ORIGINAL ARTICLE

ABILITY AND WILLINGNESS TO PAY FOR HEALTH CARE AND CONTRIBUTE TO NATIONAL HEALTHCARE FINANCING SCHEME AMONG FARMERS IN SELANGOR

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ABSTRACT

Introduction: In view of high healthcare expenditure, Malaysia also faces problems in healthcare financing. The policy option is to establish a national health financing scheme. However, it is a problem to develop mechanisms to cover social insurance package to more than one third of the population working in informal sector such as farmers. Therefore, there is an urgent need to assess the ability and willingness of the farming community. The main objective was to study the ability and willingness in the farming community to contribute to national healthcare financing scheme.

Methodology: This a cross sectional study involved 400 farmers in Selangor. A total of 92.3% farmers were able to pay for the healthcare.

Results: Willingness to contribute to The national healthcare financing scheme were RM2.00 per month.

Conclusion: The education level influenced the ability to pay while the educational level and per capita income influenced willingness to pay.

Keywords: Ability to pay. Willingness to pay. National Healthcare Financing Scheme.

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INTRODUCTION

The increase in health care expenditure is a sensitive issue. These are because of the important needs to maintain serving health for all but at same time to overcome several problems in cost containment in healthcare. All organizations concern with healthcare system face similar situations. In the world especially in developing countries faced similar problems in their health care systems, which among others include limited access to health services, variations in quality of health care and pressure to contain escalation of health care cost. According to Katharine et al (1989)[1], health care spending has grown almost twice as fast as the Gross National Product since 1965 in USA. As healthcare cost escalates, every government will face difficulty to afford to continue to spend a certain percentage of GDP to health provide the best health for their population. The inability of the state health sector to deliver cost effective and user-friendly services to whole populations has resulted in a revolution in the provision and financing of health care[2]. Most of the world's developed nations are looking at ways to contain healthcare expenditure by private or public funded systems. Malaysia being a developing country is no exception in this aspect and faces problems in healthcare financing. In many developing countries people are expected to contribute to the cost of healthcare from their own resources[3]. As a result, the ability to pay for healthcare has become a critical policy issue in developing countries. Willingness to pay may not reflect ability to pay. Households face combined user fee burdens from various essential service sectors. They might try to mobilise resources they needed by sacrifying other basic needs. Currently, most of the healthcare cost are borne by the the government. However, it was estimated that only 5% of the cost are recovered back though user fees. The government has to subsidise and shoulder most the financial burden in health care. One of the policy options is to establish a national healthcare financing scheme. The idea was mooted since 1985, but one of the problems faced by policy makers is to develop mechanisms to cover social insurance package to more than one third of the population working in informal sector such as farmers. Therefore, there is an urgent need to assess the ability and willingness of farming community. The general objective was to study the ability and willingness to pay for health care services by households in farming communities and to assess if they are able and willing to contribute to national healthcare financing scheme.

METHODOLOGY

This cross-sectional study involving farmers was caried out in the state of Selangor in Peninsular Malaysia. The study was ethically approved by the ethical committees of the University Kebangsaan Malaysia and approved by Selangor Agriculture Department. A total of 405 houses were identified using multistage sampling method. The stages were districts, parishs and villages. Two (2) out of 9 districts in Selangor, 2 out of 6 and 12 parishs in each district respectively and 2 villages in each parish were randomly selected. All the heads of households in the selected villages, who were farmers by occupation, were selected.

Informed consent was obtained from the subjects and local villages authority. Respondents were personally interviewed using a pre-tested and validated (cronbach α = 0.76) questionnaires by the researcher. The questionnaires have four parts; including sociodemography, socioeconomic, household expenditure, household healthcare usage and how it is being financed, national healthcare financing scheme and willingness to pay. Ability to pay was measured by monthly expenditure for healthcare as a percentage of monthly household income. Five percent of health expenditure: income ratio was used as a threshold for ability to pay [3]. Willingness to pay was measured by asking about highest expenditures for healthcare that they were willing to pay and their willingness to contribute to national healthcare financing scheme. The gathered data was analyzed by using SPSS version 11.5.

RESULTS

Out of 405 houses indentified, a total of 400 (98.8%) households were interviewed. Majorities (87.3%) of respondents were age more than 40 years old (Mean 56.9, SD 12.6). A total of 87.2% of respondents were males. Majority (98.5%) of respondents were Malays followed by 0.5% Chinese and 1% Indian. Seventy four point five percent of respondents have low education level. The ranges of respondents' monthly household income were from RM50.00 to RM9, 250.00 (Median RM755.00, IQR RM739). The per capita income of the respondents ranged from RM25.00 to RM6, 000.00. 244 (61%) of respondent were in low category per capita income (<RM230.00), 104 (26%) of

respondent were in middle category per capita income (RM230.00-260.00) and 52 (13%) of respondent were in high category per capita income (>RM260.00) (Malaysia 2000).

Ability to pay

Total healthcare expenditure for the household was from RM0.00 to RM426.33 per month (Median RM8.02, IQR RM15.93). The total healthcare expenditure to household income ratio ranged from 0% till 35.6% (Mean 1.94%, SD RM3.11). A total of 92.3% of the respondents spend below than 5% out of their household income for healthcare. A cut of point of 5% was used for ability to pay (Russell 1996).

Relationship between ability to pay and sociodemography status

Table 1 showed the percentage of respondents who were not able to pay was three times higher among respondents age above 60 years old compared to respondents age below 40 years old, the percentage of not able to pay was also three times higher among lower education level and percentage of not able to pay was six times higher among middle per capita income group compared to high per capita income group. All these factors were statistically significant with a p value 0.025, 0.035 and 0.047 respectively.

Table 1 Relationship between Ability to Pay and Sociodemography Status

	Able to pay (≤5%) Frequency (%)	**Not able to pay (>5%) Frequency (%)**	**P value***
Age (year)			
- < 40	49 (96.1)	2 (3.9)	0.025
- 40 – 60	174 (95.1)	9 (4.9)	
- > 60	146 (87.9)	20 (12.1)	
Education level			
- low	270 (90.6)	28 (9.4)	0.035
- high	99 (97.1)	3 (2.9)	
Per capita income (RM)			
- low (<230.00)	228 (93.1)	17 (6.9)	0.047
- middle (230-460.00)	90 (87.4)	13 (12.6)	
- high (>460.00)	51 (98.1)	1 (1.9)	

(*Chi square test)

Factors Influencing Ability to pay

All the independent variables that found to have significant association with ability to pay were then analysed further using logistic regressionIt was found that the only variable with significant relationship was the level of education. High education level was 3 times more likely to be able to pay compared to low education level as shown in table 2.

Table 2 Factors Influencing Ability to Pay - Logistic Regression Model

	B	***Wald***	**Sig. value**	***Exp* (B)**	**95.0% confidence interval for *Exp* (B)**	
					'*Lower*'	**'*Upper*'**
Education level (high)	-1.230	3.954	0.047	0.292	0.087	0.983

(* able to pay as 0, not able to pay as 1)

Willingness to pay

Majority of respondents were willing to pay the increase cost in healthcare services such as outpatient registration fee (74.3%), specialist clinic fee (55.5%), inpatient charges (58.8%), inpatient medication charges (61.8%), normal delivery charges (55.8%) and minor operation charges (55.8%). However majority of the respondents were not willing to pay with the increase in healthcare services such as medical checkup fee (60%), chest x-ray charges (53.8%), caesarean sections charges (69.8%) and total maximum ward charges (87.8%).

Ninety percent of respondents were willing to pay not more than RM2.49 for outpatient fee. Eighty six point five percent of respondents were willing to pay between RM5.00 to RM8.00 for specialist clinic fee. Ninety five point five precent of respondents was willing to pay not more than RM6.00 for inpatient charges. Seventy four percent of respondents were willing to pay not more than RM3.00 for inpatient medication charges. Seventy five percent of respondents were willing to pay not more than RM25.00 for medical checkup fee. Fifty four point five percent of respondents were willing to pay not more than RM13.00 for chest x-ray charges. Sixty six point three percent of respondents were willing to pay not more than RM13.00 for normal delivery charges. Seventy four point eight percent of respondents were willing to pay not more than RM110.00 for caesarean sections charges. Sixty three point eight percent of respondents were willing to pay not more than RM13.00 for minor operation charges. Eighty nine point five percent of respondents were willing to pay not more than RM510.00 for total maximum ward charges. Table 3 showed the mean value of each of the healthcare services that the respondents were willing to pay.

Table 3 Mean value willingness to pay of respondents for healthcare services

	Mean(std.dev) RM
Outpatient fee	1.88 (1.0)
Specialist clinic fee	6.26 (2.22)
Inpatient charges	3.92 (1.16)
Inpatient medication charges	2.06 (2.84)
Medical check up fee	22.04 (4.24)
Chest X-ray charges	11.89 (3.39)
Normal delivery charges	12.96 (5.09)
Operation for delivery charges	107.42 (15.50)
Simple operation charges	13.06 (4.42)
Total maximum ward charges	505.46 (18.45)

Willingness to pay for outpatient and inpatient charges in public and private healthcare facilities.

Seventy six point five percent of respondents were willing to pay between RM1.00 to RM5.99 for outpatient charges in public healthcare facilities (Mean RM4.43, SD RM4.51). However, for outpatient charges in private healthcare facilities, 79% of respondents were willing to pay between RM6.00 to RM20.99 (Mean RM5.62, SD RM3.32). 74.8% of respondents were willing to pay between RM3.00 to RM6.99 (Mean RM16.34, SD RM7.3) per day of stay for inpatient charges in public healthcare facilities.

Willingness to contribute to national healthcare financing scheme

A total of 96.5% of respondents agreed a national healthcare financing scheme to be set up. Ninety three point eight percent of respondents wanted the national healthcare financing scheme to be handled by non profitable agency. Ninety four point eight percent of respondents wanted the contribution to be based on the ability to pay of the individuals. For payment method, 95.3% of the respondents wanted to pay out of pocket and 67.3% of the respondents wanted to make the payment at the post office counters. The amount of contribution that respondents were willing to pay ranged between RM0.00 to RM100.00 per month (Median RM2.00, IQR RM7.50).

Relationship between willingness to contribute to national healthcare financing scheme and sociodemography data

Table 3 showed the relationship between willingness to contribute to national healthcare financing scheme and sociodemography data. Age, education and per capita income factors were statistically significant with a p value 0.002, <0.001 and <0.001 respectively. Mean value willingness to contribute was decreasing in trend with the increases in age. Mean value willingness to contribute was higher in high education level group. Mean value willingness to contribute was increasing in trend with the increase in per capita income.

Influencing factors for individual to contribute to national healthcare financing scheme

All the independent variables that found to have significant association with willingness to contribute to national healthcare financing scheme were then analysed further using linear regression. Table 4 showed the influencing factors for individual to contribute to national healthcare financing scheme. It was found that level of education and per capita income were the variables with significant value. Those in high education level group were willing to contribute RM5.20 more compare to those in low education level group. Willingness to contribute of respondent increased by 0.6 cent with every increase of RM1.00 in per capita income.

Table 4 Relationship between Willingness to Contribute To National Healthcare Financing Scheme and Sociodemography Data

	Mean (std dev) RM	**t/ F value**	**P value**
Age (year)			
- < 40	11.81 (18.62)	6.317**	0.002
- 40 – 60	7.28 (13.30)		
- > 60	4.96 (7.59)		
Education level			
- low	5.51 (9.61)	3.902*	0.000
- high	10.9 (17.58)		
Per capita income			
- low	4.44 (6.65)	21.56**	0.000
- middle	8.14 (13.84)		
- high	16.02 (21.96)		

(* Student t test, **ANOVA)

Relationship between ability to pay and willingness to contribute to national healthcare financing scheme

Willingness to contribute was also analysed with ability to pay. Table 5 showed there was no association between ability to pay and willingness to contribute to national healthcare financing scheme. The median willingness to contribute among able respondents was RM2.00 (interquantil range RM7.50) compared to the median willingness to contribute among not able respondents was RM4.00 (interquantil range RM4.00).

Table 5 Influencing Factors for Individual to contribute to National Healthcare Financing Scheme - Linear Regression Model

	Unstandardised coefficients				**95.0% confidence interval for B**	
	B	std. error	t	Sig. Value	lower	upper
Education level	5.167	1.372	3.766	0.000	2.470	7.864
Per capita income	0.006	0.002	3.771	0.000	0.003	0.009

Table 6: Relationship between Ability to Pay and Willingness to Contribute To National Healthcare Financing Scheme

	Mean (Std dev)	Median (Interquatil range)	Sig. value*
Ability to pay			
- Able	RM6.89 (RM12.51)	RM2.00 (RM7.50)	0.496
- Not able	RM7.02 (RM10.52)	RM4.00 (RM4.00)	

(* Mann Whitney test)

DISCUSSION

Malaysia is currently facing a problem in the healthcare financing system as the healthcare cost continues to escalate. Currently, most of the healthcare cost (76%) are bourned by the government under taxation system. Only 24% of the healthcare cost is being contributed by the private sector. Furthermore, it was estimated that only 5% of the cost are recovered back though user fees [4,5]. All the public clinics especially in rural areas are giving services with free or at very minimal charge. The existing healthcare finacing system are providing and subsidising for almost all population including high income groups. That is why Malaysia needs a suitable model for the healthcare financing system.

The ability and willingness to pay in getting healthcare services from public and private sector among the farmers are very important determinant elements in ensuring the healthcare financing system that is planning to be implemented in the future. This is because they are among the group with low income and do not have consistentor permenant income.

Majority of respondents were more than 40 years oldwith low education level. In the urbanization era, most young generations with higher education migrate to urban areas for better jobs and education. Thus, the older and lower educated individuals left in rural areas to do the farming jobs. With lower education level, they remain in rural areas and continue their family's traditional jobs.

This study found that majority of the farmers were from low income category. This result is consistent with Al Junid's [6] study, high percentage of people in rural area were from low economic status.

Ability to pay

Malaysia is a very unique country. Healthcare services are provided at all government facilities. It is being subsidised by government for all population regardless of their socioeconomic background. Patients only need to pay very minimal charges such as RM 1 for outpatient clinic and RM 5 for specialist clinic (inclusive of the investigations and treatments). This study's respondents mean percentage of healthcare expenditure to household income was slightly higher (1.94%) compared to Household Expenditure Survey Report done by Malaysia Statistic Department in year 1998/99 [7]. The average monthly expenditure each household in Peninsular Malaysia for healthcare was RM32.00 (1.9%) and particularly for rural areas was RM22.00 (1.7%). Average monthly household expenditure for healthcare among farmers was RM14.00 (1.2%) and particularly for rural areas was almost the same, RM13.00 (1.2%). This low percentage was seen in Malaysia because of the subsidised healthcare services by Malaysian government. In a research done by Weaver et al [8] in Middle African Republic showed that the median monthly household expenditure for healthcare was 2.6%.

By using ability to pay definition as spending 5% from household income for healthcare [3], it was found that the majority of the respondents in this study were in the "able to pay" category. This is because the majority of the respondents utilize healthcare services provided by the government which is free or with very minimal charges. As a result, the healthcare spending are less than 5% of their household income. In Malaysia, the public healthcare charges are very minimal because it is subsidised by the government. Subsidised healthcare services is an important determinant of ability to pay for healthcare in Malaysia. In other words, if these subsidies are reduced, the ability to pay of farmers will also reduce.

In this study, ability to pay was influenced only by education level of an individual. This is may be due to high education level is related to high income. This is consistent with Al Junid's study [6], which also found that factors which influenced ability to pay were their socioeconomic status and education level.

Willingness to pay

The respondent's willingness to pay was measured by asking their willingness for government healthcare services charges to be increased, the higher expenditure for care that they are willing to pay for public and private healthcare services and to willingness to contribute to the national healthcare financing scheme. The amount that they are willing to pay was asked in open ended question. The Ministry of Health fee act values were used as guidelines for as a baseline. Majority of respondents were willing to pay for the charges of healthcare services such as outpatient registration, specialist clinic registration, inpatient, inpatient medication, normal delivery and simple operation charges to be increased. For healthcare services such as medical check up, chest x-ray, caesarean

sections and total maximum ward charges, the majority of the respondents were not willing for these charges to be increased. The healthcare services charges that the respondents were willing to pay more were the basic healthcare services which are currently charged at a very minimal rate. This is in contrast with the study done by Al Junid [6], where the majority of his respondents were not willing for healthcare services charges to be increased.

Seventy six point five percent of respondents were willing to pay between RM1.00 till RM5.99 for the outpatient charges in the public healthcare facilities. In a study done by Al Junid [6], he found that 63.1% of his respondents were willing to pay less than RM3.00 for the outpatient charges in public healthcare facilities. Study done by Raja et al [9] in Klang Valley area, found that the patients in public outpatient clinic were willing to pay RM5.00. For inpatient charges, in this study, 74.8% of respondents were willing to pay between RM3.00 to RM6.99 in public healthcare facilities. This is consistent with the study done by Al Junid [6], 58.9% of his respondents were willing to pay less than RM10.00 for inpatient charges in public healthcare facilities. Willingness to pay of respondents for outpatient charges in private healthcare facilities was higher. Seventy nine percent of the respondents were willing to pay between RM6.00 to RM20.99 for outpatient charges in private healthcare facilities. In the study done by Al Junid [6], 51.6% of his respondents were willing to pay less than RM10.00 for outpatient charges in private healthcare facilities. In the study done by Raja et al [9], the willingness to pay for outpatient charges in private healthcare facilities was RM15.00.

Majority of respondents in this study agreed for a national healthcare financing scheme to be set up. Majority of respondents also wanted the national healthcare financing scheme to be handled by non government non profitable agency. This result is consistent with the study done by Al Junid [6], 69.8% of his respondents agreed with the idea of setting up a public healthcare financing saving sponsored by a non profitable body for the society as a whole. Study done by Abel Smith [10] in Tanzania found that majority of public and private workers were having national healthcare insurance scheme.

It is found that the factors influencing willingness to pay were education level and per capita income of an individual. This result is consistent with the study done by Ryan M et al [11], willingness to pay was positively correlated to income. Al Junid [6] found that socioeconomic status, ethnicity and ownership of an insurance were the influencing factors for willingness to pay to healthcare services.

CONCLUSION

Selangor farmers were among able to pay for their healthcare services group. They willing to payfor public outpatient clinic and inpatient charges more than what been charge currently RM1.00 for outpatient clinic and RM3.00 for inpatient charges. Their willingness to pay of for private outpatient clinic were slightly lower compare to what they were charge currently between RM20.00 to RM30.00. National healthcare financing scheme was accepted by majority of the farmers. The base line for able and disable to pay group should be studied further and specificly tailored to the Malaysian scenario. The ability to pay group should be also be detailed up. In addition, when based on the ability to pay, exemptions should be given to made for special groups such as the elderly and disabled/handicapped population.

There were several limitations in this study. This was a cross sectional study which examined the situation during very short duration whereas economic turns frequently with time. Study should be repeated at different times and compared with the economic turns. The respondents' income and expenditure would probably will be different at different economic turns. This study measured respondents income by asking questioning the respondents. The income questions area actually a sensitive matters. Some individuals will not disclose their true income. So, the income of respondents in this study is only an estimation. This is something unavoidable when dealing with individuals from informal sector. It is different when dealing with individuals in formal sector where the income can be confirmed by pay slip. This was a preliminary study on ability and willingness to pay done in Malaysia. There are many other aspects to be explored regarding ability and willingness to pay. Further studies should be performed to evaluate the details of these issues.

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