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Disability, poverty, and role of the basic livelihood security system on health services utilization among the elderly in South Korea

Boyoung Jeon [a], Haruko Noguchi [b], Soonman Kwon [c, d], Tomoko Ito [a], Nanako Tamiya [a, *]

[a] Department of Health Services Research, Faculty of Medicine, University of Tsukuba, Japan
[b] School of Political Science and Economics, Waseda University, Japan
[c] Asian Development Bank, Philippines
[d] Graduate School of Public Health, Seoul National University, South Korea

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ABSTRACT

With rapid aging, many of the elderly suffer from poverty and high healthcare needs. In Korea, there is a means-tested and non-contributory public assistance, the National Basic Livelihood Security System (NBLSS). The purpose of this study is to show older population's condition of disability and poverty, to evaluate the impact of NBLSS on health services utilization, and to examine the differential effect of the NBLSS by disability status among the elderly. This study used the Korea Welfare Panel Study data 2005–2014 with the final sample of 40,365, who were 65 years and older. The participants were divided into people with mild disability, severe disability, and without disability according to the Korean disability registration system. The income-level was defined to the low-income with NBLSS, the low-income without NBLSS, and the middle and high income, using the relative poverty line as a proxy of the low-income. The dependent variables were the number of outpatient visits and inpatient days, experience of home care services, total healthcare expenditure, and financial burden of healthcare expenditure. We performed Generalized Estimating Equations population-averaged model using the ten years of panel data. The result showed that within the same disability status, the low-income without NBLSS group used the least amount of inpatient care, but their financial burden of health expenditure was the highest among the three income groups. The regression model showed that if the elderly with severe disability were in the low-income without NBLSS, they reduced the outpatient and inpatient days; but their financial burden of healthcare became intensified. This study shows that the low-income elderly with disability but without adequate social protection are the most disadvantaged group. Policy is called for to mitigate the difficulties of this vulnerable population.

1. Introduction

With global aging, the proportion of people who are 65 years and older is expected more than 40% in 2050 in South Korea, and the speed of population aging is faster than other developed countries (OECD, 2015a). At the same time, the proportion of aged 65 and over among people with disabilities has quickly increased, from 30.3% in 2000 to 43.3% in 2014, which is over three times higher compared to the growth rate of overall population aging (from 7.2% in 2000 to 12.7% in 2014) (MOHW, 2015a). On the other hand, Korea is not well prepared for the upcoming aged society, especially in terms of serious low-income issues. It shows the highest elderly poverty rate among OECD countries, with the relative poverty rate (percentage with incomes less than 50% of median household disposable income) 49.6% for the elderly, followed by Australia (35.5%), Mexico (31.2%), United States (21.5%), Japan (19.4%), and OECD average (12.6%) (OECD, 2015b).

The elderly with disabilities are the most vulnerable group in both poverty and ill health. For example, among the elderly with disabilities, 67.3% was under the minimum living cost (Roh and Paik, 2012). At the same time, when they become older, their needs for healthcare increased (40.3% in 65–79 years old, 45.7% in 80 years or older), rather than the needs for income security (37.8% in 65–79

* Corresponding author. Department of Health Services Research, Faculty of Medicine, University of Tsukuba, 1-1-1 Tenno-dai, Tsukuba, Ibaraki, 305-8575, Japan.
E-mail addresses: jeon.boyoung26@gmail.com (B. Jeon), h.noguchi@waseda.jp, noguchi.haruko@gmail.com (H. Noguchi), skwon@adb.org, kwons@snu.ac.kr (S. Kwon), ittmkxo@gmail.com (T. Ito), ntamiya@md.tsukuba.ac.jp (N. Tamiya).

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years old, 33.1% in 80 years or older) (Hwang, 2015). However, the elderly with disabilities are not well protected by both of income and health systems, for the policies of the disabled and those for the elderly are not mutually linked in many social security areas. Because the current public policies for persons with disability is targeting 18–64 years old, when a person with disability become 65 years old, the eligibility for diverse social benefits changes to the regime of the elderly policy. For example, cash benefits of disability pension, which is an income support for people with severe disability in low-income, is ended and they become a target population of basic old-age pension; in-kind benefits of Personal Assistance Service is ended and they have to pass a separate eligibility test to receive long-term care insurance services (MOHW, 2016a, 2016b). The problem is the policies in elderly regime are rigid in population coverage but less inclusive in depth of service coverage. Therefore, the elderly with disabilities in the low-income level depend on general public assistance programs, especially when they do not have a chance to receive contributory pensions.

To mitigate poverty and improve the quality of life for the low-income families, there are several public assistance programs in Korea. The most representative program is the National Basic Livelihood Security System (NBLSS), which is non-contributory transfers for the targeted population by supporting cash and in-kind benefits. The NBLSS derived from the Livelihood Protection Law enacted in 1961, which provided limited benefits to the low-income families who lacked working capacity. The economic crisis in 1997 increased the demand for social safety nets, and the National Basic Livelihood Security Act was implemented in 2000. This Act started to emphasize the “right” to receive the support from government (Lee and Kim, 2012). However, NBLSS is a strict means-tested program for households who are under the designated minimum income line, and only about 3% of the whole population can receive this benefits (MOHW & Statistics Korea, 2016). The NBLSS is composed of 7 types of benefits: livelihood income assistance, Medical Aid, housing assistance, educational assistance, childbirth assistance, funeral assistance, and self-support assistance. The amount and types of benefit depends on family's welfare needs and ability to work. The maximum livelihood income assistance benefits is about $1020 (KRW 1,273,516) per month for a family of four in 2016 (MOHW, 2016c).

As Korea has universal health coverage system by mandatory National Health Insurance, Medical Aid is separately financed by the central and local government's general revenue although it is administered by the health insurance system (Kwon, 2009). The copayment rate for inpatient care is from zero to 10% (whereas the copayment rate for National Health Insurance is 20%), and from $0.8 to $1.6 for outpatient care (whereas the copayment rate for National Health Insurance is 30–60%) (NHIS, 2016). Therefore, if a person become a beneficiary of NBLSS, the person can receive not only the income subsidy, but also the discounted copayment in health services. At the same time, for people who are 65 years and older, there is special discount system for outpatient care services; the copayment is fixed to $1.2 (KRW 1500) for every service until $12 (KRW 150,000); and if the total cost is more than $12, they pay for 30% as coinsurance. This copayment is favorable to people who need consistent management of chronic conditions; but less advantageous to people who need highly intensive care.

We need to consider the role of NBLSS, which has both in-kind benefits and public income transfer, as older people have complex needs related to poverty and healthcare. Among the beneficiaries of NBLSS, a considerable proportion is the elderly (29.1%) and families with disability member (21.9%) in 2014 (MOHW & Statistics Korea, 2016). This large portion means many of the older and disability populations depend on public assistance. Especially, the role of public income transfer became more important recently with the reduced role of private transfer (Yeo, 2013), and some of the NBLSS beneficiaries desire to remain under this program rather than getting out of poverty (Jo, 2007). Meanwhile, there are sizable number of the elderly and people with disabilities who are not protected by adequate safety nets.

The purpose of this study is to examine the impact of disability and poverty on health services utilization and health expenditure among the elderly; and to estimate the role of social security system for the low-income families, focusing on the NBLSS. More specifically, this paper shows the prevalence of disability and relative poverty rate, and size of NBLSS beneficiaries from 2005 to 2014; and compares the health services utilization and financial burden of health expenditure among the elderly by the disability status and income-level. Lastly, this study estimates the impact of NBLSS on health services use and financial burden of health expenditure, and evaluates the differential impact of NBLSS by disability status among the older population.

2. Data and methods

2.1. Data source and study measures

Our research used the Korea Welfare Panel Study (KoWePS) from the 1st (2005) to 10th (2014) yearly data. This survey consists of detailed information about general characteristics, economic and employment status, social security, welfare needs, and disability. It was performed by the Korea Institute for Health and Social Affairs and Seoul National University (KIHASA & SNU, 2016). The KoWePS is unidentified dataset which is publicly available on the official website (KoWePS, 2016). Because this study used only the anonymized unlinkably secondary data, ethical review was deemed not to be required (MOHRW, 2015; MOHW, 2016d). This survey has over-sampled the low-income household (who are less than 60% of median income) by allocating the 50% of the sample to the low-income. Therefore, this data is suitable for studies targeted to develop poverty and/or low-income policies in the national level. By applying a designated weight, the data can represent the actual population size of South Korea.

Across a ten-year period, the panel retention rate was 67.3% from the 1st to 10th survey. In the 7th survey, there was an additional sampling for survey sustainability, and the follow-up rate was 85.2% from 7th survey to 10th survey (KIHASA & SNU, 2016). The pooled KoWePS dataset included a total of 169,927observations. Among them, our study included people with three types of disabilities (physical, visual, and auditory), and with no disability as a reference group. Physical, visual, and auditory disabilities are the most prevalent (82.3%) among the 15 disability types in the Korean National Disability Registry (Statistics Korea, 2015). Physical disabilities include impairment in limb (resulting from amputation, joint disability, limb deformities, motor disturbance, or spinal cord injuries) or brain (caused by stroke, brain damage, or brain palsy); visual disabilities include sight loss and visual field defect; and auditory disabilities include impairments in hearing and sense of equilibrium. We excluded people with other types of disabilities ($n = 3435$), such as disabilities in kidneys, heart, intellectual, developmental, and mental because the healthcare needs of those with mental or internal conditions are too heterogeneous (Jeon et al., 2011). We excluded people in their 64 years old and less ($n = 125,871$) because this study is focusing on the elderly. Observations with missing data for the dependent and independent variables in our analytic model were also excluded ($n = 256$). Our final sample was unbalanced panel, which consisted of 40,365 observations. Among the final participants, the number of people without disabilities was 34,650, with mild disabilities 4,703, and