

Health disparities in older adults in Japan

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1. Introduction:

In Western countries such as the United Kingdom and the United States, studies on health disparities that consider socioeconomic status (SES)—such as education, occupation, and income—have been accumulated¹⁾. In Japan, researchers in public health have been considering these issues since the 2000s. However, most studies in Western countries do not focus on older adults, and their study subjects often include people with a broader age range, such as children or working adults. The same applies to studies concerning health disparities in Japan²⁻⁵⁾, with few studies in Japan considering health disparities in older adults, specifically⁶⁾.

In terms of social policy, creating social environments that support individuals' good health habits has been proposed as an important aspect of health promotion in “A Basic Direction for Comprehensive Implementation of National Health Promotion,” a guideline of the basic policies for comprehensive public health promotion established in 2003. In 2012, a modification concerning health disparities was added in a revision of this guideline. These directions suggest that an intensive intervention in groups of older adults with health-related socioeconomic risk factors is important to advance health promotion in these groups. However, intervention strategies remain unclear. To clarify intervention strategies, an accumulation of studies on health disparities in later life is needed in Japan.

Population aging has been progressing in Japan as well as in other East Asian countries, and establishing health promotion strategies for older adults has been raised as an important political issue; both to reduce the tax burden on the nation by reducing medical and social care expenditures, and to improve quality of life for older adults. Although there are many studies on health disparities in older adults, studies on the socio-economic risk factors related to health in older adults are essential to establish health promotion strategies. However, there have been few studies that address these themes in East Asian countries.

I am one of a few researchers who have been pursuing knowledge concerning health disparities in the gerontology field of Japan. In this paper, I provide research directions concerning health disparities in older adults and the major findings related to these issues, mainly based on studies in Japan. This paper will introduce six research directions: 1) Are health disparities in older adults

larger than at an earlier age?

- 2) Do health disparities in older adults differ according to period and cohort?
- 3) What are the mechanisms for the occurrence of health disparities in older adults?
- 4) Does an individual's life course SES influence their health in older adults?
- 5) Does area-level SES (not only individual-level SES) influence health in older adults?
- 6) Why do older adults with lower SES not practice healthy habits?

2. Are health disparities in older adults larger than at an earlier age?

Considering this question, two contradictory hypotheses have been presented⁷⁾. The first is the cumulative advantage/disadvantage hypothesis. According to this hypothesis, older adults with lower SES have a longer period of exposure to health risk factors, compared with young or middle-aged adults with lower SES; therefore, their health disparities could widen in older adults. The other hypothesis is the age-as-leveler hypothesis, which states that health disparities could reduce in older adults. This hypothesis is based on "selective mortality." Selective mortality means that people in lower SES groups could be affected by disease and disability at an earlier age than those in higher SES groups. The development of disease and disability is expected to result in earlier deaths, leaving survivors with more physical and mental vitality among lower SES populations, compared with higher SES populations. There is a number of studies in both Western countries⁸⁾ and in Japan⁹⁾ that support each of these hypotheses. We also analyzed health disparities according to income by using a repeated cross-sectional survey of a nationally representative sample of Japanese people^{9, 10)}. The health indicators in this study include self-rated health and activities of daily living (ADL) disability. The results showed that income disparities related to self-rated health and ADL disability decreased with age and reversed after approximately 75 year of age. One study in Japan also indicates that a higher education is associated with higher mortality among people 80 years and older, compared with those between 60 and 69 years of age⁵⁾. This indicates that survivors beyond a certain age would show a reversal in SES-related health disparities⁹⁾. The change of SES related health disparities associated with age might be explained by selective mortality. Furthermore, although even groups with higher SES may develop disease and disability, they are more likely to live longer—up to 80 years old—despite their disease and disability, as they have more knowledge and resources to manage the disease and disability.

3. Do health disparities in older adults differ according to period and cohort?

Considering the period effect, a hypothesis has been proposed stating that periods of economic depression widen health disparities¹¹⁾. This hypothesis is based on the following: lower SES groups

are more likely to be at risk of unemployment and wage cuts during an economic depression period. Experiencing these life events may lead to a more pronounced deterioration of health in a lower SES population than in a higher SES population. However, in Western countries, few studies have examined whether this hypothesis can explain the period effect of health diversities in later life¹²⁾. In Japan, our findings support this hypothesis. Our study used data in which periodic patterns could be observed from 1989 to 2013¹⁰⁾. The results showed that income disparities' relationship to ADL disability tended to decrease until 1995. After that period, income disparities increased from 2001 and stabilized in 2013. Income disparities are related to ADL disability, which changed across periods, as it increased in periods with a high unemployment rate, which started two to four years before the period. This timing of the exposure suggests that ADL disabilities follow a chronic course.

Few studies have explored the cohort effect on health disparities in older adults¹³⁾. A previous hypothesis has shown that health disparities widen in a larger cohort population, such as baby boomers. This hypothesis was created based on the suggestion that people from a lower SES population are more likely to be disadvantaged in a larger cohort population due to more severe competition for employment and education. In Japan, significant cohort effects on health diversities in later life could not be detected¹⁰⁾.

4. What are mechanisms for the occurrence of health disparities in older adults?

There are four mechanisms for the occurrence of health disparities; 1) materialistic mechanisms, 2) behavioral mechanisms, 3) psycho-cognitive mechanisms, and 4) political dynamics mechanisms¹⁴⁾. Materialistic mechanisms refer to limited accessibility to resources such as education, medical care, and social care. This influences the health of individuals in lower SES groups, which leads to health disparities. Behavioral mechanisms refer to individuals in lower SES groups who are faced with difficulties concerning habits and behaviors necessary for health maintenance and preventing deterioration in illness. As a result, they are more likely to develop a disease and for disease to progress. Considering psycho-cognitive mechanisms, differences in individuals' exposure to psychological stress according to their SES may cause health disparities. Individuals from lower SES groups are often exposed to higher stress for longer periods or more frequently. Moreover, lower SES in itself could induce psychological stress due to stigmatization. Lastly, the political dynamics mechanism means that individuals from a lower SES group do not

have strong a political voice to realize their needs, compared with a higher SES population. As a result, they have difficulties in achieving political benefits and have limited access to resources important for their health.

Only a few previous studies on health diversities have elucidated the mechanisms behind the occurrence of health disparities, and these studies focus on behavioral and psycho-cognitive mechanisms. Concerning behavioral mechanisms, two themes (or approaches) have been followed. The first involves examining whether health disparities can be explained by SES differences in the distribution of behavioral and psychological health risk/promotion factors. These include health habits, social networks, self-esteem, and sense of control. The second theme involves determining what psychosocial factors mediate the association between SES and healthy habits—such as regular exercise and healthy eating habits—in which SES differences are observed. A study on older adults in Japan along the first theme indicates that higher self-rated health and lower depressive symptoms in older adults who used to have a professional or administrative job or higher income are explained by their higher accessibility to medical information¹⁵). Studies on older adults regarding the second theme have been conducted by us. In our study, SES-based differences in eating habits and regular exercise are explained by SES differences in psychosocial factors, such as self-efficacy, social support, and influences of surrounding people^{16, 17}). The psycho-cognitive mechanism has been explored by Kondo et al. in Japan⁸). Their study shows that both absolute levels of income and relative levels of income—compared with income levels in reference groups by sex, age, and residential area—have significant influences on mortality and the occurrence of ADL disability in older adults. These findings suggest that lower relative income levels in reference groups cause psychological stress, resulting in poorer health.

5. Does an individual's life course SES influence their health in older adults?

It has been suggested that life course SES influences health in older adults. Four models have been proposed as types of influence of life course SES on health in older adults; 1) the latent effects model, 2) the social mobility effects model, 3) the pathway effects model, 4) the accumulative effects model¹⁹). The latent effects model suggests that experiencing lower SES during specific periods, such as childhood, have a direct influence on health in later life. The social mobility effects model suggests that change patterns in life course SES influence health in later life. According to the pathway effects model, SES in childhood has an indirect influence on health in later life through SES in adulthood and middle age. The accumulative effects model indicates that the length or frequency of lower SES experiences until later life influence health in later life. In Western countries and in Japan, some studies have examined the influence of life course SES²⁰). In Japan, a

few studies have been conducted based on the latent effects model. Their results indicate that older adults who reported worse household economic conditions in childhood experience higher rates of ADL disability and depressive symptoms in older adults^{21, 22}). We examined the influence of experiencing financial strain during the life course on health in older adults in Japan by using the four models described above. Health indicators include comorbidities, ADL disability, cognitive disability, depressive symptoms, and self-rated health. The age periods of the life course include childhood (18 years old and younger), young adults (25–35 years old), and older adults (35–50 years old). The results indicate that three models—social mobility, pathway, and accumulative effects—determine the influence of a person’s life course financial strain on comorbidity, cognitive function, self-rated health, and depressive symptoms. The latent period effects model explains the influence of life course financial strain on comorbidity. However, only the pathway model described the influence of life course financial strain on ADL disability²³).

6. Does area-level SES (not only individual-level SES) influence health in older adults?

It is possible that an individual’s living environment influences their health, especially in older adults²⁴). There are two reasons for older adults being more likely to be influenced by their living environment. First, the living space of older adults is limited, due to a decline in social activities because of retirement or a decrease in physical and mental functions because of aging, compared with a younger population. As limited living space is associated with a longer period of exposure to living environment, it can have a stronger influence on health in older adults than in younger adults. Second, vulnerability to several health risk factors in an individual’s living environment increase among older adults because aging causes a decline in immune strength, physical and mental function, and social networks, which are resources for coping with and decreasing health risk factors in a living environment.

Since the 2000s, a number of studies in Western countries have explained that not only individual-level SES, but also area-level SES influences health in older adults²⁵⁻²⁸). In these studies, depressive symptoms, cognitive function, physical function, and self-rated health are used as health indicators. Moreover, mediators of the association between area-level SES and health have been elucidated by focusing on social capital and age discrimination as possible mediators²⁷). The hypothesis in this study is based on the following: the residents of an area with larger SES differences are more likely to lose trust each other, resulting in social capital in the area—such as resources which support people’s health—becoming vulnerable. Additionally, residents of such an area are more likely to discriminate or be prejudiced against older adults, especially ones with lower SES. As a result, older adults with lower SES may have worse health due to experiences of

discrimination or prejudice. In Japan, a few studies have examined the influence of area-level SES on individual level of health in older adults since around 2010²⁹⁻³¹). The health indicators in these studies include dental health and self-rated health. The results show that area-level income distribution has a significant influence on individual health in older adults, after controlling for individual-level income. Another study explored the mediators of the association between area-level income differences and individual health in later life by focusing on social capital as a possible mediator³¹).

7. Why do older adults with lower SES not practice healthy habits?

The majority of studies on health disparities in older adults use a quantitative approach, and their analytical frameworks are based on existing theories. However, it is still not clear how well health disparities in older adults can be explained by these frameworks. We have attempted a qualitative approach to examine the possibility of creating new theories or analytical frameworks that can be used to understand the reasons more clearly³²). For example, we explored non-participation in exercise by older Japanese adults with lower education levels using a qualitative approach. The results suggest that unhealthy living and occupational conditions—especially job conditions with a heavy physical burden during middle age—have a strong influence on non-participation in exercise in older adults³³).

8. Conclusion

There are certainly other research issues related to health disparities in older adults that have not been addressed in this paper. For example, are there disparities in quality of life, worsening health condition, and disease management among older adults with chronic diseases or disability³⁴)? Are there disparities in the quality of life of family caregivers for disabled older adults³⁵)? Are there disparities in medical care or social care provided by medical and social welfare professionals to disabled older adults and their family caregivers³⁶)? We would be gratified if this paper could contribute to progressing studies on health disparities in later life in East Asian countries.

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