

## **AWARENESS AND ACCEPTANCE ON HEALTH INSURANCE, AND WILLINGNESS TO PAY: A COMMUNITY BASED STUDY IN MYANMAR**

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### **ABSTRACT**

Most health care spending in Myanmar is borne by means of out-of-pocket payment (OOP). A national health insurance scheme has not yet been established. This cross-sectional study explored the awareness and acceptance of community related to health insurance, and their willingness to pay during February and March, 2014. Multi-stage random sampling procedure was used to recruit 1,346 household heads from 27 townships. As might be expected, the awareness of health insurance was low (8.4%; 95% CI = 7.0%, 10.0%). But following thorough explanation, the acceptance towards health insurance scheme was high (78.5%; 95% CI = 76.2%, 80.7%). The challenges towards the acceptance included as being poor (42.3%), thought as unnecessary (17.5%) and good health (12.2%). Significant determinants for the acceptance of community on health insurance were level of awareness, education, family size and urban/rural residence. The average annual value of willingness to pay (WTP) per person was 19,767 kyats (approximately 20 US\$). People who were aware of health insurance, those with higher income, those with higher education status, those with smaller family size, those without experience of hospitalization, males and rural dwellers stated higher WTP values than their counterparts. This study pointed out that in line with the readiness of the community members, establishment of a national health insurance scheme should be considered and the awareness on its benefits requires improvement to ensure the success and sustainability of this scheme. The premium for health insurance should be adjusted for income.

Key words: Health insurance, willingness, pay

### **INTRODUCTION**

Healthcare in many low-income Asian countries is financed by out-of-pocket (OOP) payment.<sup>1</sup> This results in financial catastrophe and may even cause an impoverishment.<sup>2-</sup>  
<sup>3</sup> Every year, about 25 million households or more than 100 million individuals, throughout the world are pushed into poverty by this kind of payment.<sup>4</sup> Therefore, it is

important to change from OOP payment for healthcare to prepayment mechanism in order to reduce the financial catastrophe.<sup>2</sup> Besides, this OOP payment can jeopardize an equitable health system in developing countries.<sup>5 - 7</sup> The World Health Organization (WHO) urges member countries to strive to achieve the universal healthcare coverage through prepayment and risk pooling mechanisms as a solution for these conditions.<sup>8 - 9</sup> There is also strong evidence that universal healthcare coverage reduces the catastrophic health care payment and poverty caused by it.<sup>10 - 11</sup> Willingness to pay (WTP) is defined as the maximum amount of money that may be contributed by an individual to equalize a utility change.<sup>12</sup> It simply means an individuals' own personal willingness to pay out-of-pocket. WTP is important because consumer's response to price is going to influence the consumption of services provided and revenues collected.<sup>13</sup> Giuffrida and Torgerson<sup>14</sup> also reported that the utilization of healthcare is generally sensitive to price. In Myanmar 80% to 90% of healthcare expenditure is borne by healthcare-seekers through OOP payment.<sup>15 - 16</sup> In such a situation prepayment mechanism or health insurance is a preferable mechanism for health care financing of the individuals.<sup>17</sup> However, a national health insurance scheme has not been established yet. There has been no similar study conducted in Myanmar to date. Therefore, this study was conducted to determine community's awareness and acceptance on health insurance, and willingness to pay for it.

## **MATERIALS AND METHOD**

The design of this study was cross-sectional. Altogether 1,346 household heads from 27 townships were recruited through multi-stage random sampling procedure. Five regions and one state were selected randomly at the first stage. Townships were randomly selected next. Then households were selected using systematic random sampling. Finally, heads of the selected households were recruited into the study. After getting written informed consent, face-to-face interview was undertaken to collect the data. The contingent valuation method (CVM) using a bidding game approach was applied to elicit WTP in this study. There are various approaches in CVM, such as bidding game, payment card, open-ended and dichotomous choice (i.e. take-it-or-leave-it). Among them bidding game approach is most widely used and more reliable than others.<sup>18-20</sup> WTP was defined as household heads' own personal willingness to pay out-of-pocket. The starting amount used in the bidding game was 15,000 kyats (approximately equal to 15 US\$) per person per annum. It was derived from interviews with health economists who are knowledgeable about healthcare financing in Myanmar. If the respondent agreed to this, the amount was increased to 1,000 kyats at a time until he/she said "no". Then maximum amount the respondent agreed to pay was noted as his/her WTP. If the respondent did not agree to the starting price, the amount was reduced to 1,000 kyats at a time until he/she said "yes". Then this was taken as his/her WTP. A scenario about health insurance was provided, and its concept and attributes were also explained to the respondents before starting the bidding game. In assessing the determinants of acceptance on health insurance multiple logistic regression with step-wise procedure was applied using STATA version 11 software.

## RESULTS

A total of 1,346 household heads from 27 townships (tsp) were included in the present study. These were from Shan State (4 tsp, 200 participants), Sagaing Region (4 tsp, 200 participants), Magway Region (4 tsp, 200 participants), Bago Region (4 tsp, 200 participants), Ayeyarwaddy Region (4 tsp, 198 participants) and Mandalay Region (7 tsp, 348 participants). According to their residence, 681 (50.6%) and 665 (49.4%) subjects were from rural and urban areas, respectively. Socio-demographic characteristics and economic status of the participants are presented in Table 1.

Table 1. Socio-demographic characteristics and economic status of the participants.

Variables	Frequency	Percent
Age-group (years)		
18 – 44	633	47.0
45 – 59	484	36.0
60 – 85	229	17.0
Mean (sd) & Median (Range) age = 45.6 (15.1) and 45 (18, 85)		
Sex		
Female	823	61.1
Male	523	38.9
Occupation		
Present	1022	75.9
Dependent	324	24.1
Education		
No formal education	128	9.5
Primary school	379	28.2
Middle school	306	22.7
High school	334	24.8
University & Graduates	199	14.8
Income (in Kyats)		
Insufficient for expenditure	320	23.8
Just enough	265	19.7
More than enough	761	56.5
Mean (sd) & Median (Range) annual income(*1000) = 1858.5 (1998.7) and 1200 (48, 36000)		
Size of family		
1 – 5	941	69.9
> 5	405	30.1
Mean (sd) & Median (Range) = 5 (2) and 5 (1, 16)		

Although 8.4% had initial awareness, after thorough explanation of its nature and concept most respondents (78.5%) were willing to accept health insurance (Table 2).

Table 2. Awareness and acceptance of community on health insurance.

Variables	Frequency (%)		95 % CI
Awareness			
Present	113	8.4%	7.0%, 10.0%
Absent	1233	91.6%	
Acceptance			
Yes	1057	78.5%	76.2%, 80.7%
No	289	21.2%	

The main reasons of unwilling to accept reported by the participants were being poor (42.3%), thought as unnecessary (17.5%) and possession of good health (12.2%). Based on results of univariate analysis, place of residence, age, sex, education, size & annual income of the household, and awareness were considered as candidate variables for multivariate analysis to determine the factors influencing the acceptance on health insurance. Table 3 shows the results of univariate and multivariate analyses.

Table 3. The results of univariate and multivariate analyses.

Variables	Univariate		Multivariate	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Residence				
Urban	1.00		1.00	
Rural	1.17 (0.90, 1.52)	0.229	1.44 (1.09, 1.91)	0.011
Age*	0.99 (0.98, 1.00)	0.021		
Sex*				
Male	1.00			
Female	1.17 (0.89, 1.53)	0.267		
Education				
No formal	1.00		1.00	
Primary	1.21 (0.78, 1.89)	0.397	1.28 (0.81, 2.02)	0.295
Middle	2.15 (1.33, 3.49)	0.002	2.35 (1.42, 3.89)	0.001
High	2.19 (1.36, 3.53)	0.001	2.45 (1.48, 4.06)	0.000
University	2.12 (1.25, 3.60)	0.005	2.37 (1.35, 4.14)	0.003
Household size	1.13 (1.05, 1.22)	0.001	1.12 (1.04, 1.20)	0.002
Annual income*	1.00 (1.00, 1.00)	0.013		
Awareness				
No	1.00		1.00	
Yes	2.63 (1.39, 4.98)	0.003	2.43 (1.28, 4.62)	0.007

\* Not included in the final model.

WTP of the household head for health insurance was elicited by contingent valuation method (CVM) using a bidding game approach. The average WTP was 19,767 kyats (about 20 US\$) per person per year. One US\$ was equivalent to 985 kyats at the time of study. See Table 4.

Table 4. WTP (kyats) of the household head for health insurance (per person per annum).

Category	Mean (sd)	Median	Minimum	Maximum
Overall WTP	19767 (33298)	10000	2500	500000
Mode of Care				
Out patient	19845 (41186)	10000	2500	500000
Inpatient	24058 (34624)	15000	2500	250000
All kinds	18948 (30401)	10000	2500	500000
Awareness				
Present	20346 (21300)	15000	2500	150000
Absent	19745 (34481)	10000	2500	500000
Residence				
Urban	17278 (30745)	10000	2500	500000
Rural	22337 (35594)	10000	2500	500000
Household size				
≤ 5	20794 (37969)	10000	2500	500000
> 5	17491 (19130)	10000	2500	180000
Income				
Insufficient	15387 (19172)	10000	2500	500000
Just enough	17633 (40399)	10000	2500	500000
> Enough	22303 (34679)	15000	2500	500000
Income quintile				
Poorest	15105 (24386)	10000	2500	240000
Second	16037 (22935)	10000	2500	250000
Third	14969 (12609)	10000	2500	60000
Fourth	24786 (45827)	15000	2500	500000
Richest	28497 (43653)	15000	2500	500000
Sex				
Male	20784 (32969)	10000	2500	500000
Female	19129 (33579)	10000	2500	500000
Hospitalization*				
Present	18333 (22662)	10000	2500	500000
Absent	20140 (35552)	10000	2500	500000

\* History of hospitalization of any member of the household during last year

## DISCUSSION

Myanmar is not only one of the least developed nations, but also one of the countries with high OOP payment for healthcare.<sup>15-16</sup> Health insurance scheme (either mandatory or voluntary; either public or private) should be, at least, a part of solution for these problems. This can also boost universal healthcare coverage<sup>8-9</sup> and reduce poverty.<sup>2-3</sup> In

this study, community's awareness on health insurance is very low (8.4%). This low level of awareness may be due to the absence of health insurance program in the country and lack of media advocacy. This finding is also consistent with those of similar studies done in India<sup>17</sup> and Nigeria.<sup>21</sup>

After thorough explanation of its nature and concept by the interviewers, most of the study population (78.5%) was willing to be covered by the health insurance program. This high level of acceptance was consistent with those found in similar studies conducted in Nigeria (93.6%<sup>21</sup> and 87%<sup>22</sup>) and Ghana (more than 90%<sup>23</sup>). However, studies done in India<sup>17</sup> and Nigeria<sup>24</sup> reported that community's willingness to join health insurance was low. These discrepancies may be due to differences in socio-economic or education status and cultural context among study populations.

A study conducted in Nigeria<sup>22</sup> determined age, sex, education, income, household size and past health expenditure as significant variables while age, education, income and occupation were identified as determinants in a study done in India.<sup>17</sup> In the present study, the acceptance of health insurance was influenced by awareness, education, residence and family size. The income did not show any significant relationship with the acceptance in multivariate analysis although it did in univariate analysis. Likewise, age and sex of the respondents did not show any significant relationship. This inconsistency may be due to differences in the study area or socio-economic status of study population or application of statistical methods whether univariate or multivariate, etc.

The average WTP determined in the present study was 19,767 kyats ( $\approx$  20 US\$) per person per year. This finding was higher than those found in previous similar studies done in Nigeria (where WTP per annum per household member was 3.3 US\$)<sup>22</sup> and Ghana (3 US\$ a month for a household of 5 persons  $\approx$  7.3/person/year).<sup>23</sup> This variation may be explained by the differences in socio-economic and/or education status of study population or use of different methods in eliciting WTP. In this study, people with higher income, those with higher education status, those with smaller household size, those without experience of hospitalization, males and rural dwellers stated higher WTP values than their counterparts. These findings were consistent with those of similar studies done in Ghana<sup>23</sup>, Nigeria<sup>24</sup>, and India<sup>25</sup> except that urbanites and those experienced a high-cost health event stated higher value in Nigerian study and Indian study, respectively.

## CONCLUSION

In conclusion, there is a readiness in the community for the introduction of national health insurance scheme. Community's awareness on the benefits of health insurance needs to be raised to ensure success and sustainability of this scheme. The premium for health insurance should be adjusted for income and size of the household.

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**CONFLICT OF INTEREST**

None Declared.

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