

# Utilization of Preventive Health Check-Ups Among Older People in Rural Indonesia

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## Utilization of Preventive Health Check-Ups Among Older People in Rural Indonesia

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### ABSTRACT

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The use of preventive health check-ups among older people was driven by health status and socioeconomic factors. This present study identified the determinants of preventive health check-up utilization among older people in rural Indonesia. This study had been conducted in rural areas in the district of Banyumas, Central Java, Indonesia. A cross-sectional survey had been carried out and a total of 412 older people were selected by using multistage sampling. Logistic regression determined the predictors of preventive health check-up utilization. The majority of the older people were female (75.5%) with low levels of educational attainments (56.3%). Factors including chronic illnesses and uneducated were associated with preventive health check-ups among older people. Older people with chronic illnesses ( $p < 0.05$ , OR = 6.276) were more likely to use preventive health check-ups. Further, uneducated older people ( $p < 0.05$ , OR = 12.562) were less likely to use preventive health check-ups in rural areas. Health status becomes a prominent factor that influences health care utilization among older people. Health interventions targeting identified at-risk subgroups are potential for fulfilling the demand for health care among older people who live in the community, particularly in rural areas. Health promotion for enhancing health literacy among older people would improve the utilization of preventive health check-ups among older adults.

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## Pemanfaatan pemeriksaan kesehatan bagi lansia di wilayah pedesaan di Indonesia

### ABSTRAK

Pemanfaatan layanan pemeriksaan kesehatan untuk lansia ditentukan oleh kondisi kesehatan dan faktor sosioekonominya. Kajian ini bertujuan untuk mengidentifikasi faktor-faktor determinan pemanfaatan pemeriksaan kesehatan pada lansia di wilayah pedesaan. Kajian ini dilaksanakan di Kabupaten Banyumas, Jawa Tengah, Indonesia. Survei dilakukan dengan menggunakan pendekatan belah lintang (12) *multistage random sampling* terhadap 412 lansia. Data selanjutnya dianalisis dengan menggunakan regresi logistik. Hasil penelitian menunjukkan bahwa sebagian besar (75,5%) lansia adalah perempuan dengan tingkat pendidikan yang rendah (56,3). Status penyakit kronis dan tidak berpendidikan pada lansia berpengaruh signifikan secara statistik dengan pemanfaatan pemeriksaan kesehatan. Lansia yang memiliki penyakit kronis ( $p < 0,05$ , OR = 6,276) cenderung lebih memanfaatkan layanan pemeriksaan kesehatan, sedangkan lansia yang tidak berpendidikan ( $p < 0,05$ , OR = 12,562) cenderung kurang memanfaatkan layanan pemeriksaan kesehatan tersebut. Kondisi status kesehatan menjadi faktor utama yang mempengaruhi lansia untuk memanfaatkan layanan pemeriksaan kesehatan. Oleh karena itu intervensi kesehatan yang sesuai untuk kelompok usia berisiko tersebut potensial untuk dapat memenuhi harapan bagi lansia yang tinggal di

#### Kata kunci:

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daerah pedesaan. Promosi kesehatan untuk meningkatkan tingkat literasi terhadap pentingnya layanan kesehatan bagi lansia akan dapat meningkatkan pemanfaatan layanan kesehatan tersebut.

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## INTRODUCTION

Older people in Indonesia counted into more than 18 million people and almost 60% lived in a rural area while the rest lived in the urban area (Adioetomo & Mujahid, 2014). High number of older people showed a positive indicator that Indonesian life expectancy was increased. Life expectancy rate increased from 63.6 years in 1990 to 71.7 years in 2016 (Mboi et al., 2018). This condition might also be due to better access to care for older people in Indonesia. According to data from the Basic Health Service Directorate of Indonesia Ministry of Health, the number of health centers that provided good health services for older people was 10% of all health centers in 2015 and increased by 24.84% in 2016. It means that a strategic plan for providing health care for the elderly was accomplished (Sutarjo & Budijanto, 2017).

Currently, the community health center also provides regular preventive health check-up for the aged for promoting elderly health condition (Noveria, 2006). This program is designed for elderly people who need basic medical examinations such as blood pressure, cholesterol level, blood glucose, etc. The program also provides various activities for creating active elderly to maintain the age health condition through exercises for the aged and elderly integrated health post. Although the program is not an advance health facility like the geriatric clinic in the capital city, however, it is an appropriate approach for the elderly who live in a rural area with resource poor-setting.

The use of health care among older people was driven by health status and socioeconomic factors (Madyaningrum, Chuang, & Chuang, 2018). Chronic illnesses, economic and educational level, region and insurance status might influence the use of the services (Labeit, Peinemann, & Baker, 2013; Madyaningrum et al., 2018). At present, little is known about the utilization of medical check-up among older people in the rural area. Hence, this present study identified the determinants of preventive health check-ups utilization among older people in rural Indonesia. The findings from this study may contribute to the policy maker in setting up the age-sensitive health care services for the people who live in deprived areas.

## METHOD

This study population was older people aged 60 and above in the rural area of Banyumas District, Central Java, Indonesia. A cross-sectional survey had been carried out from July to September 2018 and 412 older people were selected by using multistage sampling. The sampling was conducted by selecting rural sub-districts and from each sub-district, three villages were selected. Data was collected using a structured questionnaire consisting of a series of questions about gender, age, educational level, relationship, working and economic status, chronic diseases, health insurance and preventive health check-ups activities. In the process of gathering data, older people who had difficulty in

communication were accompanied by their family members or care-giver. Ethical approval was obtained from the ethical committee of the Faculty of Medicine, Jenderal Soedirman University, Indonesia. For data analysis, multinomial regression determined the predictors of preventive health check-up utilization. All analysis was conducted by using IBM SPSS Statistics version 20.

## RESULTS AND DISCUSSION

Table 1 shows the characteristic of the 412 respondents. The majority of the older people were female (75.5%) with low levels of educational attainments (56.3%). Most respondents had a partner (60.9%), did not work (53.9%), and more than half of the elderly had low-income level. In this study, 45% of respondents had chronic illnesses and 66.3 % had been enrolled in health insurance.

**Table 1.**  
**Characteristic of study participants**

| Variable          | Category             | n   | %    |
|-------------------|----------------------|-----|------|
| Sex               | Male                 | 101 | 24.5 |
|                   | Female               | 311 | 75.5 |
| Age               | 60-74 years old      | 284 | 68.9 |
|                   | ≥75 years old        | 128 | 31.1 |
| Education         | Non formal education | 161 | 39.1 |
|                   | Elementary school    | 232 | 56.3 |
|                   | Junior high school   | 8   | 1.9  |
|                   | Senior high school   | 7   | 1.7  |
|                   | University           | 4   | 1.0  |
| Having partner    | Yes                  | 251 | 60.9 |
|                   | No                   | 161 | 39.1 |
| Working           | Yes                  | 190 | 46.1 |
|                   | No                   | 222 | 53.9 |
| Economic status   | Q-1                  | 132 | 32.0 |
|                   | Q-2                  | 35  | 8.5  |
|                   | Q-3                  | 85  | 20.6 |
|                   | Q-4                  | 78  | 18.9 |
|                   | Q-5                  | 82  | 19.9 |
| Chronic illnesses | Yes                  | 186 | 45.1 |
|                   | No                   | 226 | 54.9 |
| Having insurance  | Yes                  | 273 | 66.3 |
|                   | No                   | 139 | 33.7 |

Table 2 shows chronic illnesses and uneducated variables were associated with preventive health check-ups among older people. Older people with chronic illnesses ( $p < 0.05$ , OR = 6.276) were more likely to use preventive health check-ups. Older people who had chronic illnesses were 6.3 times more likely to use preventive health check-ups than those who had no chronic illnesses. Further, uneducated older people ( $p < 0.05$ , OR = 12.562) were less likely to use

preventive health check-ups in rural areas. Older people who had a low level of education were 12.6 times less likely than

their counterparts to use preventive health check-ups.

**Table 2**  
**Factors associated with preventive health check-up among elderly**

| Factors                    | Regular Preventive Health Check-Ups |      |         |      |            |      | Total<br>n | No/Yes |           | Never/Yes |           |
|----------------------------|-------------------------------------|------|---------|------|------------|------|------------|--------|-----------|-----------|-----------|
|                            | Yes<br>n                            | %    | No<br>n | %    | Never<br>n | %    |            | p      | OR        | p         | OR        |
| Age:                       |                                     |      |         |      |            |      |            |        |           |           |           |
| 60-74 years old            | 8                                   | 72.7 | 212     | 69.5 | 64         | 66.7 | 284        | 0.514  | 0.6       | 0.536     | 0.6       |
| ≥75 years old              | 3                                   | 27.3 | 93      | 30.5 | 32         | 33.3 | 128        |        |           |           |           |
| Sex:                       |                                     |      |         |      |            |      |            |        |           |           |           |
| Female                     | 8                                   | 72.7 | 239     | 78.4 | 64         | 66.7 | 311        | 0.514  | 1.7       | 0.973     | 1.0       |
| Male                       | 3                                   | 27.3 | 66      | 21.6 | 32         | 33.3 | 101        |        |           |           |           |
| Education:                 |                                     |      |         |      |            |      |            |        |           |           |           |
| 15 formal education        | 3                                   | 27.3 | 111     | 36.4 | 47         | 49   | 161        | 0.994  | 0.0       | 0.001     | 12.6      |
| Elementary school          | 7                                   | 63.6 | 177     | 58   | 48         | 50   | 232        | 0.994  | 0.0       | -         | 4.4       |
| Junior high school         | 0                                   | 0    | 7       | 2.3  | 1          | 1    | 8          | 1.000  | 1.8       | 0.997     | 3177062.8 |
| Senior high school         | 1                                   | 9.1  | 6       | 2    | 0          | 0    | 7          | 0.993  | 0.0       | 0.996     | 0.00      |
| University                 | 0                                   | 0    | 4       | 1.3  | 0          | 0    | 4          |        |           |           |           |
| Working:                   |                                     |      |         |      |            |      |            |        |           |           |           |
| No                         | 8                                   | 72.7 | 162     | 53.1 | 52         | 54.2 | 222        | 0.160  | 0.3       | 0.129     | 0.3       |
| Yes                        | 3                                   | 27.3 | 143     | 46.9 | 44         | 45.8 | 190        |        |           |           |           |
| Having partner:            |                                     |      |         |      |            |      |            |        |           |           |           |
| No                         | 3                                   | 27.3 | 125     | 41   | 33         | 34.4 | 161        | 0.381  | 1.9       | 0.862     | 1.1       |
| Yes                        | 8                                   | 72.7 | 180     | 59   | 63         | 65.6 | 251        |        |           |           |           |
| Household size:            |                                     |      |         |      |            |      |            |        |           |           |           |
| Nuclear                    | 10                                  | 90.9 | 285     | 93.4 | 94         | 97.9 | 389        | 0.748  | 1.5       | 0.220     | 5.4       |
| Extended                   | 1                                   | 9.1  | 20      | 6.6  | 2          | 2.1  | 23         |        |           |           |           |
| Economic Status            |                                     |      |         |      |            |      |            |        |           |           |           |
| Q-1                        | 4                                   | 36.4 | 88      | 28.9 | 40         | 41.7 | 132        | 0.769  | 0.8       | 0.616     | 0.6       |
| Q-2                        | 0                                   | 0    | 28      | 9.2  | 7          | 7.3  | 35         | 0.992  | 2012219.2 | 0.993     | 960936.8  |
| Q-3                        | 0                                   | 0    | 68      | 22.3 | 17         | 17.7 | 85         | 0.987  | 2255516.6 | 0.988     | 973973.5  |
| Q-4                        | 4                                   | 36.4 | 60      | 29.7 | 14         | 14.6 | 78         | 0.327  | 0.4       | 0.092     | 0.2       |
| Q-5                        | 3                                   | 27.3 | 61      | 20   | 18         | 18.8 | 82         |        |           |           |           |
| Having insurance:          |                                     |      |         |      |            |      |            |        |           |           |           |
| No                         | 2                                   | 18.2 | 104     | 34.1 | 33         | 34.4 | 139        | 0.423  | 2.0       | 0.421     | 2.0       |
| Yes                        | 9                                   | 81.8 | 201     | 65.9 | 63         | 65.6 | 273        |        |           |           |           |
| Traditional medicine user: |                                     |      |         |      |            |      |            |        |           |           |           |
| No                         | 8                                   | 3.3  | 172     | 70.2 | 65         | 26.5 | 245        | 0.234  | 0.4       | 0.584     | 0.7       |
| Yes                        | 3                                   | 1.8  | 133     | 79.6 | 31         | 18.6 | 167        |        |           |           |           |
| Mental Health:             |                                     |      |         |      |            |      |            |        |           |           |           |
| Good                       | 0                                   | 0    | 8       | 88.9 | 1          | 11.1 | 9          | 0.996  | 3257667.6 | 0.996     | 2186699.4 |
| Not Good                   | 11                                  | 2.7  | 297     | 73.7 | 95         | 23.6 | 403        |        |           |           |           |
| Chronic Illnesses:         |                                     |      |         |      |            |      |            |        |           |           |           |
| No                         | 3                                   | 1.3  | 156     | 69   | 67         | 29.6 | 226        | 0.127  | 3.0       | 0.015     | 6.3       |
| Yes                        | 8                                   | 4.3  | 149     | 80.1 | 29         | 15.6 | 186        |        |           |           |           |
| Total                      | 11                                  | 2.7  | 305     | 74.0 | 96         | 23.3 | 412        |        |           |           |           |

This study finds that chronic illness status and low educational level of the older people has a significant influence on preventive health check-up utilization. Chronic illnesses are positively signed and statistically significant in increasing the utilization of preventive health check-up. Regular preventive health check-ups were important for older people. It could be an early detection for illness so that older people could have a longer life (Adams, 2016). Diseases like heart diseases and diabetes could be detected by checking blood pressure and glycemic index regularly so that treatment could be successful. In this study also finds that for all the benefits, the number of older people who had regular preventive check-ups in the rural area were still low (2.7%), in fact 23.3% older people never do the check-ups at all.

Regular preventive health check-ups in Indonesia could be done in the elderly integrated health post (Setiawan, JK, & Ms, 2017). The check-ups included measuring body mass index and blood pressure once a month, glycemic and cholesterol index once in six months, health and nutritional counseling every month, productive economic business counseling, and physical activity or gymnastic for older people every week (Pratono & Maharani, 2018; Rahmawati & Bajorek, 2015). Dewi *et al.* found that participation of the elderly in integrated health post was associated with quality of life improvement (Dewi, Kusnanto, Pramantara, & Rahayujati, 2017). Our study also suggested that improving access to preventive health check-ups among



the elderly would affect their health status especially among those who had chronic illnesses.

Moreover, the educational background of the older person in the rural area is related to regular preventive health check-ups. Older people who had a low level of formal education were less likely to use regular check-ups compared to those who had high education like university. Health literacy was associated with higher educational attainment (van der Heide et al., 2013). It might explain that more educated people would contribute to the higher scores on the health literacy aspect (Muscat et al., 2016). Previous published study by Jansen et al. showed that higher education attainment was associated with higher primary care services (Jansen et al., 2018). Accordingly, improving health literacy within the community would facilitate the improvement of health care utilization particularly among people with a lower level of education and who live in resources poor-setting like a rural area.

## CONCLUSIONS AND RECOMMENDATIONS

Health status becomes a prominent factor that influences health care utilization among the older people. Health interventions targeting identified at-risk subgroups are potential for fulfilling the demand of health care among the older people who live in the community, particularly in rural areas. Health promotion for enhancing health literacy among older people would improve the utilization of preventive health check-ups among the older adults.

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## Declaration of Conflicting Interests

The authors declared that no potential conflicts of interests with respect to the authorship and publication of this article.

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