members.

Although modernization processes have changed the traditional intergenerational relationships, in both urban and rural areas children's financial transfers to their elderly parents are still frequent. These financial transfers, as well as any other kind of familial support, have been set up to compensate for inequalities in elderly persons' access to public resources. Yet, the papers reviewed in this subsection highlight how a well-developed public pension scheme could help many households to exit from poverty traps and could improve the features of the labor market. In other words, the establishment of formal pension systems has become a key social and economic goal for Asian developing economies. Now, Asian economies should prepare for the coming demographic challenge: establishing and institutionalizing advanced pension systems is a necessity. However, the Asian reform should mainly focus on widening institutional and administrative capacity, on improving governance and regulation for efficiency and transparency, on expanding insurance coverage to provide pension benefits to the less fortunate, on enhancing financial sustainability, on improving the returns from the assets managed, and on granting protection for the elderly poor. Moreover, policymakers should consider the weakening of informal family-based support mechanisms among Asian societies, which emphasizes the greater role that formal pension systems will play in the upcoming decades.

4.3 Elderlies' Infrastructure and Housing Facilities

Filial piety has historically played an important role in East and Southeast Asia. Today, however, households have become much smaller, and intergenerational coresidence is not widespread anymore. Combined with aging trends, these factors have impacted elderlies' quality of life. Governments in most developed Asia economies have already recognized the gravity of the problem and have started acting as a result. Usually, the frameworks developed promote integrated health services for elderlies via a consistent network of families, communities, and healthcare institutions. In its optimal form, such integrated care systems allow older people to "age in place," namely in their own homes; indeed, there is evidence that older adults who "age in place" are happier and enjoy a greater quality of life than those in institutions (Chan and Matchar 2015). Although aging at home is only desirable if conditions are met to optimize function to enable coping with common chronic disabling diseases, physical function, and psychosocial needs, some desirable goals with respect to "aging in place" include optimizing function by manipulating home design, furniture, and aids. Reducing isolation and the sense of loneliness with the help of social network support and technology should also be considered. Even if the importance of these social care services has also been recognized by policymakers in developing Asia, its fruitful implementation might be more challenging given the difficulty of bringing medical care to the poorest areas. The rising number of elderly dementia patients could only rely on the emergence of retirement infrastructures and assisted living centers. However, in South Asian culture, it is considered morally wrong to put parents or grandparents in a care home. Therefore, it is fundamentally important to eliminate the local stigma on elderlies' health and public care, especially towards retirement houses. In other words, as it may allow the reduction of the burden of busy adult children and reduce severe hospitalizations, senior Asian citizens should be prepared to live in retirement houses. This could happen only through ad hoc promotion policies, as the idea of sending elderly parents to nursing homes is still a conservative thought. As a matter of fact, a

nursing home becomes a necessary option when a relative requires more medical attention and care than family caregivers can fulfill. A nursing home should not only provide elder care services, but it should offer proper nursing facilities and equipment to help residents with their medical healthcare needs. Such elderly care facilities would bring value to the whole society, thanks to the skilled healthcare professionals dedicated to looking after residents with any kind of mental or health conditions. Besides caregiving, nursing homes also act as a social environment, where many senior citizens could find social support and network when they may feel isolated or depressed at home.

A relevant policy implication coming from the previous paragraph is the necessity of providing healthcare and elderly housing capacity in middle- and low-income societies. Aside from setting up new infrastructures or maintaining existing ones in both urban and rural areas, the real asset of these facilities consists of human capital (see current ratio of doctors per 1000 inhabitants in the Appendix, Figure E). Medical education programs should be reoriented to train a growing number of professionals (such as skilled nurses, geriatricians, dieticians) and to ensure that other allied health personnel are able to manage the chronic conditions of elderlies. Furthermore, clinical guidelines and community care standards should be proactively developed and regularly updated with reference to patients' feedback (Chan 2020). At the same time, the living environment should be framed in such a way that elderlies keep having frequent contact with family and friends, and do not feel a culture shock. This could be implemented through various considerations, ranging from the respect for tradition and local behavioral norms to more material features such as room decor and the type of food proposed. At the same time, green spaces, and designs of healing environments for nursing homes, are important to allow elderlies to remain active: Age-friendly accommodation will improve walkability, create supportive neighborhoods, and develop a sense of community (Bodeker et al. 2020).

4.4 The Double Burden of Malnutrition and Unhealthy Lifestyles

Malnutrition is a common problem among older people in individual homes, in elderly communities, and even in hospitals. For instance, the overall prevalence of malnutrition due to inadequate intake is around 15% in the sample used by Agarwalla, Saikia, and Baruah (2015); yet, the proportion of elderlies at "risk of malnutrition" reaches 55%. While the changes in diets and food environments have led to improvements in the prevalence of undernutrition, there is increasing evidence of the double burden of malnutrition at the household, community, and national levels in the developing world: Obesity rates are rising in all economies, while undernutrition remains pervasive. On the one hand, food has become less expensive and more readily available, resulting in unhealthy eating, namely too much calorie intake, along with sugar, salt, and fat. At the same time, increased openness to trade has made food supply chains more resilient and enabled access to similar foods all year around. On the other hand, undernutrition among elderlies has proved to be among the most serious concerns in developing Asia. During the biological development into old age, nutrition priorities often change towards meeting and minimizing increased nutrient needs. Yet, some elderlies do not even meet the protein-energy intake needed to make their bodies function correctly. In both scenarios, negligence plays a key role, as elderlies and their caretakers do not pay enough attention to nutritional care (Chern and Lee 2015). Nonetheless, elderlies' vulnerability to malnutrition is driven by several factors; among others, we could mention physiological and functional changes, the inability to prepare food, a lack of financial support, and inadequate access to suppliers. Moreover, the type and quantity

of food intake is mainly determined by the individual purchasing power and the degree of financial independence (Agarwalla, Saikia, and Baruah 2015). However, a healthy diet is essential to improve the well-being of older people and contain future healthcare costs. Therefore, it is necessary to increase the awareness of both elderlies and their caregivers about the quality, quantity, and frequency of food intake of older persons: Efforts should be initiated to help the elderlies to adopt healthy lifestyle practices to maintain or improve their functional status. However, promoting a healthy life is more challenging than it might seem.

According to the WHO (2020), “many of the diseases suffered by older persons are the result of dietary factors, some of which have been operating since infancy.” In most of the Asian continent, food, agriculture, and trade policies were originally devised to ensure the quantity rather than the quality of food. Nowadays, governments must increase incentives to produce more healthy, diverse, and nutritious foods; this could be done by using sustainable practices and taking action to create healthy food environments, supported by nutrition education from a young age (Bodeker et al. 2020). Yet, a healthy lifestyle cannot be achieved only through improvements in elderly diets. Policies should consider physical exercise as one “health promotion and prevention approach” that could have excellent potential to help elderly populations to age well. As mentioned in the previous sections, the health benefits of exercise for older people are almost countless and include a reduced risk of coronary and cardiac disease, diabetes, obesity, and even some cancers. In addition to reducing the risk of many health conditions and chronic disease, exercise can result in improved physical performance, mental health, and overall quality of life. Developing economies should adopt health policies in line with the Japanese ones aimed at mitigating the rising rates of NCDs; what is central in these policies is that they ensure that elderly people significantly practice these health promotion activities (Watanabe, Kodama, and Hanabusa 2018).

Establishing policies to support supply and demand for healthy foods will contrast the rising malnutrition rates among elderlies (whether it be because of over- or undernutrition), as well as decreasing healthcare system costs and supporting productivity at different levels. All these factors could lead to significant economic costs, which decrease the well-being of several generations.

5. CONCLUSION

The findings of this systematic review led to the conclusion that several Asian developing economies are not ready to face the challenges driven by the demographic transition. This inadequacy has strong consequences for the lives of citizens and for the overall degree of well-being of elderlies; nonetheless, the most striking effects will be seen in the long run if the situation does not promptly change. More specifically, the wellness of senior citizens has proven to be dependent on three major dimensions, as well as on the relative intradimensional links. First, the presence of inequalities, whether they be at the gender, social, or economic levels, has been shown to significantly impact the socioeconomic facet. Disparities in income and expenditures, in dwelling ownerships and housing conditions, and in the role played within society and relative attributed status constantly aggravate individuals' thoughts, triggering in turn precarious mental health conditions. Hence, starting from this indirect link, the mental dimension of well-being has been analyzed, revealing how living conditions can boost deadly diseases such as depression. Hopefully, feelings of anxiety, loneliness, and fears of death can be decreased thanks to the help of frequent interactions with family members and surrounding communities. In fact, although intragenerational coresidence

is not the most widespread type of accommodation anymore, elderlies' mental status relies heavily on their relationships with adult children. Aside from this, mental health can also be improved through constant participation in leisure activities, including religious celebrations and outdoor physical exercise. Once more, the link between two facets of well-being has emerged, highlighting the physical wellness of elderly people, which is also reinforced by an active lifestyle. Moreover, the presence of a healthy diet has been shown to be necessary to boost this last dimension of well-being.

Although there has been considerable improvement in policies aimed at supporting individuals in Asian developing economies, there remain areas where amelioration is needed. Precarious access to public healthcare due to different socioeconomic conditions is seen to be one of the major barriers to progress; at the same time, the scarcity of infrastructures, skilled doctors, and geriatric departments is also impacting the living conditions of a large share of the Asian population. Then, if one considers the almost nonexistent pension systems, the shortage of infrastructures dedicated to elderlies, and the effects of the double burden of malnutrition, it is clear that local policymakers should start identifying and considering the main issues present in their economies. This will allow them to prioritize policies at the local, regional, and national levels, and to improve the aggregate well-being outcomes of senior citizens.

REFERENCES

- Agarwalla, R., A. M., Saikia, and R. Baruah. 2015. Assessment of the Nutritional Status of the Elderly and its Correlates. *Journal of Family and Community Medicine* 22(1): 39.
- Agrawal, G., and P. Arokiasamy. 2010. Morbidity Prevalence and Health Care Utilization among Older Adults in India. *Journal of Applied Gerontology* 29(2): 155–179.
- Agrawal, G., and K. Keshri. 2014. Morbidity Patterns and Health Care Seeking Behavior among Older Widows in India. *PloS one* 9(4): e94295.
- Ansah, J. P. et al. 2014. Implications of Long-term Care Capacity Response Policies for an Aging Population: A Simulation Analysis. *Health Policy* 116(1): 105–113.
- Australian National University (ANU). 2020, May 29. *Wellbeing and Support*. Australian National University. <https://www.anu.edu.au/covid-19-advice/health-wellbeing/strategies-for-wellbeing-at-home-or-on-campus/physical-wellbeing> (accessed 3 June 2021).
- Baltagi, B. H., and F. Moscone. 2010. Health Care Expenditure and Income in the OECD Reconsidered: Evidence from Panel Data. *Economic Modelling* 27: 804–811.
- Baltagi, B. H., R. Lagravinese, R. Moscone, and E. Tosetti. 2017. Health Care Expenditure and Income: A Global Perspective. *Health Economics* 26: 863–874.
- Banjare, P., R. Dwivedi, and J. Pradhan. 2015. Factors Associated with the Life Satisfaction amongst the Rural Elderly in Odisha, India. *Health and Quality of Life Outcomes* 13(1): 1–13.
- Barrientos, A., M. Gorman, and A. Heslop. 2003. Old Age Poverty in Developing Countries: Contributions and Dependence in Later Life. *World Development* 31(3): 555–570.
- Bhamani, M. A., M. M. Khan, M. S. Karim, and M. U. Mir. 2015. Depression and its Association with Functional Status and Physical Activity in the Elderly in Karachi, Pakistan. *Asian Journal of Psychiatry* 14: 46–51.
- Bishwajit, G., S. Tang, S. Yaya, and Z. Feng. 2017. Participation in Physical Activity and Back Pain among an Elderly Population in South Asia. *Journal of Pain Research* 10: 905.
- Bloom, D. E., D. Canning, E. Finlay, JR. S. Mariano, and K. Shin. 2010. Population Aging and Economic Growth in Asia. The Economic Consequences of Demographic Change in East Asia. *University of Chicago Press* 2: 61–92.
- Bodeker, G., M. Pundit, P. Quising, and S. Tian. 2020. Ageing and Wellness in Asia. *Asian Development Outlook 2020 Update: Wellness in Worrying Times*. Retrieved from <https://www.adb.org/sites/default/files/institutional-document/633886/adou2020bp-ageing-wellness-asia.pdf>.
- Brown, P. H., and B. Tierney. 2009. Religion and Subjective Well-being among the Elderly in China. *The Journal of Socio-Economics* 38(2): 310–319.
- Buffa, R., G. Floris, M. Lodde, M. Cotza, and E. Marini. 2010. Nutritional Status in the Healthy Longeval Population from Sardinia (Italy). *The Journal of Nutrition, Health and Aging* 14(2): 97–102.

- Cain, M. 1986. The Consequences of Reproductive Failure: Dependence, Mobility, and Mortality among the Elderly of Rural South Asia. *Population Studies* 40(3): 375–388.
- Cardwell, J. 2006. *Demographic Transition Theory*. Dordrecht: Springer.
- Cassum, L. A., K. Cash, W. Qidwai, and S. Vertejee. 2020. Exploring the Experiences of the Older Adults Who Are Brought to Live in Shelter Homes in Karachi, Pakistan: A Qualitative Study. *BMC Geriatrics* 20(1): 1–12.
- Cavan, R. S., E. W. Burgess, R. J. Havighurst, and H. Goldhamer. 1949. *Personal Adjustment in Old Age*. Science Research Associates, Inc.
- Chan, A. 2020, October 22. *Asian Countries Do Aged Care Differently. Here's What We Can Learn from Them*. The Conversation. (accessed 3 June 2021) <https://theconversation.com/asian-countries-do-aged-care-differently-heres-what-we-can-learn-from-them-148089>.
- Chan, A., and D. B. Matchar. 2015. *Demographic and Structural Determinants of Successful Aging in Singapore*. In *Successful Aging* (pp. 65–79). Dordrecht: Springer.
- Chan, S. Y., and K. M. Chen. 2017. Self-perceived Health Status and Sleep Quality of Older Adults Living in Community after Elastic Band Exercises. *Journal of Clinical Nursing* 26(13–14): 2064–2072.
- Chen, C. Y., P. Gan, and C. H. How. 2018. Approach to Frailty in the Elderly in Primary Care and the Community. *Singapore Medical Journal* 59(5): 240.
- Chen, L. K. 2020. Geriatric Medical Education in Rapidly Aging Asia. *Aging Medicine and Healthcare* 11(3): 72–73.
- Chen, X., B. Huang, and S. Li. 2017. Population Aging and Inequality: Evidence from the People's Republic of China. *Asian Development Bank Institute*. Retrieved from: <https://www.adb.org/sites/default/files/publication/381936/adb-wp794.pdf>.
- Chern, C. J. H., and S. D. Lee. 2015. Malnutrition in Hospitalized Asian Seniors: An Issue that Calls for Action. *Journal of Clinical Gerontology and Geriatrics* 6(3): 73–77.
- Cheung, M. C., W. Ting, L.Y. Chan, K. S. Ho, and W. M. Chan. 2009. Leisure Participation and Health-related Quality of Life of Community Dwelling Elders in Hong Kong. *Asian Journal of Gerontology and Geriatrics* 4(1): 15–23.
- Choo, S., D. Sohn, and M. Park. 2016. Mobility Characteristics of the Elderly: A Case for the Seoul Metropolitan Area. *KSCE Journal of Civil Engineering* 20(3): 1023–1031.
- Chou, H. T. G., and J. A. Hofer. 2014. Characteristics of Congregations that Might Increase Their Participants' Risk of Depression. *Mental Health, Religion and Culture* 17(4): 390–399.
- Clark, R. L. 1989. Economic Well-being of the Elderly: Theory and Measurement. *Journal of Cross-cultural Gerontology* 4(1): 19–34.
- Cohen, L. 1998. *No Aging in India: Alzheimer's, the Bad Family, and Other Modern Things*. University of California Press.

- Commonwealth of Australia. 2015. *2015 Intergenerational Report: Australia in 2055*. Canberra: Department of Treasury. www.treasury.gov.au/PublicationsAndMedia/Publications/2015/2015-Intergenerational-Report (accessed 3 June 2021).
- Cong, L., P. Dou, D. Chen, and L. Cai. 2015. Depression and Associated Factors in the Elderly Cadres in Fuzhou, China: A Community-based Study. *International Journal of Gerontology* 9(1):29–33.
- Council on Social Work Education. 2016, October. *Working Definition of Economic Well-Being*. <https://www.cswe.org/Centers-Initiatives/Initiatives/Clearinghouse-for-Economic-Well-Being/Working-Definition-of-Economic-Well-Being> (accessed 1 June 2021).
- Cramm, J. M., L. Bornscheuer, A. Selivanova, and J. Lee. 2015. The Health of India's Elderly Population: A Comparative Assessment Using Subjective and Objective Health Outcomes. *Journal of Population Ageing* 8(4) 245–259.
- Croll, L. 2005, February. *Ageing in Asia: Themes*. Oxford Institute of Ageing Workshop: Ageing in Asia. Oxford University.
- Das, B., R. Sengupta, and K. Paul. 2018. Regional Variation and Determinants of Well-being of the Elderly in India. *Journal of Population and Social Studies* 26(3): 219–234.
- DeCarlo, T. J. 1974. Recreation Participation Patterns and Successful Aging. *Journal of Gerontology* 29: 416–422.
- Dey, D. K., E. Rothenberg, V. Sundh, I. Bosaeus, and B. Steen. 1999. Height and Body Weight in the Elderly. I. A 25-Year Longitudinal Study of a Population Aged 70 to 95 Years. *European Journal of Clinical Nutrition* 53(12): 905–914.
- Dhak, B. 2009. Gender Difference in Health and Its Determinants in the Old-aged Population in India. *Journal of Biosocial Science* 41(5): 625.
- Di Matteo, L. 2003. The Income Elasticity of Health Care Spending. A Comparison of Parametric and Non-parametric Approaches. *European Journal of Health Economics* 4(1): 20–29.
- Downe-Wamboldt, B. 1992. Content Analysis: Method, Applications, and Issues. *Health Care for Women International*, 13(3), 313–321.
- Durand, M. 2015. The OECD Better Life Initiative: How's Life? And the Measurement of Well-being. *Review of Income and Wealth* 61: 4–17.
- Econation. 2020, December 19. *Social Well-being*. <https://www.econation.co.nz/social-well-being/> (accessed 2 June 2021).
- Farag, M., A. K. Nanda Kumar, S. Wallack, D. Hodgkin, G. Gaumer, and C. Erbil. 2012. Income Elasticity of Health Care Spending in Developing and Developed Countries. *International Journal of Health Care Finance and Economics* 12: 145–162.
- Fauziana, R. et al. 2016. Body Mass Index, Waist–Hip Ratio and Risk of Chronic Medical Condition in the Elderly Population: Results from the Well-being of the Singapore Elderly (WISE) Study. *BMC Geriatrics* 16(1): 1–9.
- Fleurbaey, M., and D. Blanchet. 2013. *Beyond GDP: Measuring Welfare and Assessing Sustainability*. Oxford: Oxford University Press.

- Garatachea, N., O. Molinero, R. Martinez-Garcia, R. Jimenez-Jimenez, J. Gonzalez-Gallego, and S. Marquez. 2009. Feelings of Well-being in Elderly People: Relationship to Physical Activity and Physical Function. *Archives of Gerontology and Geriatrics* 48(3): 306–312.
- Ghosh, D. 2017. Heterogeneity and Earning Dissatisfaction of Elderly Labourforce in India. *Thiagarajar School of Management*. <https://ssrn.com/abstract=2984773>.
- Gist, Y. J., and V. A. Velkoff. 1997. *Gender and Aging: Demographic Dimensions*. US Department of Commerce, Economics and Statistics Administration, Bureau of the Census.
- Goh, L. G., S. S. Dhaliwal, T. A. Welborn, A. H. Lee, and P. R. Della. 2014. Anthropometric Measurements of General and Central Obesity and the Prediction of Cardiovascular Disease Risk in Women: A Cross-sectional Study. *BMJ Open* 4(2): 1–9.
- Goswami, U. 2008. *Mental Capital and Wellbeing: Making the Most of Ourselves in the 21st Century: Learning Difficulties and Future Challenges*. UK Government Office for Science.
- Grover, S., and N. Malhotra. 2015. Depression in Elderly: A Review of Indian Research. *Journal of Geriatric Mental Health* 2(1): 4.
- Guderian, B., A. Johnson, and V. Mathiowetz. 2013. Impact of Exercise Frequency on Hand Strength of the Elderly. *Physical and Occupational Therapy in Geriatrics* 31(3): 268–279.
- He, A. J., and V. F. Tang. 2021. Integration of Health Services for the Elderly in Asia: A Scoping Review of Hong Kong, Singapore, Malaysia, Indonesia. *Health Policy* 125(3): 351–362.
- Heller, P. S. 2006. Is Asia Prepared for an Aging Population? IMF Working Papers, 2006 (272).
- Hong Kong Hospital Authority. 2012. *Hospital Authority Strategic Service Framework for Elderly Patients*. <https://www.ha.org.hk/ho/corpcomm/Strategic%20Service%20Framework/Elderly%20Patients.pdf> (accessed 2 June 2021).
- Hooda, S. K. 2016. Determinants of Public Expenditure on Health in India: A Panel Data Analysis at Subnational Level. *Journal of Quantitative Economics* 14: 257–282.
- Hoskins, J. A. 2011. What Are Vietnam's Indigenous Religions? *Newsletter of the Center for SouthEast Asian Studies* 64: 3–7.
- Hsu, H. C. 2007. Does Social Participation by the Elderly Reduce Mortality and Cognitive Impairment? *Aging and Mental Health* 11(6): 699–707.
- Hu, Z., and X. Peng. 2015. Household Changes in Contemporary China: An Analysis Based on the Four Recent Censuses. *The Journal of Chinese Sociology* 2(1): 1–20.
- Huda, C. E. 2020. Family Transfers, Coresidency, Elderly Labor Supply and Welfare Perspective: Evidence from Indonesia. *Jurnal BPPK: Badan Pendidikan dan Pelatihan Keuangan* 13(1): 47–63.
- Ichimura, H. et al. 2017. *Wellbeing of the Elderly in East Asia: China, Korea, and Japan*. The Research Institute of Economy, Trade and Industry (RIETI), Tokyo, Japan.

- Iddrisu, M. A., A. Senadjki, S. Mohd, C. Y. Yip, and L. S. Lau. 2020. The Impact of HPB on Elderly Diseases (Diabetes Mellitus, Hypertension, Hypercholesterolemia, Minor Stroke, Kidney Failure and Heart Problem): A Logistic Analysis. *Ageing International*, 45(2): 149–180.
- Inglehart, R. 2010. Faith and Freedom: Traditional and Modern Ways to Happiness. In *International Differences in Well-being*, edited by E. Diener, D. Kahneman, and J. Helliwell (pp. 351–397). Oxford: Oxford University Press.
- Institute for Health Metrics and Evaluation. 2018. *Global Burden of Disease Study 2017 (GBD 2017) Results*. Retrieved from <http://ghdx.healthdata.org/gbd-results-tool>.
- . 2020. *Global Burden of Disease Study 2019 (GBD 2019) Results*. Retrieved from <http://ghdx.healthdata.org/gbd-results-tool>.
- Jannasch, F., J. Kröger, and M. B. Schulze. 2017. Dietary Patterns and Type 2 Diabetes: A Systematic Literature Review and Meta-analysis of Prospective Studies. *The Journal of Nutrition*: 147(6): 1174–1182.
- Jeon, B., H. Noguchi, S. Kwon, T. Ito, and N. Tamiya. 2017. Disability, Poverty, and Role of the Basic Livelihood Security System on Health Services Utilization among the Elderly in South Korea. *Social Science and Medicine* 178: 175–183.
- Jeyalakshmi, S., S. Chakrabarti, and N. Gupta. 2011. *Situation Analysis of the Elderly in India*. Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India document.
- Jokela, M., M. Elovainio, and M. Kivimäki. 2008. Lower Fertility Associated with Obesity and Underweight: The US National Longitudinal Survey of Youth. *The American Journal of Clinical Nutrition* 88(4): 886–893.
- Joshi, A. 2019, June 16. We Are Devastated. Our Children Abandoned Us: Deserted Fathers. Tribuneindia News Service. <https://www.tribuneindia.com/news/archive/jalandhar/we-are-devastated-our-children-abandoned-us-deserted-fathers-788674> (accessed 24 May 2021).
- Jung, H., M. Pirog, and S. K. Lee. 2016. Do Public Pensions Crowd Out Private Transfers to the Elderly?: Evidence from South Korea. *Journal of Pension Economics and Finance* 15(4): 455–477.
- Kadariya, S., R. Gautam, and A. R. Aro. 2019. Physical Activity, Mental Health, and Wellbeing among Older Adults in South and Southeast Asia: A Scoping Review. *BioMed Research International*, 2019.
- Kaufman, J. E. 1988. Leisure and Anxiety: A Study of Retirees. *Activities, Adaptation and Aging* 11(1): 1–10.
- Kaushal, N. 2014. How Public Pension Affects Elderly Labor Supply and Well-being: Evidence from India. *World Development* 56: 214–225.
- Khan, M. A., and M. I. U. Husnain. 2019. Is Healthcare a Luxury or Necessity Good? Evidence from Asian Countries. *International Journal of Health Economics and Management* 19(2): 213–233.
- Kim, E. H. W., C. Lee, and Y. K. Do. 2019. The Effect of Adult Children's Working Hours on Visits to Elderly Parents: A Natural Experiment in Korea. *Population Research and Policy Review* 38(1): 53–72.

- Kim, M. K. 2005, November. *The Korean Health Insurance System: Opportunities and Challenges*. In ISSA Meeting of Directors of Social Security Organizations in Asia and the Pacific, Seoul, Republic of Korea (pp. 9–11).
- Kochar, A. 2000. Parental Benefits from Intergenerational Coresidence: Empirical Evidence from Rural Pakistan. *Journal of Political Economy* 108(6): 1184–1209.
- Lago-Penas, S., D. Cantarero-Prieto, and C. Blazquez-Fernandez. 2013. On the Relationship between GDP and Health Care Expenditure: A New Look. *Economic Modelling* 32: 124–129.
- Lau, J. Y. C. et al. 2018. Collaborate Across Silos: Perceived Barriers to Integration of Care for the Elderly from the Perspectives of Service Providers. *The International Journal of Health Planning and Management* 33(3): e768–e780.
- Lee, J. H., J. H. Lee, and S. H. Park. 2014. Leisure Activity Participation as a Predictor of Quality of Life in Korean Urban-dwelling Elderly. *Occupational Therapy International* 21(3): 124–132.
- Lee, Y. J., and W. L. Hung. 2011. The Relationship between Exercise Participation and Well-being of the Retired Elderly. *Aging and Mental Health* 15(7): 873–881.
- Lee, Y. J., and Z. Xiao, 1998. Children's Support for Elderly Parents in Urban and Rural China: Results from a National Survey. *Journal of Cross-cultural Gerontology* 13(1): 39–62.
- Li, J. et al. 2018. Physical Activity in Relation to Sleep among Community-dwelling Older Adults in China. *Journal of Aging and Physical Activity* 26(4): 647–654.
- Liu, D., R. Li, and Z. Wang. 2011. Testing in Structural Breaks in Panel Varying Coefficient Models: With an Application to OECD Health Expenditure. *Empirical Economics* 40: 95–118.
- Liu, Y. et al. 2018. Association of Leisure-time Physical Activity with Total and Cause-specific Mortality: A Pooled Analysis of Nearly a Half Million Adults in the Asia Cohort Consortium. *International Journal of Epidemiology* 47(3): 771–779.
- Lloyd-Sherlock, P. 2002. Social Policy and Population Ageing: Challenges for North and South. *International Journal of Epidemiology* 31(4): 754–757.
- Lonn, E. M. et al. 2016. Blood-pressure Lowering in Intermediate-risk Persons without Cardiovascular Disease. *New England Journal of Medicine* 374(21): 2009–2020.
- Malik, K. 2013. *Human Development Report 2013: The Rise of the Global South: Human Progress in a Diverse World*. New York: United Nations.
- Maramis, A., N. Van Tuan, and H. Minas. 2011. Mental Health in Southeast Asia. *The Lancet* 377(9767): 700–702.
- Markides, K. S., and H. W. Martin. 1979. A Causal Model of Life Satisfaction among the Elderly. *Journal of Gerontology* 34(1): 86–93.
- Mehrara, M., A. A. Fazaeli, A. Fazaeli, and A. R. Fazaeli. 2012. The Relationship between Health Expenditures and Economic Growth in Middle East and North Africa (MENA) Countries. *International Journal of Business Management and Economic Research* 3(1): 425–428.
- Mi-kyeong, B., P. Sun-Jung, and C. Eun-Young. 2019. Effects of a Wonderful Life Program on the Wellbeing Behaviors, Life Satisfaction and Subjective Quality of Life of Community Elderly People in Korea. *International Journal of Crisis & Safety* 4: 1–7.

- Miao, J., and X. Wu. 2021. Subjective Well-being of Chinese Elderly. *Ageing and Society* 41(3): 686–707.
- Minhat, H. S., and R. M. Amin. 2012. Sociodemographic Determinants of Leisure Participation among Elderly in Malaysia. *Journal of Community Health* 37(4): 840–847.
- Moscone, F., and E. Tosetti, 2010. Health Expenditure and Income in the United States. *Health Economics* 19: 1385–1403.
- Munn, Z., M. D. Peters, C. Stern, C. Tufanaru, A. McArthur, and E. Aromataris. 2018. Systematic Review or Scoping Review? Guidance for Authors when Choosing between a Systematic or Scoping Review Approach. *BMC Medical Research Methodology* 18(1): 1–7.
- Myers, D. R., T. A. Wolfer, and M. Sherr. 2013. Faith-outcomes for Older Adult Volunteers in Religious Congregations. *Social Work and Christianity* 40(4): 384–403.
- Newhouse, J. P. 1977. Medical Care Expenditure: A Cross-national Survey. *Journal of Human Resources* 12: 115–125.
- Ng, D., R. Yeh, and Shushan, L. 2020, December 21. *For Old Folks Left to Die at Myanmar's Roadsides and Cemeteries, these Homes Are Their Last Hope*. CNA. <https://www.channelnewsasia.com/news/asia/for-old-folks-left-to-die-at-myanmar-s-roadsides-and-cemeteries--8713820> (accessed 12 May 2021).
- Nguyen, H. T., A. Y. Liu, and A. L. Booth. 2012. Monetary Transfers from Children and the Labour Supply of Elderly Parents: Evidence from Vietnam. *Journal of Development Studies* 48(8): 1177–1191.
- Ning, M., J. Gong, X. Zheng, and J. Zhuang. 2016. Does the New Rural Pension Scheme Decrease Elderly Labor Supply? Evidence from CHARLS. *China Economic Review* 41: 315–330.
- Nolan, B. P. 2011, June 29. The Grey Lobby Is Bad for Britain's Health. *The Telegraph*. <https://www.telegraph.co.uk/news/politics/8604381/The-grey-lobby-is-bad-for-Britains-health.html> (accessed 2 June 2021).
- Organisation for Economic Co-operation and Development (OECD), and World Health Organization (WHO). 2020. *Health at a Glance: Asia/Pacific 2020: Measuring Progress Towards Universal Health Coverage*. Organisation for Economic Co-operation and Development Publishing, Paris.
- . 2020. *Ageing, Health at a Glance. Asia/Pacific 2020: Measuring Progress Towards Universal Health Coverage*. OECD ILibrary. Organisation for Economic Co-operation and Development. <https://www.oecd-ilibrary.org/sites/1ad1c42a-en/index.html?itemId=/content/component/1ad1c42a-en> (accessed 1 June 2021).
- . 2009. *Pensions in Asia/Pacific: Ageing Asia Must Face Its Pension Problems*. Organization for Economic Cooperation and Development Publishing, Paris.
- . 2021. *Health Spending Indicators*. OECD ILibrary. Organisation for Economic Co-operation and Development. Retrieved from <https://data.oecd.org/healthres/health-spending.htm>.
- Otsu, K., and K. Shibayama. 2016. Population Aging and Potential Growth in Asia. *Asian Development Review* 33(2): 56–73.

- Pakulski, J. 2016. Facing the Challenges of an Ageing Society. *Population Ageing*, 111–134.
- Pal, S. 2007. Effects of Intergenerational Transfers on Elderly Coresidence with Adult Children: Evidence from Rural India.
- Park, S. M., S. N. Jang, and D. H. Kim. 2010. Gender Differences as Factors in Successful Ageing: A Focus on Socioeconomic Status. *Journal of Biosocial Science* 42(1): 99–111.
- Pham, J. 2020, June 1. *In Vietnam's Aging Society, Homeless Women Find Shelter with Nuns*. Global Sisters Report. <https://www.globalsistersreport.org/news/ministry/news/vietnams-aging-society-homeless-women-find-shelter-nuns> (accessed 13 May 2021).
- Pinar, M. 2019. Multidimensional Well-being and Inequality across the European Regions with Alternative Interactions between the Well-being Dimensions. *Social Indicators Research* 144(1): 31–72.
- Population Reference Bureau. 2020. *World Population Data Sheet*. Retrieved from <https://www.prb.org/collections/data-sheets/>.
- Qureshi, K. 2017. *Ageing: Gender, Social Class and Health in Pakistan*. Center for Public Policy and Governance. Retrieved from <http://cppg.college.edu.pk/ageing-gender-social-class-and-health-inPakistan>.
- Rahman, M. K., M. I. Tareque, and M. M. Rahman. 2009. Gender Differences in Economic Support, Wellbeing and Satisfaction of the Rural Elderly in Naogaon District, Bangladesh. *Indian Journal of Gerontology* 23(3): 343–357.
- Rajan, S. I. 2007. Population Aging, Health and Social Security in India. *CREI Discussion Paper Series. Discussion Paper No. 3*. Osaka City University.
- Government of the Republic of Korea. 1999. *National Basic Livelihood Security System (NBLSS)*.
- Riddoch, C. 2000. Social and Productive Activities in Elderly People: Activities Have Been Confused. *British Medical Journal* 320, 184.
- Rudkin, L. 1993. Gender Differences in Economic Well-being among the Elderly of Java. *Demography* 30(2): 209–226.
- Sanitha, V. P., J. K. Parida, and I. C. Awasthi. 2019. Health Conditions, Medication and Hospitalisation Preferences of Elderly in Kerala. *Indian Journal of Human Development* 13(3): 308–324.
- Schwarz, B., I. Albert, G. Trommsdorff, G. Zheng, S. Shi, and P. R. Nelwan. 2010. Intergenerational Support and Life Satisfaction: A Comparison of Chinese, Indonesian, and German Elderly Mothers. *Journal of Cross-Cultural Psychology*, 41(5–6): 706–722.
- Sen, A. 2005. Is Healthcare a Luxury? New Evidence from OECD Data. *International Journal of Health Care Finance and Economics*, 5: 164–174.
- Sengupta, P., and A. I. Benjamin. 2015. Prevalence of Depression and Associated Risk Factors among the Elderly in Urban and Rural Field Practice Areas of a Tertiary Care Institution in Ludhiana. *Indian Journal of Public Health* 59(1): 3.
- Sheehan, P. 2011. September 25. Greed of Boomers Led Us to a Total Bust. *The Sydney Morning Herald*. <https://www.smh.com.au/politics/federal/greed-of-boomers-led-us-to-a-total-bust-20110925-1krki.html> (accessed 3 June 2021).

- Sia, A. et al. 2018. The Effect of Therapeutic Horticulture on the Psychological Wellbeing of Elderly in Singapore: A Randomised Controlled Trial. *Journal of Therapeutic Horticulture* 28(1): 1–10.
- Silverstein, M., Z. Cong, and S. Li. 2006. Intergenerational Transfers and Living Arrangements of Older People in Rural China: Consequences for Psychological Well-being. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 61(5): S256–S266.
- Singh, P., D. Govil, V. Kumar, and J. Kumar. 2017. Cognitive Impairment and Quality of Life among Elderly in India. *Applied Research in Quality of Life* 12(4): 963–979.
- Stanton, E. A. 2007. The Human Development Index: A History. PERI Working Papers, 85.
- Statista. 2021, January 20. *Life Expectancy in Asia 2020*. <https://www.statista.com/statistics/274516/life-expectancy-in-asia/> (accessed 7 July 2021).
- Subramaniam, M. et al. 2016. Prevalence of Depression among Older Adults: Results from the Well-being of the Singapore Elderly Study. *Annals of the Academy of Medicine of Singapore*, 45(4): 123–133.
- Sudnongbua, S., S. LaGrow, and J. Boddy. 2010. Feelings of Abandonment and Quality of Life among Older Persons in Rural Northeast Thailand. *Journal of Cross-Cultural Gerontology* 25(3): 257–269.
- Sun, R. 2002. Old Age Support in Contemporary Urban China from Both Parents' and Children's Perspectives. *Research on Aging* 24(3): 337–359.
- Taboonpong, S., N. Puthsri, W. Kong– W. In, and A. Saejew. 2008. The Effects of Tai Chi on Sleep Quality, Well-being and Physical Performances among Older Adults. *Pacific Rim International Journal of Nursing Research* 12(1): 1–13.
- Tangcharoensathien, V., P. Prakongsai, W. Patcharanarumol, and P. Jongudomsuk. 2007. Universal Coverage in Thailand: The Respective Roles of Social Health Insurance and Tax-based Financing. *ILO, GTZ, WHO. Extending Social Protection in Health: Developing Countries' Experiences, Lessons Learnt and Recommendations*. Frankfurt: VAS, 121–31.
- Teerawichitchainan, B., W. Pothisiri, and G. T. Long. 2015. How do Living Arrangements and Intergenerational Support Matter for the Psychological Health of Elderly Parents? Evidence from Myanmar, Vietnam, and Thailand. *Social Science and Medicine* 136: 106–116.
- Thanakwang, K., B. Ingersoll–Dayton, and K. Soonthorndhada. 2012. The Relationships among Family, Friends, and Psychological Well-being for Thai Elderly. *Aging and Mental Health* 16(8): 993–1003.
- Tran, T. Q., C. V. Nguyen, and H. Van Vu. 2018. Does Economic Inequality Affect the Quality of Life of Older People in Rural Vietnam? *Journal of Happiness Studies* 19(3): 781–799.
- Tran, T., and H. Vu Van. 2017. *Housing and Well-being among the Vietnamese Elderly Working Papers* 2. Development and Policies Research Center (DEPOCEN), Viet Nam.
- Tran, T. Q., T. Q. Nguyen, H. Van Vu, and T. T. Doan. 2017. Religiosity and Subjective Well-being among Old People: Evidence from a Transitional Country. *Applied Research in Quality of Life* 12(4): 947–962.

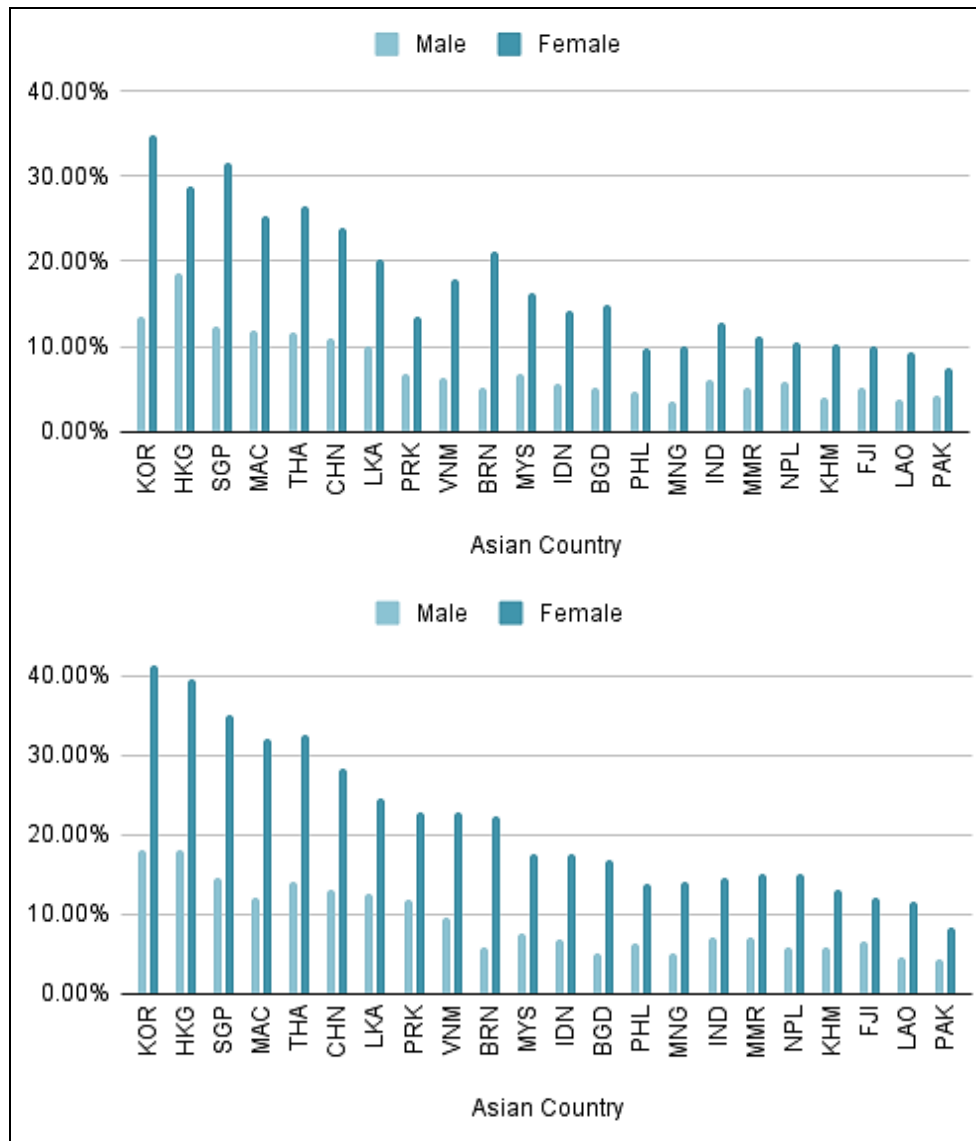
- United Nations Fund for Population Activities (UNFPA) Asia and the Pacific. 2020, July 10. *Ageing*. <https://asiapacific.unfpa.org/en/node/15208> (accessed 1 June 2021).
- United Nations. 2015. *World Population Ageing: 1950–2050*. United Nations Population Division.
- . 2019. *World Population Ageing 2019 – Highlights*. United Nations Population Division.
- Vlassoff, C. 1990. The Value of Sons in an Indian Village: How Widows See It. *Population Studies* 44(1): 5–20.
- Waddington, C., and D. Egger, 2008. *Integrated Health Services-What and Why*. Geneva: World Health Organization WHO.
- Wagstaff, A. 2007. Health Systems in East Asia: What Can Developing Countries Learn from Japan and the Asian Tigers? *Health Economics* 16(5): 441–456.
- Wang, X., K. Z. Chen, S. Robinson, and Z. Huang. 2017. Will China's Demographic Transition Exacerbate Its Income Inequality? CGE Modeling with Top-down Microsimulation. *Journal of the Asia Pacific Economy* 22(2): 227–252.
- Wang, C. Y., C. J. Yeh, C. W. Wang, C. F. Wang, and Y. L. Lin. 2011). The Health Benefits Following Regular Ongoing Exercise Lifestyle in Independent Communities-dwelling Older Adults in [Taipei,China]. *Australasian Journal on Ageing* 30(1): 22–26.
- Watanabe, S., S. Kodama, and H. Hanabusa. 2018. Longevity and Elderly Care: Lessons from Japan. *Global Health Journal* 2(4): 5–10.
- Wei, Y., and W. J. Tsay. 2024. *Does Distance Make Happiness? Endogenous Geographic Proximity of Adult Children and the Well-being of Older Persons*. *Journal of Aging and Social Policy*, 36(2):222–240.
- Woo, J., B. Mak, and F. Yeung. 2013. Age-friendly Primary Health Care: An Assessment of Current Service Provision for Older Adults in Hong Kong. *Health Services Insights* 6, HSI-S12434.
- World Bank. 2020. *World Bank Country and Lending Groups* – World Bank Data Help Desk. <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups> (accessed 13 July 2021).
- World Health Organization. (WHO). 1949. *WHO Constitution*. World Health Organization. <http://www.who.int/about/en/> (accessed 2 June 2021).
- . 2002. *The World Health Report 2002: Reducing Risks, Promoting Healthy Life*. World Health Organization.
- . 2008. *Waist Circumference and Waist–Hip Ratio*, Report of a WHO Expert Consultation. World Health Organization.
- . 2015. *WHO Global Strategy on People-centred and Integrated Health Services: Interim Report* (No. WHO/HIS/SDS/2015.6). World Health Organization.
- . 2018, March 30. *Mental health: strengthening our response*. World Health Organization. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response> (accessed 2 June 2021)
- . 2019. *WHO Mean Body Mass Index BMI*. World Health Organization.

- . 2020. *Nutrition for Older Persons*. World Health Organization. Retrieved from <https://www.who.int/nutrition/topics/ageing/en/index1.html>.
- Yeh, C. Y., C. K. Chang, and F. A. Yang. 2018. Applying a Treatment Effects Model to Investigate Public Amenity Effects on Physical Activity of the Elderly. *Journal of Aging and Social Policy* 30(1): 72–86.
- Zeng, Y., and Z. Wang. 2018. Dynamics of Family Households and Elderly Living Arrangements in China, 1990–2010. *China Population and Development Studies* 2(2): 129–157.
- Zimmer, Z., and H. S. Lin. 1996. Leisure Activity and Well-being among the Elderly in [Taipei,China]: Testing Hypotheses in an Asian Setting. *Journal of Cross-cultural Gerontology* 11(2): 167–186.

APPENDIX

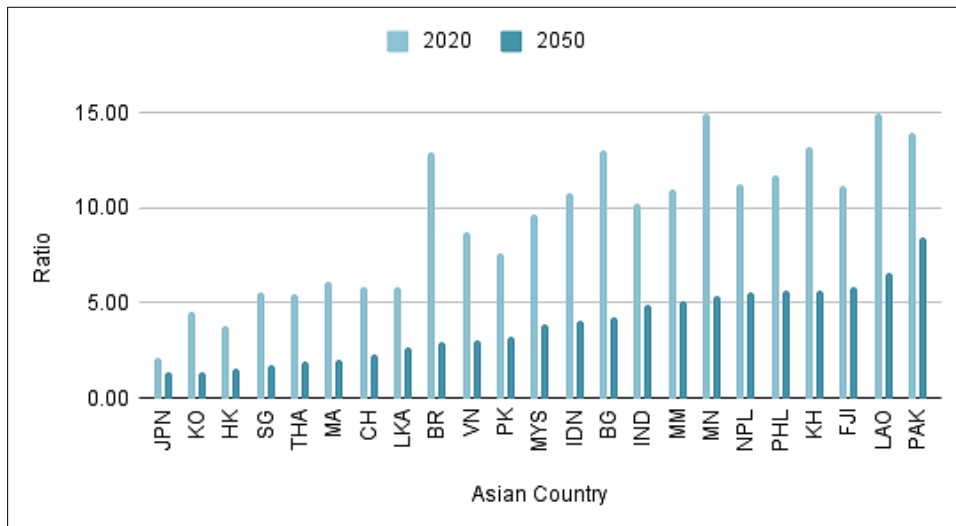
A.1 List of Figures

Figure A: Share of the Population Aged over 65 (Females and Males in 2020 and 2050) in Main Asian Economies



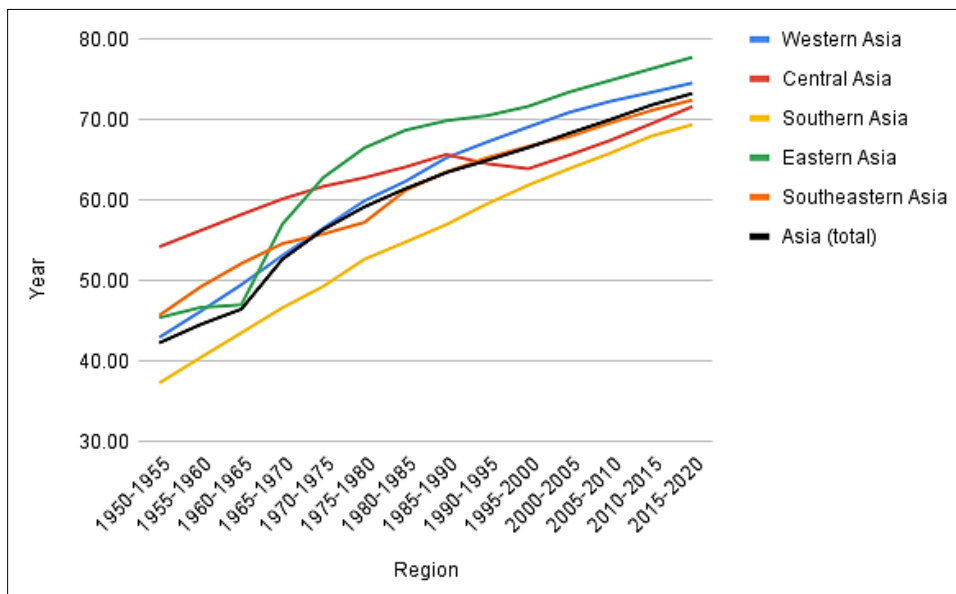
Source: OECD Asia/Pacific (2020).

Figure B: Ratio of People Aged 15–64 to People Aged over 65



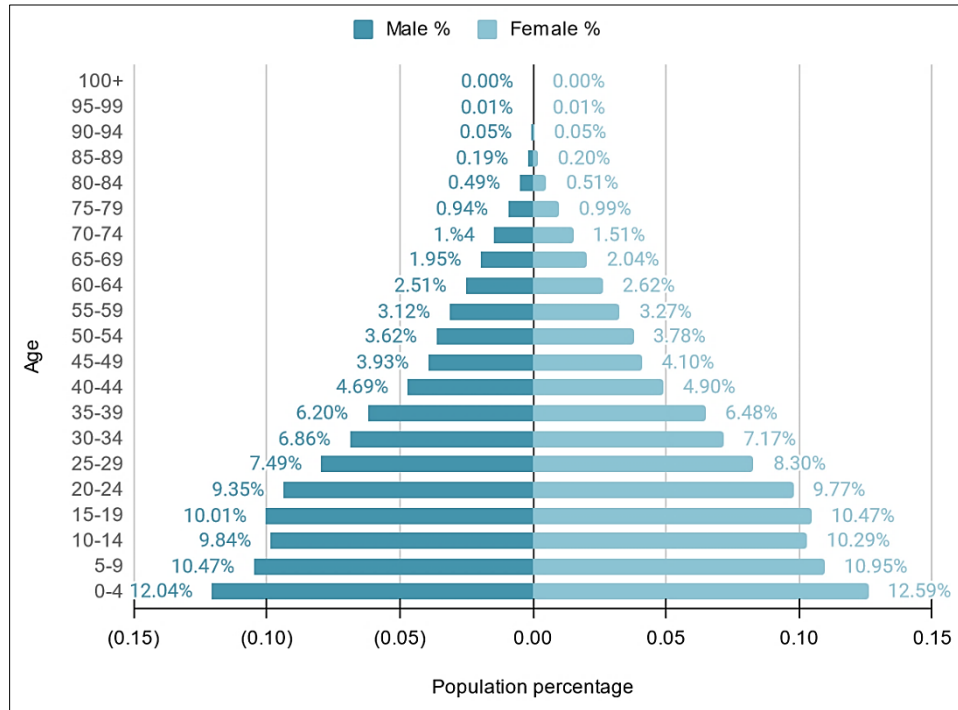
Source: OECD Asia/Pacific (2020).

Figure C: Life Expectancy at Birth (Both Sexes Combined) by Region and Subregions, 1950–2020



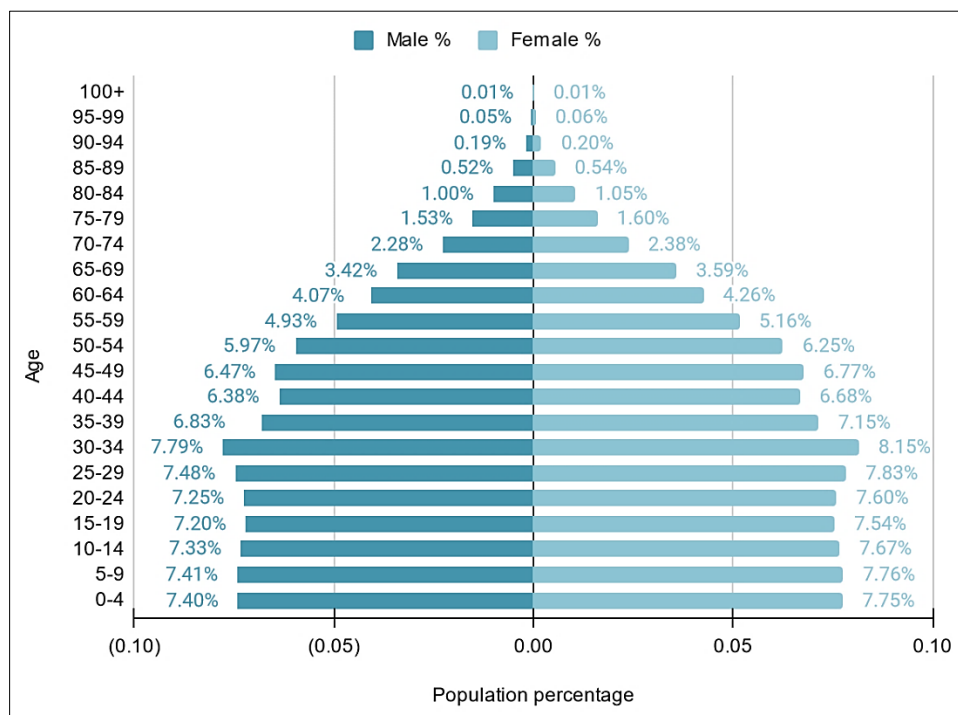
Source: United Nations (2019).

Figure D.1: Population Pyramid of the Asian Continent in 1989
(in Thousands of Individuals)



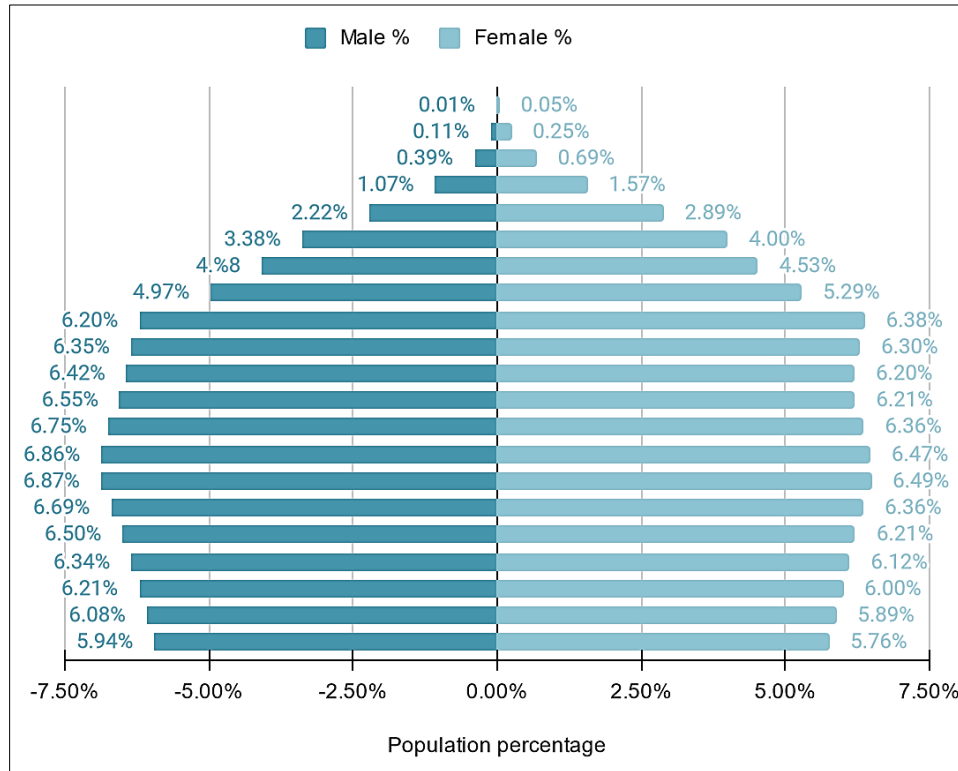
Source: United Nations (2019).

Figure D.2: Population Pyramid of the Asian Continent in 2019
(in Thousands of Individuals)



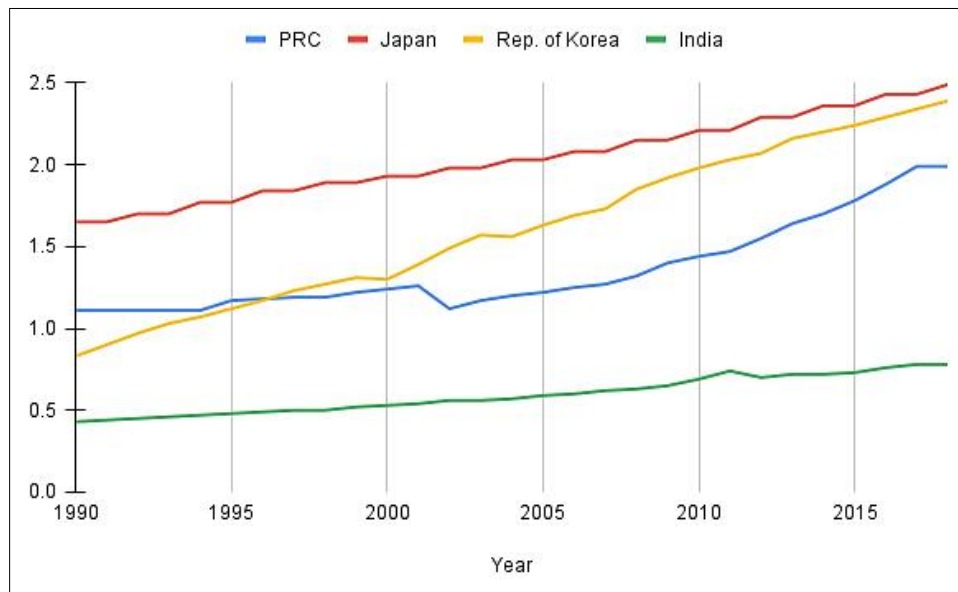
Source: United Nations. (2019).

Figure D.3: Population Pyramid of the Asian Continent in 2049
(in Thousands of Individuals)



Source: United Nations (2019).

Figure E: Ratio of Doctors per 1000 Inhabitants in Four Asian Economies



Source: OECD (2021). *Doctors' indicator*.