

Health Insurance Membership Among Parous Women in Indonesia: Are There Rural/Urban Differences?

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ABSTRACT

With the relatively high maternal mortality and morbidity in Indonesia, reproductive women become the main target for universal health coverage (UHC). Particularly, to increase insurance membership and maternal healthcare utilization. In Indonesia, the sociodemographic diversities signifies the importance of understanding the insurance membership barriers within different areas. This paper aims to assess differences in health insurance membership between rural and urban areas in Indonesia.

We used the Indonesian Demographic Health Survey (IDHS) 2012 data, a cross-sectional nationally representative survey. We included data from 12,692 women who completed the insurance membership questionnaire and gave births during five years of the survey. Weighted Chi-Square and mixed effects logistic regression were conducted to assess differences of insurance membership by sociodemographic factors in rural and/or urban areas of Indonesia.

We found that there were differences in health insurance membership between rural and urban women. Urban women had a significantly higher proportion (42.0%) of membership compared to rural women (31.9%). There was a larger economic disparity in urban areas with a J-shape curve. Women of lowest and highest family wealth have a higher proportion of insurance membership compared to women in the middle wealth groups. Although significant, this economic disparity was less drastic in rural areas. Women who were older, have more parity, of lower socioeconomic status (SES). In general, women with higher education level were more likely to have insurance membership.

In conclusion, health insurance membership was different between rural and urban women. Although we observed similar sociodemographic determinants of health insurance membership, there were differences in the disparity and effect of these determinants on health insurance membership. Further work should focus on developing the more effective and specific intervention to achieve UHC in rural and urban areas of Indonesia.

Keywords: health insurance, maternal health, rural-urban disparity

1. Introduction

The financial barrier has been shown to be a significant barrier for healthcare utilization, including during maternal period. Health insurance membership is an important strategy in improving access to healthcare (Comfort, Peterson, & Hatt, 2013; Khan & Singh, 2016). With the high maternal mortality and morbidity in Indonesia, the government implemented several programs to improve healthcare utilization (D'Ambruoso et al., 2009; Hill,

Goeman, Sofiarini, & Djara, 2014; Shefner-Rogers & Sood, 2004).

To reduce financial barrier in healthcare, Indonesian government implemented social health insurance (SHI) policy in 2004 targeting poor community, including poor women in rural areas (Sparrow, Suryahadi, & Widyanti, 2013). However, previous studies have reported persistent differences in maternal healthcare utilization between rural and urban areas in Indonesia (Ansariadi & Manderson, 2015; Titaley, Dibley, & Roberts, 2009; Widyaningsih, Khotijah, & Balgis, 2017). Additionally, there were also

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differences in insurance membership by areas of residence (Murti & Widyaningsih, 2016; Statistics Indonesia (Badan Pusat Statistik—BPS), National Population and Family Planning Board (BKKBN), Ministry of Health (MOH) - Kementerian Kesehatan, & ICF International, 2013). Therefore, it is important to assess differences in health insurance membership between women in the rural and urban area. Particularly, to provide effective and relevant policy and program recommendations to improve access and reduce the barrier for maternal healthcare utilization in Indonesia.

2. Methods

We used Indonesian Demographic and Health Survey (IDHS) 2012 for our analyses. IDHS included data from all provinces in Indonesia. For our study, we included women with at least one live birth between 2007-2012 who had complete data ($n = 12,685$). Data on health insurance membership and sociodemographic determinants were obtained from the interview-based questionnaire.

All statistical analyses were conducted in the Statistical Analysis System (SAS) software version 9.4 (Statistical Analysis Software Institute Inc, 2013) and were weighted to

take account the IDHS sampling scheme. We used Chi-square to assess the differences in the proportion of insurance membership by different sociodemographic characteristics. We used multilevel mixed-effects logistic regression to evaluate the relationship between different sociodemographic variables with health insurance membership. Our individual level variables included age, parity, family wealth, maternal education and knowledge on maternal complications. We use the region as our community level variable. The region was classified into three different categories based on their development: Java-Bali, more developed other islands, and less developed other islands.

3. Results

We analyzed data from a total of 12,685 women, with 52.8% lived. There were significant sociodemographic differences between women in rural and urban areas. Women in urban areas were relatively older, had less parity, and better socioeconomic status compared to rural women. There was also a significant difference in insurance membership, in which more urban women (42.1%) had health insurance compared to rural women (31.9%).

Table 1. Weighted Proportion of women's socio-demographic characteristics

Characteristics (weighted %, SD)	IDHS 2012		
	Urban	Rural	Total
Total Number of women	6389	6296	12685
Weighted number of women	6834 (52.8)	6101 (47.2)	12935
Age (years)*			
< 20	2.2 (0.8)	4.3 (0.4)	3.2 (0.2)
20-35	75.0 (0.8)	75.1 (0.8)	75.0 (0.6)
> 35	22.8 (0.8)	20.6 (0.7)	21.8 (0.5)
Parity*			
1	37.4 (0.9)	39.2 (0.9)	38.2 (0.6)
2	34.7 (0.9)	31.1 (0.8)	33.0 (0.6)
>2	27.9 (0.8)	29.7 (0.8)	28.7 (0.6)
Wealth*			
Poorest	5.6 (0.4)	28.7 (0.7)	16.5 (0.4)
Poorer	13.2 (0.6)	26.6 (0.8)	19.5 (0.5)
Middle	20.5 (0.7)	20.3 (0.7)	20.4 (0.5)
Richer	28.9 (0.8)	16.0 (0.7)	22.8 (0.6)
Richest	31.9 (0.9)	8.3 (0.5)	20.8 (0.5)
Education*			
Primary school or lower	21.5 (0.8)	41.1 (0.9)	30.8 (0.6)
Secondary school	60.5 (0.9)	51.6 (0.9)	56.3 (0.6)
College and higher	17.9 (0.7)	7.3 (0.4)	12.9 (0.4)
Region*			
Java Bali	69.6 (0.7)	46.9 (0.9)	58.9 (0.6)
Other islands-more developed	20.3 (0.5)	35.8 (0.8)	27.6 (0.5)
Other islands-less developed	10.1 (0.3)	17.3 (0.5)	13.5 (0.3)
Insurance Membership*			
Yes	42.1 (0.9)	31.9 (0.8)	37.3 (0.6)
No	57.9 (0.9)	68.1 (0.8)	62.7 (0.6)

*Comparisons for differences urban and rural areas were significant at $p < 0.05$

When looking within the rural and urban community, there were differences of insurance membership by sociodemographic characteristics (Figure 1 and Table 2). Both in rural and urban areas, insurance membership increased with age (Figure 1a). However, there were notifiable differences between rural and urban women in each stratum of age, with urban women areas had a higher proportion of insurance membership compared to women in rural areas (Table 2).

There were also significant differences by wealth with J-shaped curve both in the rural and urban community. Women from the richest and poorest families had the highest proportion of insurance membership (Figure 1b). There was a slightly higher disparity in an urban area, with almost 15% difference of insurance membership between women from the richest (50.7%) and middle families (35.9%). Whereas the difference in rural areas was smaller with 35.5% women of the richest families and 26.3% women in the poorer groups were covered.

A larger disparity was observed by education level. The proportion of insurance membership among women with a college degree or higher was almost twice the membership of women with lesser education level (Figure 1c and Table 2). Interestingly, both in rural and urban areas women who lived in the less developed island had the highest proportion

of insurance membership compared to women who lived in Java-Bali or other more developed islands (Figure 1d).

Table 2 showed mixed-effect logistic regression which assesses the association between sociodemographic factors and health insurance membership within the rural and urban community. In the urban community, level of education shown to be the strongest predictor for insurance membership. Women with college or higher education were more likely to have insurance compared to women with elementary or lower education (OR 3.7, 95% CI 3.1-4.5). Parity and older age also showed to have a significant association with insurance membership.

After controlling for other SES factors, women from richer families were less likely to have insurance membership compared to women in the poorest group. Interestingly, the geographic location had no significant association with insurance membership both in rural and urban areas. Similar patterns were also seen in rural areas. However, there was a slightly less strong association between socioeconomic factors with insurance membership. For the level of education, the OR were 3.2 with 95% CI 2.5-4.0 comparing women with college or higher education with women with elementary or lower education level.

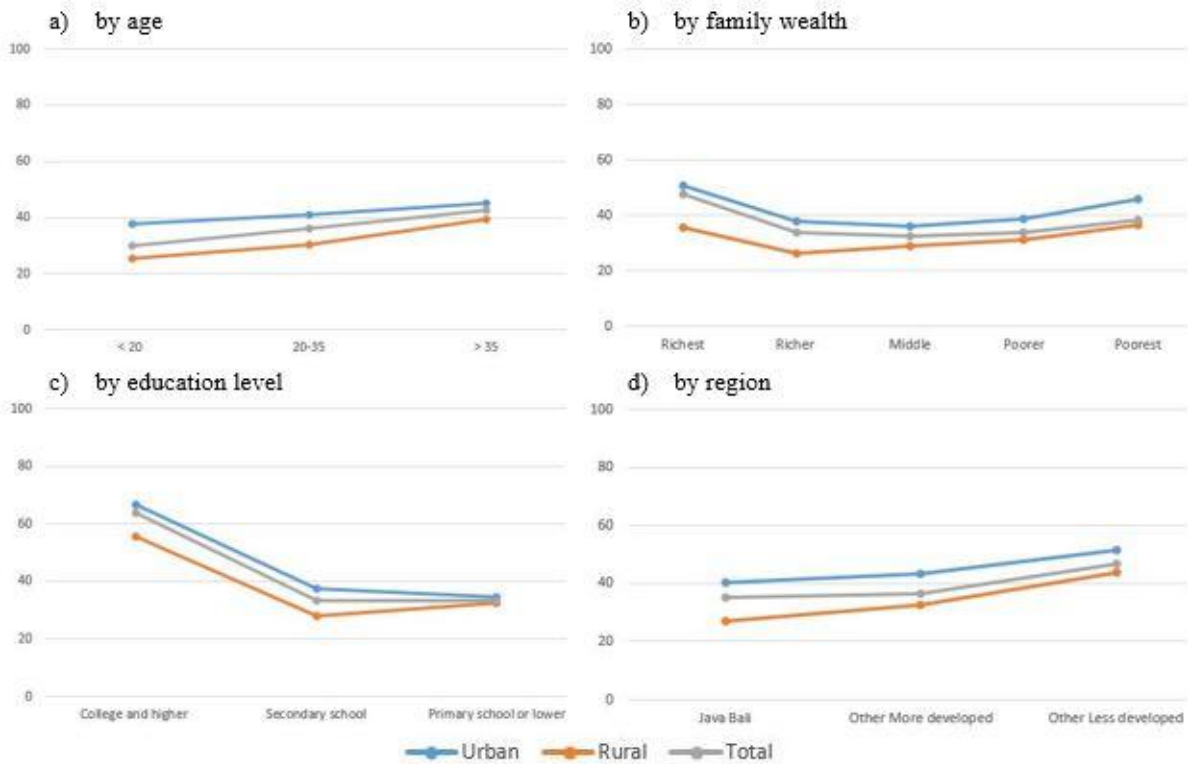


Figure 1. Weighted proportions of health insurance membership by socio-demographic characteristics

Table 2. Weighted Proportion and Multilevel Logistics Regression of health insurance membership, IDHS 2012

Socio-demographics Determinants	Urban			Rural		
	n	weighted % (SD)	AOR (95%CI)	n	weighted % (SD)	AOR (95%CI)
Total Women	6389	42.1 (0.9)		6296	31.9 (0.8)	
Age (years)						
< 20	149	37.9 (6.1)	1.1 (0.8-1.6)	274	25.3 (3.6)	0.9 (0.7-1.3)
20-35	4783	41.2 (1.0)	Ref	4754	30.2 (0.9)	Ref
> 35	1457	45.3 (1.9)	1.2 (1.0-1.4)	1268	39.2 (1.9)	1.3 (1.1-1.6)
Parity						
1	2275	39.0 (1.5)	Ref	2286	27.7 (1.3)	Ref
2	2114	46.0 (1.6)	1.3 (1.2-1.5)	1864	31.5 (1.5)	1.2 (1.0-1.4)
>2	2000	41.3 (1.6)	1.1 (1.0-1.3)	2146	37.8 (1.4)	1.2 (1.0-1.5)
Wealth						
Richest	1781	50.7 (1.7)	0.8 (0.6-1.1)	423	35.5 (3.2)	0.8 (0.7-1.1)
Richer	1677	37.9 (1.7)	0.6 (0.5-0.8)	810	26.3 (2.0)	0.7 (0.6-0.8)
Middle	1346	35.9 (1.9)	0.6 (0.5-0.8)	1180	28.9 (1.8)	0.8 (0.7-1.0)
Poorer	1041	38.5 (2.2)	0.7 (0.6-0.9)	1622	31.2 (1.6)	0.9 (0.8-1.1)
Poorest	544	45.7 (3.3)	Ref	2261	36.5 (1.4)	Ref
Education						
College and higher	1281	66.6 (2.0)	3.7 (3.1-4.5)	552	55.7 (3.2)	3.2 (2.5-4.0)
Secondary school	3943	37.4 (1.1)	1.2 (1.0-1.3)	3284	28.1 (1.0)	1.0 (0.8-1.1)
Primary school or lower	1165	34.7 (2.0)	Ref	2460	32.4 (1.3)	Ref
Region						
Java Bali	2502	40.4 (1.2)	0.7 (0.5-1.1)	1226	26.9 (1.5)	0.6 (0.3-1.1)
Other More developed	2162	43.3 (1.2)	0.9 (0.6-1.3)	2908	32.5 (0.9)	0.6 (0.4-1.0)
Other Less developed	1725	51.4 (1.3)	Ref	2162	43.8 (1.2)	Ref

* *Bolded numbers showed significant differences in proportion within urban or rural community or significant results in mixed-effect logistic regression ($p < 0.05$)*

4. Discussion

Our results showed different proportion of insurance membership in rural and urban areas. Furthermore, there were socioeconomic and demographic disparities within rural and urban community. With the relatively slow progress of maternal mortality reduction in Indonesia (Alkema et al., 2016), healthcare utilization during maternal period become an important target in maternal health. Particularly, with the underutilization of safe delivery and postnatal care in rural and remote areas (Ansariadi & Manderson, 2015; Scott, Chowdhury, Pambudi, Qomariyah, & Ronsmans, 2013).

Previous studies have reported the importance of insurance membership in improving healthcare utilization (Brooks et al., 2017; Wang, Temsah, & Mallick, 2016). However, we have shown in our analyses the presence of disparities within rural and urban areas. Despite the higher proportion of membership in urban areas, there was slightly more pronounced disparities, specifically by socioeconomic status. Therefore, specific intervention to increase insurance coverage for susceptible population in this areas will be important. For example, the continuation of social health insurance policy that started in 2004.

5. Conclusions

This study showed the differences in insurance membership not only between rural and urban areas, but also by sociodemographic factors within rural and urban areas. Different approach is needed to improve insurance membership in rural and urban areas, with a more specific methods targeting low SES women in urban areas, and population-wide strategies in rural areas to improve insurance awareness.

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