Original Research

Socioeconomic Disparities in Hospital Utilization Among Female Workers in Indonesia: A Cross-Sectional Study

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Abstract

Background: The study aims to analyze the relationship between socioeconomic and hospital utilization among female workers in Indonesia. **Methods:** The study analyzed secondary data from the 2018 Indonesian Basic Health Survey. The study gathered 161 186 female workers through stratification and multistage random sampling. As control factors, the study looked at age, marital status, education, occupation, and health insurance, in addition to the categories of socioeconomic and hospital utilization. The study used binary logistic regression to evaluate the data in the final step. **Results:** The result shows female workers with poorer wealth status are 1.142 times more likely than the most impoverished female workers to utilize the hospital (AOR 1.142; 95% CI 1.135-1.148). Female workers with median wealth status are 1.509 times more likely than the poorest female workers to take advantage of the hospital (AOR 1.509; 95% CI 1.501-1.517). Female workers with wealthier wealth status are 1.808 times more likely than the poorest female workers to use the hospital (AOR 1.808; 95% CI 1.799-1.817). The wealthiest female workers are 2.399 times more likely than the poorest female workers to utilize the hospital (2.399; 95% CI 2.387-2.411). **Conclusion:** The study concluded a relationship between socioeconomic status and hospital utilization among female workers in Indonesia. The better the socioeconomic, the better the hospital utilization.

Keywords

hospital utilization, female worker, healthcare access, healthcare evaluation, public health

Introduction

The hospital is a healthcare facility that provides personal health care services such as inpatient, outpatient, and emergency services.[1] Hospitals act as the referral or the last gateway for health care service, and patients who cannot be treated in primary health care will be referred to the hospital. Therefore, hospitals need to maintain their quality services to respond to population health needs. Hospital is an essential element in Universal Health Care (UHC) and also a critical factor to reach the Sustainable Development Goals (SDGs).[2]

Research by Tzeng et al[3] related to the desire for health care utilization found that living areas (urban or rural community), age group, and marital status showed significant associations with their passions to create health care plans. Other research in people aged 60 years or older in China also indicates that literacy level, rural residence, social support, intergenerational relationship, and negative perceptions of

aging were the significant factors that affect hospital utilization.[4] Many things cause disparities in health care access; access and race, ethnic, cultural differences, lifestyle choices, age, sexual orientation, environmental characteristics, and socioeconomic factors.[5]

Several studies support the issue related to hospital utilization disparities. Research in China showed differences in

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hospital utilization between rural and urban residents. Meanwhile, rural residents tend to underutilize health care compared to urban residents, and it showed that socioeconomic factors affect healthcare utilization.[6] The difference in hospital utilization between urban and rural areas has often been linked with the shortage of fairness and medical opportunities. Hospitals in rural areas tend to have more limited facilities than hospitals in urban areas, and hospital utilization in urban areas is higher than in rural areas. This situation relates to the patient's demand, including the patient's medical choice.[7] Moreover, previous research in Indonesia stated that adults living in urban areas were likely to use hospital outpatient facilities 1.246 higher than adults living in rural areas.[8]

The policymaker needs to ensure that everyone has access to high-quality health care and the best possible health outcomes.[9] The policymakers need to be consistent with the public policy related to access to the health care facility, health service quality, and health insurance to reduce barriers to health care facilities between communities and reduce the hospital utilization disparities. Narrowing the health care disparities is the key to improving the nation's overall health status.[10]

Research by Asian Development Bank indicates that highly educated young women are gaining access to well-paid, meaningful work, while women in low-income families are becoming less likely to be involved in unappealing informal and underpaid work. Most married women tend to enter the labor market after their children are older, and the social norms emphasizing "good mothers stay home with their children" caused the condition.[11]

Female workers, especially those already married and have children, automatically bear the double burden, employment and family issues. This double burden can affect the female worker both positively and negatively. If their job could support the family stability, this would positively affect and call as a change in the functional structure of the family environment, and vice versa.[12] There were significant differences between men's and women's roles in the family; women's roles were mainly as mothers at the center of the home. This belief still has a powerful influence in many areas in Indonesia until today.[11] The patriarchal views, which stated that women did not have the right to lead the family and said that women have to obey the men in the family, assigned with the domestic work, make the women more vulnerable in the family.[13] This belief makes women in the families unable to make their own decisions and agrees with the men in the family decision. Studies discussing hospital utilization among female workers are still scarce, especially those discussing socioeconomic disparities. The topic is the novelty of this study. Based on the research background, the study aims to analyze the relationship between socioeconomic and hospital utilization among female workers in Indonesia. This study information is vital

for policymakers in Indonesia, and the study results can provide input for specific targets for policymakers to expand the reach of National Health Insurance. The government initiated the National Health Insurance to increase public access to healthcare, so the study targeted expanding hospital utilization among female workers.

Materials and Methods

Study Design

The study was a cross-sectional study that used secondary data from the 2018 Indonesian Basic Health Survey. Meanwhile, the Ministry of Health of the Republic of Indonesia conducted the 2018 Indonesian Basic Health Survey as a national-scale survey. The study population consisted of all female workers (aged 15 and up) in Indonesia. Furthermore, the 2018 Indonesian Basic Health Survey used stratification and multistage random sampling to describe a weighted sample of 161 186 female workers.

Outcome Variable

The study's outcome variable was hospital utilization—female workers' access to hospitals, whether outpatient or inpatient, constituted hospital utilization. Outpatient hospitalizations were limited to the previous month, whereas the survey limited inpatient hospitalizations with the year earlier. The survey asked respondents to recall outpatient and inpatient episodes correctly.[14]

Exposure Variable

The study employed socioeconomic as an exposure variable. The survey employed the wealth index formula survey to identify socioeconomic status in the study. The wealth index was derived using a weighted average of a family's total spending in the survey. Meanwhile, the survey calculated the wealth index using primary household expenditures like health insurance, food, and accommodation, among other things. Furthermore, the study classified socioeconomic status into 5 categories: poorest, poorer, middle, wealthier, and most prosperous.[15]

Control Variables

The study used 6 elements as control variables as part of those variables. The 6 criteria were the type of residence, age, married status, education level, work type, and health insurance ownership.

The survey divided residency into 2 categories: urban and rural. Furthermore, the survey conducts it using the requirements of the Indonesian Central Statistics Agency for urban-rural categorization.

The research calculated the age based on the respondent's most recent birthday. On the other hand, the survey split gender into 2 categories: male and female. The survey also divided marital status into 3 categories: never married, married/living with a partner, and divorced/widowed. The study defined respondents' education as their acceptance of their most recent diploma. In the study, there are 4 levels of education: none, primary, secondary, and higher education.

Meanwhile, there are 6 jobs: civil servant/army/police, private sector, entrepreneur, farmer/fisherman/labor, and others. Furthermore, the poll categorizes health insurance ownership into 4 categories: uninsured, government-run insurance, private-run insurance, and government-run and private-run insurance.

Data Analysis

The study used the Chi-Square test in the early phases of the sample to compare the dichotomous variable. At the same time, the study utilized a *T*-test for the continuous variable in the study (age). In addition, a collinearity test was used in the study to check that the independent variables in the final regression model did not have a strong relationship. The study employed a binary logistic regression in the analysis in the last point. The current study used this previous test to explore the multivariate connection between all independent variables and hospital utilization in the survey. Throughout the statistical analysis portion of the project, the study used IBM SPSS 22 application.

Results

The analysis results found that the proportion of female workers who used hospitals in Indonesia in 2018 was 5.8%. Meanwhile, Table 1 shows descriptive statistics of female workers in Indonesia.

Table 1 shows female workers who are unutilized hospital leads in all socioeconomic statuses. Regarding the type of residence, female workers living in rural areas occupy all socioeconomic classes, except in richer and the richest categories. Moreover, the poorest female workers have an average age older than other wealth status categories.

According to marital status, female workers who are married or living with a partner occupy all socioeconomic groups. On the other hand, female workers with primary education lead in all socioeconomic categories, except the richest, mainly female workers with higher education.

Based on work type, work type in farmer/fisherman/labor represented in all categories of socioeconomic status, except for the wealthiest category, which the entrepreneur dominates. Furthermore, based on health insurance ownership, female workers with government-run insurance in extraordinary measures in all socioeconomic classes.

Table 2 indicates the collinearity test results of hospital utilization among female workers in Indonesia. The study results show no strong relationship between the independent variables. Table 2 shows that the tolerance value for all variables is more significant than 0.10, and the variance inflation factor (VIF) value for all factors is less than 10.00. The study found no evidence of multicollinearity in the regression model, indicating the test's decision-making foundation.

Table 3 shows the binary logistic regression of hospital utilization in Indonesia. The analysis in this final stage uses "hospital unutilized" as a reference.

Table 3 indicates that female workers with poorer wealth status are 1.142 times more likely than the most impoverished female workers to utilize the hospital (AOR 1.142; 95% CI 1.135-1.148). Female workers with median wealth status are 1.509 times more likely than the poorest female workers to take advantage of the hospital (AOR 1.509; 95% CI 1.501-1.517). Female workers with wealthier wealth status are 1.808 times more likely than the poorest female workers to use the hospital (AOR 1.808; 95% CI 1.799-1.817). Moreover, the wealthiest female workers are 2.399 times more likely than the poorest female workers to utilize the hospital (2.399; 95% CI 2.387-2.411).

The analysis results inform that socioeconomic influence hospital utilization among female workers in Indonesia. The better the wealth status, the better the hospital utilization among female workers in Indonesia.

On the other side, the study found 6 control variables correlated with hospital care utilization among female workers in Indonesia. The 6 were the type of residence, age, marital status, education level, work type, and health insurance ownership.

Discussion

The study found socioeconomic to have a significant relationship with hospital utilization among female workers in Indonesia. Socioeconomic factors can affect countries and individuals. This situation is related to the availability of health care facilities and the ability of the community to access health services.[16-18] Meanwhile, during the COVID-19 pandemic, the economy dropped from a middle-income countries to low middle-income countries.[19] People with better economic groups can get better health services than people in low economic groups.[20] Socioeconomic factors will influence the decision-making and individual behavior to obtain good health services.[21] Several studies have shown that countries with low economic capacity will affect individuals to pay for health services.[22,23] Moreover, coupled with the increasingly expensive cost of health services, the community cannot access health services.

In addition to socioeconomic, the study also informs that residence type is also related to hospital utilization among

Table 1. Descriptive Statistic of Female Workers in Indonesia (n = 161 186).

Characteristics	Socioeconomic					P-value
	Poorest (n = 29 286)	Poorer (n = 30 282)	Middle (n = 30 975)	Richer (n = 33 180)	Richest (n = 37 463)	
Hospital utilization*						
Unutilized	96.9%	96.3%	95.1%	93.8%	90.4%	<.001
Utilized	3.1%	3.7%	4.9%	6.2%	9.6%	
The type of residence*						
Urban	33.6%	42.8%	47.6%	50.1%	75.9%	<.001
Rural	66.4%	57.2%	52.4%	49.9%	24.1%	
Age (mean)**	(43.46)	(42.05)	(41.34)	(40.88)	(40.03)	<.001
Marital status*						
Never in union	7.6%	9.0%	10.7%	11.3%	15.0%	<.001
Married/Living with a partner	78.5%	78.2%	77.2%	76.8%	74.0%	
Divorced/Widowed	14.0%	12.8%	12.1%	11.9%	10.9%	
Education level*						
No education	13.5%	9.6%	7.7%	5.9%	2.9%	<.001
Primary	70.5%	67.1%	60.6%	53.2%	31.2%	
Secondary	13.6%	18.8%	23.9%	27.5%	32.1%	
Higher	2.4%	4.5%	7.8%	13.5%	33.7%	
Work type*						
Civil servant/army/police	0.4%	1.0%	2.2%	4.6%	14.5%	<.001
Private sector	5.9%	9.2%	13.1%	17.5%	27.1%	
Entrepreneur	14.7%	21.0%	24.6%	26.6%	28.8%	
Farmer/fisherman/labor	65.7%	54.5%	44.8%	35.8%	16.7%	
Others	13.3%	14.4%	15.3%	15.5%	12.9%	
Health insurance*						
Uninsured	35.1%	34.8%	34.4%	32.3%	22.8%	<.001
Government-run insurance	64.1%	63.6%	62.7%	63.6%	66.6%	
Private-run insurance	0.6%	1.1%	2.3%	3.1%	7.6%	
Government-run and Private-run insurance	0.2%	0.4%	0.5%	0.9%	3.0%	

*Chi-square test. **T-test.

Table 2. Results for the Collinearity Test of Hospital Utilization Among Female Workers in Indonesia in 2018 (n = 161 186).

Variables	Collinearity statistics	
	Tolerance	VIF
Wealth status	0.797	1.255
Type of residence	0.857	1.167
Age	0.671	1.490
Marital status	0.719	1.391
Education level	0.616	1.622
Work type	0.741	1.350
Health insurance	0.945	1.058

*Dependent variable: Hospital utilization.

female workers in Indonesia. Urban and rural disparities in access and use of health facilities can be demonstrated by people living in urban areas when they feel uncomfortable or sick; they will immediately visit health care facilities compared to people living in rural areas.[8,24] An essential factor is that urban areas have better health service facilities and better transportation alternatives than rural areas.[25-27] The situation follows a study conducted by O'Sullivan et al[28] which said that rural communities were at higher risk than urban communities in terms of access and infrastructure for health services.

The research indicates 4 demographic characteristics are also associated with hospital utilization among female workers in Indonesia. The 6 characteristics are age, marital status, education level, and employment status. The factors of age, marital status, education level, and work type will impact decision-making and financial capacity in determining access to health facilities. The better age and level of education will determine the individual's knowledge of the condition of illness and immediately deciding to get treatment in health services.[29-32] Marital status determines support from family to strengthen better decision making compared to unmarried.[33,34] Meanwhile, several studies have found that age, financial capability, education level determine the use of health facilities.[22,35,36]

Table 3. The Result of Multinomial Logistic Regression of Hospital Utilization Among Female Workers in Indonesia in 2018 (n = 161 186).

| | Hospital Utilized | | | |
| | | | 95% CI | |
Predictor	*P*-value	AOR	Lower Bound	Upper Bound
Wealth: Poorest	—	—	—	—
Wealth: Poorer	<.001	1.142	1.135	1.148
Wealth: Middle	<.001	1.509	1.501	1.517
Wealth: Richer	<.001	1.808	1.799	1.817
Wealth: Richest	<.001	2.399	2.387	2.411
Residence: Urban	<.001	1.194	1.190	1.197
Residence: Rural	—	—	—	—
Age	<.001	1.005	1.005	1.006
Marital: Never in union	—	—	—	—
Marital: Married/Living with partner	<.001	2.333	2.320	2.347
Marital: Divorced/Widowed	<.001	2.066	2.051	2.081
Education: No Education	—	—	—	—
Education: Primary	<.001	1.076	1.069	1.082
Education: Secondary	<.001	1.172	1.164	1.180
Education: Higher	<.001	1.391	1.381	1.401
Work: civil servant/army/police	—	—	—	—
Work: private sector	<.001	1.171	1.165	1.178
Work: entrepreneur	<.001	1.226	1.218	1.233
Work: farmer/fisherman/labor	<.001	0.983	0.977	0.989
Work: others	<.001	1.438	1.430	1.447
Insurance: Uninsured	—	—	—	—
Insurance: Government-run	<.001	2.866	2.855	2.877
Insurance: Private-run	<.001	3.123	3.102	3.144
Insurance: Government-run and Private-run	<.001	5.699	5.651	5.747

Abbreviations: OR: odds ratio; CI: confidence interval.

Moreover, work type is related to financial ability to access health services.[20,37] Informal job types such as farmer/fisherman/labor have the most negligible probability of hospital utilization among female workers in Indonesia. The likelihood of hospital utilization based on work type starting from the smallest was farmer/fisherman/labor, civil servant/army/police, private sector, entrepreneur, and others.

Furthermore, the study result informs health insurance ownership is also related to hospital utilization among female workers in Indonesia. Ownership of health insurance is linear with the use of health care facilities for working women in Indonesia. People who have health insurance cards desire to get health service facilities if they are physically sick because they have the facilities to access them.[38,39] In addition, individuals who have legal health insurance will get the certainty of reasonable care under their guarantees. Health care facilities that refuse will be subject to legal sanctions from the government.[40,41] In addition to that, several studies state that health insurance will increase the coverage of health services and improve the community's health status.[23,38,42,43]

Strength and Limitation

The study examines a large amount of data to depict information on a national scale. On the other hand, the study analyzes secondary data; thus, the study limited the variables investigated to accepted variables. Several other variables associated with hospital utilization identified in previous studies, such as travel time, travel cost to the hospital, and disease type, cannot be investigated.[16,18,44]

Conclusion

The study concluded a relationship between socioeconomic status and hospital utilization among female workers in Indonesia based on the results. The better the socioeconomic, the better the hospital utilization among female workers.

Acknowledgments

Declaration of Conflicting Interests

Funding

Ethical Approval

The National Ethics Committee approved The 2018 Indonesian Basic Health Survey (LB.02.01/2/KE.024/2018). The survey removed the identity of all respondents from the dataset. Respondents have provided written approval for their involvement in the study. The author has obtained permission to use data for this study through the website: https://www.litbang.kemkes.go.id/layanan-permintaan-data-riset/.

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