

Theme: Population Ageing

Extended Abstract

**Employment of People with Disabilities in Hearing and Communication:
A Cross-sectional Study among Older Persons in Indonesia**

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During the COVID-19 pandemic, remaining working is a major concern for older persons residing in countries like Indonesia where social security system only covers limited population. Having decent jobs is also the right of older persons. The chronic invisible disability of hearing, the fourth global disability (WHO, 2021), is possibly associated with difficulty of people getting to work. Hearing disability poses cost to the persons themselves, their families, societies and state. The total loss due to hearing disability was estimated to be over \$980 billion globally (WHO, 2021), including costs related to health care, education, productivity losses, and societal costs.

The situation is worse during the COVID-19 pandemic, as implementation in health protocols such as wearing mask and physical distancing may make people with hearing disability having more challenges in daily communication and employment. Yet, research on hearing disability among older persons is still limited, particularly in Indonesia. This paper is an ongoing study to fill this gap by focusing on whether hearing disability is associated with employment (working or not working) and communication ability; and whether both variables altogether are associated with employment. It is therefore important to examine socio-economic-demographic correlates of hearing disability among older persons. Moreover, issue on hearing disability is likely to be more relevant in development in the next few decades as more people may be exposed to the risk of suffering from hearing disability.

Data and Method

This paper analyses the pre-COVID data from the 2018 Social-economic National Survey - known as SUSENAS which stands for *Survei Sosial Ekonomi Nasional*. The data refers to the year 2018 but the pattern of socio-economic demographic correlation with hearing disability may not differ significantly from the pandemic time (2020- 2021). This survey is a nationally representative household survey covering all provinces conducted by Badan Pusat Statistik (Statistics Indonesia) twice a year in March and September 2018. The March sample is representative for estimations at the district level, while September sample is for provincial level. This paper uses the March survey, covering about 300,000 households selected using probabilistic sampling with a three-step sampling approach. It collects information from all members of the selected households. The selected sample are people aged 60 years and above numbering 102,653 persons.

One of the important variables from this survey is disability information adopted from the Washington Group Question sets for disabilities. Respondents were asked about disabilities in hearing and communication using the following questions:

“Does [Name] have difficulty hearing, even if using a hearing aid?”

“Does [Name] have difficulty talking and or understanding /communicating with others?”

Each question has the following options to answer: “no difficulty”, “some difficulty”, “a lot of difficulty” or “cannot do at all”. In this paper, each of these answers was categorised into three groups: no difficulty as no disability, some difficulty as mild disability, and the combination of “a lot of difficulty” and “cannot do at all” as moderate or severe disability. A series of multiple logistic and multinomial regression models are employed to examine the association with no disability as the reference group.

Tentative Results

Older persons with hearing disability

Older persons with some degree of hearing disability accounted for 21.7 percent. This consists of 5.2 percent of moderate or severe degree and 16.5 percent of mild hearing disability. The multinomial model finds that degree of hearing disability is associated with demographic variables such as age, sex, marital status, education, place of residence and wealth either for mild or moderate/severe hearing disability. Controlling for other variables,

age is positively associated with both degrees of hearing disability (mild and moderate or severe hearing disability). Older men are more likely to experience hearing disability than older women (OR=1.1 for mild and OR=1.2 for higher degree of hearing disability). Living in urban areas are less likely to have some degree of hearing disability (OR=0.9 for both degrees). Education and wealth are negatively associated with some degree of hearing disability. In comparison to widowed, never married are more likely to have moderate/severe hearing disability (OR=1.4), while married and divorced are less likely (OR=0.7 and OR=0.9, respectively). However, among older persons with mild hearing, the highest percentage of hearing disability is found among widowed.

Hearing disability and communication problems

Older persons with some degree of difficulty in talking or communicating with others accounted for 9.3 percent consisting of 6.6 percent with mild difficulty and 2.8 percent with moderate or severe difficulty communicating. The multinomial regression model shows that hearing disability is significantly associated with communication problem. The likelihood of having communication problem is the highest among older persons with moderate or severe hearing disability (OR=93.2). This is in contrast to those with mild hearing disability (OR=6.4). The likelihood of having mild communication disability is also higher if the older persons has moderate or severe hearing disability (OR=31.0) and the odds ratio of having both mild disabilities is 14.4. The pattern remains the same when the model is controlled with other variables. The difference is on the magnitude of the odds ratios, which are smaller in the adjusted model.

Older persons' employment with hearing disability

Regardless hearing disability, 49.4 percent of older persons are still working. Taking into account the degree of hearing disability, this study finds that 54.5 percent of older persons without hearing disability are employed. In contrast, only about 34 percent of older persons with mild hearing disability are employed, and merely 21.7 percent of those with moderate or severe hearing disability are employed. In the logistic regression model, employment is treated as a dichotomous variable with a value of 1 for not working and 0 otherwise. Without controlling for other variables, hearing disability is significantly associated with employment.

The likelihood of not working among older persons with moderate or severe hearing disability is the highest (OR=4.5), while for older persons with mild hearing disability is lower (OR=2.1). In other words, older persons with some degree of hearing disability are less likely to be working. Controlled by other variables, the result does not change.

Relationship between disabilities in hearing and communication on employment

Instead of treating these two variables of disabilities in hearing and communicating independently in the model, they are treated as an interaction term grouped into five categories (moderate/severe degree in both disabilities, combination between mild and moderate/severe in both disabilities, hearing disability without communication disability, communication disability without hearing disability, and no disability in hearing nor communication). There are 7.2 percent of older persons having double disabilities consisting of 5.6 percent with combination between mild and moderate/severe in both disabilities and 1.6 percent with moderate or severe degree in both disabilities. Older persons with hearing disability only accounted for 14.5 percent, and with communication problems only accounted for 2.1 percent only. In other words, the majority (76.2 percent) of the older persons are without disabilities in hearing and communication. The results shows that the association between this interaction terms with employment is significant. The older persons with both moderate/severe hearing and communication disabilities are the most likely not to be employed (OR=8.8), relative to those with no disabilities. However, the probability of not working among older persons with hearing disability only is better than those with communication disability only (OR= 2.1 versus OR=5.3, respectively). The pattern remains the same as when the logistic regression model is controlled with socio-economic-demographic variables.