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Research

# The Effect of Health Insurance Membership on Self-Medicine: An Analysis using Indonesian Family Life Survey 5

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## ABSTRACT

**Background:** The prevalence of self-medication in Indonesia is still quite large. The result of a survey conducted by the National Socio-Economic Survey (Susenas) showed that the percentage of the population who had self-medicated health complaints was 61.05%. The negative impact of self-medication is the side effects of drugs, the resistance to antibiotics, and the wrong choice of drugs. This study aimed to analyze the correlation between insurance ownership and self-medication using IFLS data analysis.

**Subjects and Method:** This was a cross-sectional study. This study involved 31,411 sample obtained from IFLS 5 data. The dependent variable was self-medication. The independent variables were age, sex, residence, marital status, and insurance ownership. The data were analyzed by multiple logistic regression.

**Results:** The individuals who had insurance increased the initiative to seek self-medication (OR=1.08; 95%CI=1.04 to 1.13; p<0.001). Male (OR=0.92; 95%CI=0.88 to 0.96; p<0.001), who lived in the city (OR=0.94; 95%CI=0.90 to 0.99; p=0.009), in the working reproductive age (15-64 years) (OR=0.80; 95%CI=0.73 to 0.89; p<0.001), and married (OR = 0.82; 95% CI = 0.78 to 0.86; p <0.001) had a tendency not to take self-medication.

**Conclusion:** Based on the result of the study, the subjects of the study who have insurance have a greater risk of self-medication.

**Keywords:** Self-medication, insurance

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## BACKGROUND

Self-medication is a treatment carried out on one's initiative without a doctor's advice. Self-medication can be a source of drug-related problem due to limited knowledge of drugs and their use (Harahap, 2017). The prevalence of self-medication in Indonesia is still quite large. Based on the result of the survey conducted by the National Socio-Economic Survey (Susenas), the percentage of the population who had self-medicated health complaints was 61.05%. This rate decreased when it was compared to the previous year in 2012 that was 67.71% and in 2013 that was 63.10%. However, the prevalence rate of self-medication in Indonesia is still high. Self-medication certainly has positive and negative effects. The positive effect was being able to carry out the earlier treatment at a more affordable and faster

cost (Restiyono, 2016). However, it could cause side effects of drugs, resistance to antibiotics, and the wrong choice of drugs (Hidayati, 2018).

Insurance ownership is one of the causes of self-medication. According to the Big Indonesian Dictionary, insurance is an agreement between two parties, where one party pays dues and the other party provides a full guarantee to the dues payer if something happens to the first party or the property according to the agreement made. In addition, health insurance is health insurance to overcome the risks of financing and health care. According to the manager, health insurance was divided into two, namely the public and the private sector (Arimbawa, 2018).

According to a survey from the Ministry of Health in 2013, health insurance owned by the population in Indonesia was 76.8% (Ministry of Health, 2013). The latest data related to National Social Security has also been updated by the Monitoring and Evaluation System of the National Social Security Council (Sismonev DJSN) in September 2017. It showed that the number of participants in the National Health Insurance-Indonesian Health Card (JKN-KIS) has only reached 71.3% (Sismonev, 2017). This data showed that there were still many Indonesians who did not have health insurance, thus causing an increase in health financing. As a result, self-medication behavior occurred.

Since the negative impact of self-medication was quite a lot and the reason often associated with self-medication was insurance ownership, the researchers were interested in analyzing the correlation between self-medication and insurance ownership that occurred in Indonesia based on the analysis of IFLS data.

## SUBJECTS AND METHOD

### 1. Study Design

This was a cross-sectional study. This study was an analysis of secondary data taken from Indonesian survey data, namely the Indonesian Family Life Survey (IFLS), or more commonly known as the Indonesian Household Life Aspect Survey (SAKERTI). This study was conducted from June to July 2020.

### 2. Population and Sample

The population of the study was Indonesians as the subjects in IFLS. The subjects of the study were all subjects of IFLS in 2014 (IFLS 5) with complete data on self-medication, insurance ownership, sex, marital status, residence, and age. After data cleaning, the number of subjects obtained was 31,411 sample.

Figure 1 shows the data cleaning process conducted from the entire IFLS 5 data. The initial data were 34,263 subjects with complete data on sex, marital status, residence, and age. Based on the IFLS 5, 34,190 subjects had insurance and 31,417 subjects did self-medication. Based on the data of gender, marital status, residence, age, insurance ownership, and history of self-medication, there were 31,411 subjects that would be processed for this study.

### 3. Study Location

The IFLS survey was conducted in several selected enumeration areas from several provinces in Indonesia. The data used in IFLS represented 83% of the population in Indonesia.

### 4. Study Variables

The dependent variable was self-medication. The independent variables were insurance ownership, sex, marital status, residence, and age.

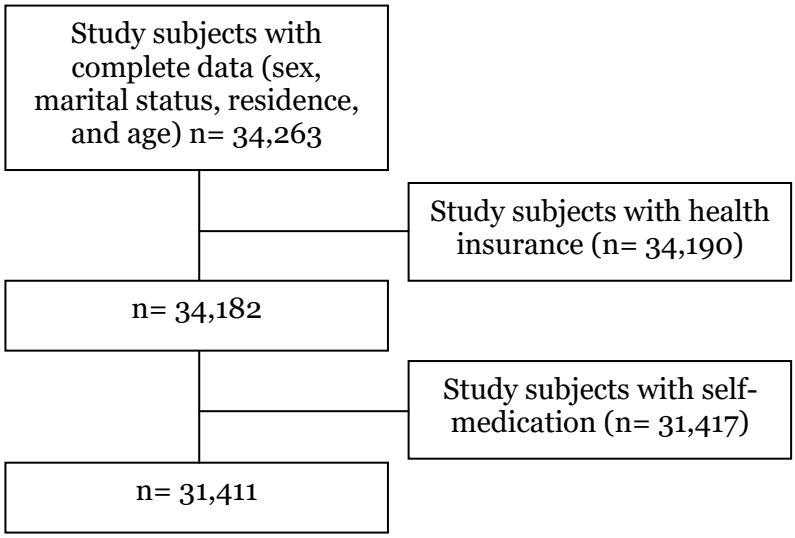


**Figure 1. The Flowchart of the Cleaning Data Process**

**5. Operational Definition of Variables**

**Self-medication**

Self-medication was a treatment carried out on one's initiative without a doctor's advice (Harahap, 2017).

**Insurance ownership**

According to the Big Indonesian Dictionary, insurance was an agreement between two parties, where one party paid dues and the other party provided a full guarantee to the dues payer if something happened to the first party or their property according to the agreement made.

**6. Data Analysis**

This study used univariate, bivariate, and multivariate logistic multivariate test analysis. Univariate analysis was carried out to determine the characteristics of the subjects based on each variable. Bivariate analysis was carried out to determine the prevalence of the subjects based on the correlation between two variables using the Chi-square method. In multivariate analysis, the logistic regression model used was the Binary Logistics model because the dependent variable had a nominal or ordinal measurement scale and only consisted of two qualitative choice categories (Junaidi 2015). The data analysis was carried out using STATA 15 software.

## RESULTS

**1. The Characteristic of the Sample**

Table 1 shows 15,587 subjects as the sample of the study who self-medicated (49.62%) and 15,990 subjects who did not have insurance (50.91%).

A total of 29,726 sample (94.64%) were in the working reproductive age, namely 15 -64 years of age.

A total of 22,770 sample (72.49%) were married and lived in the city (59%). Based on sex, the male subjects were 16,724 people (53.24%) while female subjects were 14,687 people (46.76%).

**Table 1. The Distribution of the Characteristic of the Study Subjects**

| Variable | n | % |
|---|---|---|
| **Insurance** | | |
| Yes | 15,421 | 49.09 |
| No | 15,990 | 50.91 |
| **Self-medication** | | |
| Yes | 15,587 | 49.62 |
| No | 15,824 | 50.38 |
| **Age** | | |
| Labor force (15-64 years) | 29726 | 94.64 |
| Non labor force (<15 or >64 years) | 1685 | 5.36 |
| **Marital Status** | | |
| Married | 22,770 | 72.49 |
| Single | 8,641 | 27.51 |
| **Residence** | | |
| Village | 12,878 | 41.00 |
| City | 18,533 | 59.00 |
| **Sex** | | |
| Female | 16,724 | 53.24 |
| Male | 14,687 | 46.76 |

**2. Bivariate Analysis**

Table 2 shows the distribution of self-medication based on insurance ownership, age, marital status, residence, sex. Table 2 shows that the percentage of individuals who had insurance (50.45%) was more likely to self-medicate than the individuals who did not have insurance (48.82%), p= 0.004.

**Table 2. The Distribution of Self-medication Based on Insurance Ownership, Age, Marital Status, Residence, and Sex**

| Independent Variable | Self-medication | | | | p |
|---|---|---|---|---|---|
| | Yes | | No | | |
| | n | % | n | % | |
| **Insurance Ownership** | | | | | |
| Yes | 7.780 | 50.45 | 7.641 | 49.55 | 0.004 |
| No | 7.807 | 48.82 | 8.183 | 51.18 | |
| **Age (years)** | | | | | |
| Reproductive age (15-64) | 14.651 | 49.29 | 15.075 | 50.71 | <0.001 |
| Unreproductive age (<15 or >64) | 936 | 55.55 | 749 | 44.45 | |
| **Marital Status** | | | | | |
| Married | 10.983 | 48.23 | 11.787 | 51.77 | <0.001 |
| Single | 4.604 | 53.28 | 4.037 | 46.72 | |
| **Residence** | | | | | |
| Village | 6.485 | 50.36 | 6.393 | 49.64 | 0.030 |
| City | 9.102 | 49.11 | 9.431 | 50.89 | |
| **Sex** | | | | | |
| Female | 8.452 | 50.54 | 8.272 | 49.46 | 0.001 |
| Male | 7.135 | 48.58 | 7.552 | 51.42 | |

**3. Multivariate Analysis**

Table 3 shows the result of multiple logistic regression analysis of the factors affecting individuals to do self-medication. Table 3 shows that the individuals who had insurance increased the initiative to seek treatment (OR=1.08; 95%CI=1.04 to 1.13; p<0.001).

Men were likely to do self-medication than women (OR=0.92; 95%CI=0.88 to 0.96; p<0.001).

The individuals who lived in the cities were likely to do self-medication than the individuals who lived in the villages (OR=0.94; 95%CI=0.90 to 0.99; p=0.009).

The individuals in the working reproductive age (15-64 years) were likely to do self-medication than the individuals in the non-working reproductive age (>15 or>64 years) (OR=0.80; 95%CI=0.73 to 0.89; p<0.001).

The individuals who got married were likely to do self-medication than the individuals who did not get married (OR=0.82; 95% CI=0.78 to 0.86; p<0.001).

**Table 3. The analysis of the multiple logistic regression of factors affecting individuals to do self-medication**

| Independent Variable | OR | 95% CI | | p |
|---|---|---|---|---|
| | | Lower limit | Upper limit | |
| Insurance ownership (yes) | 1.08 | 1.04 | 1.13 | <0.001 |
| Sex (male) | 0.92 | 0.88 | 0.96 | <0.001 |
| Residence (city) | 0.94 | 0.90 | 0.99 | 0.009 |
| Age (labor force 15-64 years) | 0.80 | 0.73 | 0.89 | <0.001 |
| Marital status (married) | 0.82 | 0.78 | 0.86 | <0.001 |

## DISCUSSION

### 1. The correlation between insurance ownership and self-medication

Self-medication was a treatment carried out on one's initiative without a doctor's advice. Self-medication could be a source of drug-related problem due to limited knowledge of drug and their use (Harahap, 2017). Self-medication was more often conducted at a young age and people with problems in carrying out daily activities (Dominingues et al, 2017). Women also conducted self-medication more often than men (Roig et al, 2014). The reasons often used by women to do self-medication were because they were considered self-medication not dangerous (41%), had a history of diseases (35.5%), and had medicines at home (34%) (Karimy et al, 2019). Easy access to information to pharmacies was also one of the factors causing self-medication behavior (Kassie et al, 2018).

Self-medication certainly had positive and negative effects. The positive effect was being able to carry out the earlier treatment at a more affordable and faster cost (Restiyono, 2016). However, it could cause side effects of drugs, resistance to antibiotics, and the wrong choice of drugs (Hidayati, 2018).

Drugs that were often used in self-medication behavior were anti-inflammatory drugs or painkillers by 31.1%, cough medicines by 21.6%, febrifuge by 19.3%, and antacids by 17.3% (Lee et al, 2017). Dypirone was the drug most often chosen as a painkiller in self-medication behavior (Arrais et al, 2016). According to a study conducted by Abdi (2018), 89.6% of students studying in the health sector did self-medication. The medications that were often used were cough medicines, acetaminophen, and amoxicillin. The students got information about drug use through pharmacy lectures and online sources (Abdi et al, 2018).

Insurance ownership was one of the factors causing self-medication. There were still many Indonesians who did not have health insurance, thus increasing health financing; therefore, self-medication behavior occurred (Harahap, 2017).

This was different from the result of this study. Based on the bivariate analysis,

there was a significant correlation between insurance ownership and self-medication. However, based on the multivariate analysis, insurance ownership with an odds ratio of 1.0 showed that subjects who had insurance would have a probability of 1.0 times to self-medicate compared to the subjects who did not have insurance.

In addition, a study conducted by Arimbawa (2018) showed the same result. The subjects who had insurance would increase their knowledge about the rational use od medicine in self-medication. Therefore, the number of subjects who had insurance and did self-medication increased.

## AUTHOR CONTRIBUTION

Rahmi Syuadzah as the main researcher collected the data, formulated the data, designed the study, and conducted a questionnaire reliability test. Safitri Tia Tampy and Dwiana Kartikawati examined the data and analyzed the data. Hari Wahyu Nugroho gave suggestions for discussion of the study and the writing techniques.

## CONFLICT OF INTEREST

This study did not have any conflict of interest.

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## REFERENCE

Abdi A, Faraji A, Dehghan F, Khatony A (2018). Prevalence of self medication practice among health science students in Kermanshah, Iran. BMC Pharmacol Toxicol. 19: 36. https://-dx.doi.org/10.1186%2Fs40360-018-0231-4.

Arimbawa PE (2018). Hubungan kepemilikan asuransi kesehatan dengan penggunaan obat rasional (POR) pada pasien swamedikasi. Medicamento. 4(2): 118-122.

Arrais PSD, Fernandes MEP, Pizzol TSD, Ramos LR, Mengue SS, Luiza VL, Tavares NUL, Farias MR, Oliveira MA, Bertoldi AD (2016). Prevalence of self medication in Brazil and associated factors. Rev Saude Publica. 50(2): 13s. https://doi.org/10.1590/-s1518-8787.2016050006117.

Domingues PHF, Galvão TF, de Andrade KRC, Araújo PC, Silva MT, Pereira MG (2017). Prevalence and associated factors of self medication in adults living in the Federal District, Brazil: A cross sectional, population based study. Epidemiol Serv Saude. 26(2): 319-330. https://doi.org/10.5123/s1-679-49742017000200009.

Harahap NA, Khairunnisa, Tanuwijaya J (2017). Pengetahuan pasien dan rasionalitas swamedikasi di tiga apotek Kota Panyabungan. J Sains Farm Klin. 3(2): 186-192. http://dx.-doi.org/10.29208/jsfk.2017.3.2.124.

Hidayati A, Dania H, Puspitasari MD (2018). Tingkat pengetahuan penggunaan obat bebas dan obat bebas terbatas untuk swamedikasi pada masyarakat RW 8 Morobangun Jogotirto Berbah Sleman Yogyakarta. Jurnal Ilmiah Manuntung . 3(2): 139-149. Retrieved from https://jurnal.-akfarsam.ac.id/index.php/jim_akfar-sam/article/view/120.

Karimy M, Rezaee-Momtaz M, Tavousi M, Montazeri A, Araban M (2019). Risk factors associated with self medication among women in Iran. BMC

Public Health. 19: 1033. https://doi.-org/10.1186/s12889-019-7302-3.

Kassie AD, Bifftu BB, Mekonnen HS (2018). Self medication practice and associated factors among adult household members on Meket District, Northeast Ethipia, 2017. BMC Pharmacol Toxicol. 19: 15. https://doi.org/10.11-86/s40360-018-0205-6

Kementerian Kesehatan (2013). Laporan Akuntabilitas Kinerja Kementerian Kesehatan Tahun 2013.

Lee CH, Chang FC, Hsu SD, Chi HY, Huang LJ, Yeh MK (2017). Inappropriate self medication among adolescents and its association with lower medication literacy and substance use. PLoS ONE 12(12): e0189199. https://doi.org/10.-1371/journal.pone.0189199.

Restiyono A (2016). Analisis faktor yang berpengaruh dalam swamedikasi antibiotik pada ibu rumah tangga di kelurahan Kajen Kabupaten Pekalongan. Jurnal Promosi Kesehatan Indonesia. 11(1): 14-27. https://doi.-org/10.14710/jpki.11.1.14-27.

Jerez-Roig J, Medeiros LFB, Silva VAB, Bezerra CLPAM, Cavalcante LAR, Piuvezam G, Souza DLB (2014). Prevalence of self medication and associated factors in an elderly population: A systemic review. Drugs Aging. 31(12): 883-96 https://doi.-org/10.1007/s40266-014-0217-x.

Dewan Jaminan Sosial Nasional (2017). Kaleidoskop penyelenggaraan jaminan sosial tahun 2017. Retrieved from https://djsn.go.id/storage/app/uploads/public/5a4/472/9d9/5a44729d9289c218224415.pdf.