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Willingness to Pay for Outpatient Services User Fees: Malaysian Community Perspective

(Kesanggupan Membayar Caj Perkhidmatan Pesakit Luar: Pandangan Masyarakat Malaysia)

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ABSTRACT

Health care services are not often accessible and available for all people in one country due to multiple reasons such as the geographical barrier, affordability, etc. The aim of this study was to analyse willingness to pay (WTP) for healthcare services user fees among Malaysian population and determine its' influencing factors. Structured interviews were conducted involving 774 households in 4 states represents Peninsular Malaysia. Validated questionnaires with open ended, followed by bidding games were applied to elicit maximum amount of WTP. The study was analysed descriptively and with multivariate regression method to adjust for potential confounding factors. More than half of respondents WTP more than current fee for the government clinic outpatient registration fee with mean MYR3.76 (SD2.71). Majority of respondents not WTP more than usual for private clinic simple outpatient treatment charges with the mean MYR38.76 (SD5.45). Factors that were found to have significant associations with WTP for both government and private clinic were income and having health insurance. Community willing to pay for healthcare services user fees and charges but at certain amount. The healthcare services user fees and charges can be increased up to community WTP level to avoid from catastrophic expenditure.

Keywords: Willingness to pay; health care services; health financing; government clinic; private clinic

ABSTRAK

Perkhidmatan penjagaan kesihatan tidak mudah diakses dan tersedia untuk semua orang di sesebuah negara disebabkan oleh beberapa factor seperti struktur geografi, kemampuan dan lain-lain. Kajian ini adalah bertujuan untuk menganalisa kesanggupan membayar caj perkhidmatan kesihatan dalam kalangan masyarakat Malaysia dan faktor-faktor yang mempengaruhinya. Soal selidik berstruktur telah dijalankan kepada 774 isi rumah dari 4 negeri yang mewakili Semenanjung Malaysia. Soal selidik yang telah divalidasi menggunakan soalan terbuka dan diikuti dengan soalan bidaan telah digunakan untuk mendapatkan nilai maksimum kesanggupan membayar. Kajian ini dianalisa secara deskriptif dan dengan kaedah regresi multivariate untuk mengawal faktor-faktor yang mengelirukan. Lebih separuh daripada responden sanggup membayar lebih daripada caj perkhidmatan pesakit luar di klinik kerajaan yang dikenakan pada masa kini dengan min RM3.76 (SP2.71). Majoriti responden tidak sanggup membayar lebih daripada biasa untuk caj rawatan pesakit di klinik swasta dengan min RM38.76 (SP5.45). Faktor-faktor yang didapati mempengaruhi secara signifikan dengan kesanggupan membayar untuk kedua-dua klinik kerajaan dan swasta adalah pendapatan dan mempunyai insuran kesihatan. Secara keseluruhan, masyarakat sanggup membayar caj perkhidmatan kesihatan tetapi pada kadar yang tertentu. Oleh itu, caj perkhidmatan kesihatan boleh dinaikkan ke tahap yang sanggup dibayar oleh masyarakat untuk mengelakkan daripada perbelanjaan katastrofik.

Kata kunci: Kesanggupan membayar; perkhidmatan kesihatan; pembiayaan kesihatan; klinik kerajaan; klinik swasta

INTRODUCTION

Financing healthcare can be challenging as every country is faced with the problem of health facilities and quality of health services while trying to keep the cost of health services bearable. Health expenditure affects various groups at various levels in the health service funding scheme. The issues of healthcare cost continue to increase and cost-sharing options are often disputed. Over the years, in countries all over the world, governments and citizens

alike have been confronted with various issues pertaining to healthcare, especially that of healthcare access. Healthcare services are not often accessible or made available to all people in many countries, especially by those who cannot afford to pay for such services. With the differences in the living conditions of the rural and urban populations, it is also apparent that they have significant differences when it comes to their willingness to pay (WTP) for different healthcare services. In view of these differences, there have been strategies which were pursued by several sectors calling for equality in access to such services.

The most important aspects that must be preserved in health services are equitable, affordable by all including the poor, and quality services. Malaysian Vision 2020 and Vision for Health, Malaysia stated that the principles, values and goals of the healthcare system are equity in coverage, access and financing as well as the provision of services that are affordable, efficient and effective (Abu Bakar 2000). The present health delivery and financing system was designed during the 4th Malaysia Plan between 1981 and 1985 to ensure that the poor and those staying in rural areas are adequately covered. The Government took the responsibility in providing and financing most of the healthcare services in the country.

For years, the Malaysia government has subsidised and shouldered most of the healthcare costs. However, it was estimated that only 5% of the cost are recovered back through user fees (Nur Maziah 1995). Therefore, the government should review the existing health financing system.

Although the Malaysian health system has performed comparatively well over the years, the public system has not been able to keep up with the demands of the public, and this has led to the growth of the private health sector. Consequently, this has led to problems of equity as the people in higher-income groups have better access through the private system. On the other hand, the poorer members of the community have no choice but to rely on the government system as a source of healthcare (Karol 2007).

For years, Malaysian populations are paying very minimal for healthcare services, especially at government health facilities which for years never increased. Only MYR1.00 for outpatient clinic registration fee, patient will get all the consultation, investigations and medications. With nowadays value of money, this amount actually not logic anymore. At private sector, the fee does increase slightly from an average of MYR20 in 1980 to an average of MYR50 nowadays for simple common cases.

There are many WTP for healthcare services studies done in other countries but there are very limited WTP for healthcare services studies done in Malaysia. The only two studies found were investigated specific healthcare services pharmaceutical or drug charges and pharmacist's dispensing services (Shafie & Hassali 2010, Siti et al. 2014). The purpose of this study is to assess the population willingness to pay (WTP) for healthcare services such as government clinic (GC) out patient (OP) registration fees and private clinic (PC) simple outpatient treatment charges and determine its' influencing factors.

METHODOLOGY

A cross-sectional study was conducted from February to September 2014. The sample size was calculated by using PS: Power and Sample Size Calculation software version 3.1.2 based on one and two proportions formula

accordingly to satisfy the objectives and variables of the study using multiple references as estimates (Dupont & Plummer 2014). The maximum sample size calculated was 832. The Department of Statistics Malaysia was then requested to aid in selecting these respondents to avoid biases. Household addresses were selected by using multistage random sampling. In first stage, Peninsular Malaysia was divided into four zones; one state was randomly selected to represent each zone: Kedah for northern region, Selangor for central region, Johor for southern region and Kelantan for the east coast region. In the second stage, two districts were randomly selected from each of the states selected earlier. Out of the twelve districts in the state of Kedah, Kulim and Bandar Bharu Districts were selected. Hulu Langat and Sepang Districts were selected to represent Selangor, which has nine districts in total. Batu Pahat and Segamat Districts represented Johor, which has ten districts in total and Kota Bharu and Pasir Mas Districts represented Kelantan, which has ten districts in total. In the third stage, respondents were then selected using the enumeration blocks. Household respondents selected represented the rural and urban populations from each of the states selected. All Malaysian adult households age above 18 years staying in the addresses given that agree to participate were included into the study. Households that not able to communicate with the interviewer and not at home after three visits were excluded.

This research was a community-based, house to house and face-to-face interview using a structured questionnaire adopted from the questionnaire used in Option for Healthcare Financing in Malaysia study by Al Junid et al. (2000). The questionnaire was then pretested for reliability and validated by health financing experts from the universities and the Ministry of Health, Malaysia through focus group discussions. There are four sections in the questionnaire include 1) household head socio-demography; 2) household socio-economic; 3) household health utilization and 4) WTP for GC OP registration fee and PC simple OP treatment charges as dependent variables.

All the independent variables namely age, gender, ethnic, marital status, number of households, education level, residential location, income, outpatient choice, inpatient choice, have health insurance and have disease were treated as categorical data. From households' birthdate, mean age was calculated in years and categories into two as below 41 years; and 41 years and above. Gender, ethnic and marital status were based from what the respondents' declared. From number of dependents (spouse, children, siblings and parents under the household's custody) given, mean was calculated and categories into two groups as below three; and three and above. Education level of the respondent was measured by asking their latest/highest education level according to the classification of Tidak Bersekolah/None, Sekolah Rendah/Primary as low education level; Sekolah Menengah/Teknik/Vokasional; Maktab/Kolej/Pengajian pos-menengah/Certificate/Universiti/Institut berdiploma/ijazah as high education

level. Respondents' locality was divided into rural and urban based on the data given by the Department of Statistics. Households' income were assessed by asking the household total income from all sources such as income from current and previous occupation, side income from business and family or welfare contribution. Income data was analysed as continuous data initially. Then the data was recoded into two categories: low and high according to average household gross income monthly and middle income for Malaysia 2014 by the Department of Statistic (Department of Statistic Malaysia 2105). Respondents were asked of their choice of outpatient health services whether government clinic or others and for inpatient services, government or private hospital. Respondents were asked yes and no whether any of the household member(s) had any disease for past one year. The respondents' were also asked whether they have or not health insurance.

WTP for GC OP registration fee and PC simple OP treatment charges, respondent was asked their WTP and its' amount. The WTP was assessed through several methods (Aizuddin et al. 2011, Breidert et al. 2006, Shafie & Hassali 2010). Firstly, the respondents were asked their WTP extra for current healthcare service charges or fees in yes or no question. Then, they were asked an open-ended question on how much they willing to pay. Subsequently, using current price of services was used as a guide and their answer in previous question, the amount were asked again in the standard gamble form if he/she was willing to pay a higher amount (Shafie & Hassali 2010, Yasunaga et al. 2006, Saulo et al. 2008). If the answer was yes, the respondent would be asked if he/she was willing to pay a yet higher amount. This gamble process was continued until the answer was no (meaning the respondent was not willing to pay the stated amount), and then the amount will be reduced. These forward and backward questions would continue until the highest amount the respondent was willing to pay was reached. These highest amount in Malaysia's ringgit (MYR) that respondent was willing to pay for OP registration fee at government clinic and simple OP treatment charges at private clinic were analysed as a continuous data.

Raw data was entered into the Microsoft Excel 2010 worksheet initially and then was analysed using STATA version 13. Data was analysed univariate, bivariate, simple linear regression and multiple linear regression respectively to determine the mean of WTP for OP registration fee at government clinic and simple OP treatment charges at private clinic and their associated factors.

The research proposal was reviewed and approved by the Medical Research Ethic Committee, Faculty of Medicine, Universiti Kebangsaan Malaysia for commencing the study and publishing the study results. All participants provided informed consent before interviews commenced.

RESULTS

A total of 774 households were interviewed that gave a respond rate of 93.0%. Respondents interviewed were at the age of between 19 to 87 years old with mean age 48.93 (SD 13.29) and median age 49.0 (IQR 39.0-58.0). Six hundred and twenty six (80.9%) respondents were male household heads. The majority of the respondents' were Malay (68.7%) followed by Chinese (23.0%), Indian (7.6%) and others (0.7%). Six hundred fifteen (79.5%) household heads were married. Mean household head number of dependents was 3.14 (SD2.08) with a minimum of no dependent until 17 people. Almost half of the respondents' were at middle education level (47.3%), followed by low education level (26.6%) and high education level (26.1%). Four hundred ninety three (63.7%) respondents stay in urban area. The respondents' total monthly household income was between MYR200.00 and MYR28600.00 with a mean of MYR3140.18 (SD2822.13) and median of MYR2500.00 (IQR 1500.00-4000.00). Using the Malaysian average household gross monthly income (MYR4585.00) and middle income (MYR3626.00) in 2014 by the Department of Statistic Malaysia as a reference, more than half of the respondents' (57.0%) household monthly income were at the lower range of the income distribution (Department of Statistics Malaysia 2015).

In terms of households' healthcare service utilization distribution, the majority of the respondents chose GC and hospital as their OP and IP healthcare services 57.4% and 85.2% respectively. Majority of respondents (76.7%) had a disease during the last past one year. More than half of respondents (59.6%) have only acute diseases. Most of them sought treatment from GC (57.4%) and PC (33.5%). Majority of respondents (83.5%) received only OP treatment and majority (95.3%) of respondents treated conservatively. Majority of (66.3%) of respondents did not have health insurance.

The distribution of respondents' WTP for GC OP registration fee and PC simple OP treatment charges was found skewed to the right. Majority of the respondents (63.6%) were WTP extra than the current GC registration fee MYR1.00 with mean (SD) MYR3.76 (SD2.71) and median (IQR) MYR3.00 (IQR 2-5). For PC simple OP treatment charges, the majority of respondents not WTP extra than the usual charges MYR50.00 with mean (SD) MYR38.76 (SD5.45) and median (IQR) MYR35.00 (IQR 35-40) as shown in Table 1.

Table 2 summarizes the association of respondents' socio-demographic, socio-economic and healthcare utilization factors with their WTP extra for GC OP registration fee and PC simple OP treatment charges (Yes or No question). Among all socio-demographic factors studied, it was found that number of household dependents and education level has significant association with WTP extra for GC OP registration fee. Respondents with three and more dependents were 1.49 more likely WTP extra for GC OP registration fee compared to respondents with fewer

TABLE 1. Distribution and amount (MYR) of respondents' WTP for government outpatient clinic registration fee and private simple outpatient treatment charges

| | Frequency (Percentage) | Mean (SD)/Median (IQR) |
|---------------------------------|------------------------|--------------------------------|
| Government OP Registration Fee | | 3.76 (SD2.71)/ 3 (IQR 2-5) |
| No | 281 (36.3%) | |
| Yes | 493 (63.7%) | |
| RM3.00 | 292 (37.7%) | |
| RM5.00 | 142 (18.4%) | |
| RM10.00 | 55 (7.1%) | |
| RM15.00 | 3 (0.4%) | |
| RM30.00 | 1 (0.1%) | |
| Private OP simple cases charges | | 38.76(SD 5.45)/ 35 (IQR 35-40) |
| No | 645 (83.3%) | |
| Yes | 129 (16.7%) | |

TABLE 2. Association between respondents' socio-demographic, socio-economy and health utilization, with their WTP extra for GC OP registration fee and PC simple OP treatment charges (Yes or No question)

| Variables | WTP GC OP registration fee | | WTP PC Simple OP treatment charges | |
|--------------------------------------|----------------------------|-------------|------------------------------------|-------------|
| | Willing | Not willing | Willing | Not willing |
| <i>Number of Dependent</i> | | | | |
| ≤ 2 ⁰ | 173 (57.9%) | 126 (42.1%) | 54 (18.1%) | 245 (81.9%) |
| ≥ 3 | 319 (67.2%) | 156 (32.8%) | 75 (15.8%) | 400 (84.2%) |
| OR (95% CI) | 1.49 (1.09, 2.03) | | 0.85 (0.57, 1.28) | |
| χ ² | 6.85 | | 0.68 | |
| p-value | 0.009* | | 0.409 | |
| <i>Education</i> | | | | |
| Low ⁰ | 111 (53.9%) | 95 (46.1%) | 26 (12.6%) | 180 (87.4%) |
| High | 381 (67.1%) | 187 (32.9%) | 103 (18.1%) | 465 (81.9%) |
| OR (95% CI) | 1.74 (1.24, 2.44) | | 1.53 (0.95, 2.54) | |
| χ ² | 11.36 | | 3.31 | |
| p-value | 0.001* | | 0.069 | |
| <i>Locality</i> | | | | |
| Rural ⁰ | 182 (64.8%) | 99 (35.2%) | 25 (8.9%) | 256 (91.1%) |
| Urban | 310 (62.9%) | 183 (37.1%) | 104 (21.1%) | 389 (78.9%) |
| OR (95% CI) | 0.92 (0.67, 1.26) | | 2.74 (1.70, 4.54) | |
| χ ² | 0.28 | | 19.18 | |
| p-value | 0.600 | | < 0.001* | |
| <i>Income</i> | | | | |
| Low ⁰ < 3000.00 | 246 (55.8%) | 195 (44.2%) | 41 (9.3%) | 400 (90.7%) |
| Middle | 144 (72.0%) | 56 (28.0%) | 47 (23.5%) | 153 (76.5%) |
| High ≥ 5000.00 | 102 (76.7%) | 31 (23.3%) | 41 (30.8%) | 92 (69.2%) |
| OR (95% CI) | 2.03 (1.42, 2.93) | | 2.99 (1.89, 4.74) | |
| χ ² /Z ^b | 27.573 | | 43.17 | |
| p-value | < 0.001* | | < 0.001* | |
| <i>OP healthcare services choice</i> | | | | |
| GC ⁰ | 286 (58.7%) | 201 (41.3%) | 60 (12.3%) | 427 (87.7%) |
| Others | 206 (71.8%) | 81 (28.2%) | 69 (24.0%) | 218 (76.0%) |
| OR (95% CI) | 1.79 (1.29, 2.48) | | 2.25 (1.51, 3.36) | |
| χ ² | 13.28 | | 17.86 | |
| p-value | < 0.001* | | < 0.001* | |

Continued

TABLE 2. Continue

| Variables | WTP GC OP registration fee | | WTP PC Simple OP treatment charges | |
|--------------------------------------|----------------------------|-------------|------------------------------------|-------------|
| | Willing | Not willing | Willing | Not willing |
| <i>IP healthcare services choice</i> | | | | |
| GH ⁰ | 406 (61.6%) | 253 (38.4%) | 96 (14.6%) | 563 (85.4%) |
| PH | 86 (74.8%) | 29 (25.2%) | 33 (28.7%) | 82 (71.3%) |
| OR (95% CI) | 1.85 (1.16, 3.31) | | 2.36 (1.44, 3.80) | |
| χ^2 | 7.34 | | 14.07 | |
| p-value | 0.007* | | < 0.001* | |
| <i>Have health insurance</i> | | | | |
| None ⁰ | 294 (58.9%) | 205 (41.1%) | 53 (10.6%) | 446 (89.4%) |
| Have | 198 (72.0%) | 77 (28.0%) | 76 (27.6%) | 199 (72.4%) |
| OR (95% CI) | 1.79 (1.29, 2.50) | | 3.21 (2.14, 4.84) | |
| χ^2 | 13.10 | | 36.96 | |
| p-value | < 0.001* | | < 0.001* | |

Pearson Chi-square was applied; * $p < 0.05$; ⁰Reference group

dependents. Respondents with higher education level were 1.74 more likely to WTP extra for GC OP registration fee compared to those with lower education level. Findings for WTP for PC simple OP treatment charges were slightly different. Only locality was found to be significant with WTP for PC simple OP treatment charges. Respondents staying in the urban area were 2.74 more likely WTP for PC simple OP treatment charges compared to those staying in rural area.

When analysed with respondents' socio-economic status, it was found that income has significant association with WTP extra for both GC OP registration fee and PC OP simple treatment charges. Respondents with middle and higher income level were 2.03, 2.61 and 2.99, 4.35 more likely WTP extra for GC OP registration fee and PC OP simple treatment charges compared to those with lower income level respectively.

Among all healthcare services utilization studied, choice of respondents for OP, IP healthcare and having health insurance had significant association with WTP extra for GC OP registration fees and PC simple OP treatment charges. Respondents who chose other than government healthcare facilities for their OP services were 1.79 and 2.25 times more likely WTP extra for GC OP registration fees and PC simple OP treatment charges respectively compared to those chose government healthcare facilities. Respondents who chose other than government healthcare facilities for their IP services were 1.85 and 2.36 times more likely WTP extra for GC OP registration fees and PC simple OP treatment charges respectively compared to those chose government healthcare facilities. Respondents who with health insurance were 1.79 and 3.21 times more likely WTP extra for GC OP registration fees and PC simple OP treatment charges respectively compared to those without health insurance.

TABLE 3. Factors influencing and predictor model for WTP amount for GC OP registration fees (Simple and Multiple Linear Regression analysis)

| Variable | Simple Linear Regression | | Multiple Linear Regression | |
|-----------------------|--------------------------|---------|----------------------------|----------|
| | Crude OR (95% CI) | p-value | Adjusted OR (95% CI) | p-value |
| Status (Married) | -0.99(-1.60,-0.37) | 0.002 | -0.77(-1.40,-0.13) | 0.018* |
| Income (High) | 1.31(0.92,1.69) | < 0.001 | 0.73(0.30,1.15) | 0.001* |
| OP Choice (Other GC) | 1.32(0.96,1.68) | < 0.001 | 0.78(0.38,1.19) | < 0.001* |
| Have Insurance (Have) | 1.20(0.84,1.57) | < 0.001 | 0.53(0.13,0.94) | 0.010* |
| Constant | | | 2.41(1.67,3.14) | < 0.001* |

R² = 0.124; Forward Stepwise Multiple Linear Regression method applied; Multicollinearity and interaction term were checked and not found; All assumptions were checked and fulfilled.

All variables were also run for simple linear regression before proceed with multiple linear regression. Based on the results obtained in simple linear regression, all independent variables with $p < 0.25$ were selected to be entered into the multiple linear regression (Bursac et al. 2008). Table 3 and 4 summarizes the factors influencing

and predictor model WTP amount for GC OP registration fees and PC simple OP treatment charges.

Table 3 showed that there were significant linear relationship between marital status, income, OP choice and have health insurance with WTP amount for GC OP registration fees. Those who married had MYR0.77 lesser

TABLE 4. Factors influencing and predictor model for WTP amount for PC simple OP treatment charges (Simple and Multiple Linear Regression analysis)

| Variable | Simple Linear Regression | | Multiple Linear Regression | |
|---------------------------|--------------------------|-----------------|----------------------------|-----------------|
| | Crude OR (95% CI) | <i>p</i> -value | Adjusted OR (95% CI) | <i>p</i> -value |
| No Dependent (≥ 3) | -1.07(-2.03,-0.13) | 0.026 | -1.25(-2.23,-0.26) | 0.014* |
| Locality (Urban) | 3.13(2.19,4.07) | < 0.001 | 1.86(0.84,2.87) | < 0.001* |
| Income (High) | 2.87(1.85,3.88) | < 0.001 | 1.76(0.63,2.88) | 0.002* |
| HaveInsurance (Have) | 2.80(1.85,3.75) | < 0.001 | 1.36(0.30,2.43) | 0.012* |
| HaveDisease (Have) | -1.20(-2.30,-0.10) | 0.032 | -1.16(-2.24,-0.09) | 0.034* |
| Constant | | | 28.94(26.75,31.13) | < 0.001* |

R² = 0.109; Forward Stepwise Multiple Linear Regression method applied; Multicollinearity and interaction term were checked and not found; All assumptions were checked and fulfilled.

WTP amount for GC OP registration fees. Those who in high income group had MYR0.73 higher WTP amount for GC OP registration fees. Those who chose other than GC for their OP Choice had MYR0.78 higher WTP amount for GC OP registration fees. Those who have health insurance had MYR0.53 higher WTP amount for GC OP registration fees. R² was 0.124 which indicates that 12.4% of WTP amount for GC OP registration fees influencing factors (marital status, income, OP choice and have health insurance) was explained by this model. The balance 87.6% was by other factors. Therefore, the linear regression equation for WTP amount for GC OP registration fees = 2.41 – (0.77*Married) + (0.73*High Income) + (0.78*OP Choice other than GC) + (0.53*Have health insurance).

Table 4 showed that there were significant linear relationship between number of dependent, locality, income, have health insurance and have disease with WTP amount for PC simple OP treatment charges. Those who have dependent three or more had MYR1.25 lesser WTP amount for PC simple OP treatment charges. Those who stay in urban area had MYR1.85 higher WTP amount for PC simple OP treatment charges. Those who in high income group had MYR1.76 higher WTP amount for PC simple OP treatment charges. Those who have health insurance had MYR1.36 higher WTP amount for PC simple OP treatment charges. Those who have disease had MYR1.17 lesser WTP amount for PC simple OP treatment charges. R² was 0.109 which indicates that 10.9% of WTP amount for PC simple OP treatment charges influencing factors (number of dependent, locality, income, have health insurance and have disease) was explained by this model. Another 89.1% was contributed by other factors.

Therefore, the linear regression equation for WTP amount for PC simple OP treatment charges = 28.94 – (1.25*Number of dependent three or more) + (1.86*Urban) + (1.76*High Income) + (1.36*Have health insurance) – (1.17*Have disease).

DISCUSSION

The study findings showed that the study respondents were well randomised as distribution of the study respondents'

socio-demography and socio-economy were comparable with actual Malaysian population. Measuring household healthcare services utilization plays a critical role in the planning of healthcare service delivery. Service delivery capacity must be adequate to meet the needs of the population. This study found that for outpatient services, the respondents utilized both government and private health clinics almost equally. For inpatient services, majority of the respondents preferred utilizing the government or public hospital to private hospitals. These study findings were comparable with the National Health and Morbidity Survey 2006, which found that the majority (69.1%) of the population preferred government facilities for inpatient services and 53.8% preferred private facilities for outpatient services (Institute of Public Health 2008). Similarly, a study by Haironi et al in the Samarahan District in Sarawak also found that the majority of the local community preferred utilizing the government health centres (Haironi et al. 2014).

Assessing household willingness to pay for healthcare and its influencing factors is this study's main objectives. Willingness to pay is a basis in determining the population acceptance and their agreement to contribute for better healthcare services. For years, Malaysian populations have been paying very minimal for healthcare services especially at government or public health facilities. The healthcare charges or fees in these facilities have remained low for many years. For example, the registration fee for the general outpatient clinic is only MYR1 and MYR5 for the registration fee of the specialist clinic. Just by paying these small amounts of fee, a patient will receive consultation, investigations and medications. With the increasing costs of healthcare, these current fees are no longer suitable. On the other hand in the private sector, the fees have increased over the years from approximately MYR20 in 1980 to about MYR50 nowadays. One of the aims of this study was to assess the population's willingness to pay for healthcare if the fees were increased or co-payment be implemented in the future.

This study revealed that the majority of respondents were WTP more than MYR1 for the outpatient registration fee at the government clinic with the mean MYR3.76 (SD2.71) which is more than 300% increment. These study

findings are comparable to earlier studies. Aizuddin et al. (2011) in her study found that majority of her respondents were WTP extra charges for almost all government healthcare services. Majority of her respondents' WTP were less than MYR2.49 for the outpatient registration fee at the government clinic (Aizuddin et al. 2011). Study done by Raja et al. (1992) in Klang Valley area also gave similar findings, his respondents' WTP were less than MYR5.00 for the public outpatient clinic. However, in study done by Al Junid (2000), he found that the majority of his respondents were not willing to pay for increased healthcare service's charges. The amount they were willing to pay was less than MYR3 for the outpatient registration fee at the government clinic. All these findings show that the Malaysian population is willing to pay extra but due to very low charges already implemented for years, these may have resulted them to being very complacent, and hence the amount that they were WTP extra was still small. This study revealed that for private healthcare services, the majority of respondents were not WTP extra than the usual charges. The mean WTP for private simple outpatient treatment charges was MYR38.76 (SD5.45). This amount was lower than current average charges MYR50.00. This finding is similar to earlier studies. Aizuddin et al. (2011) found in her study that the majority of her respondents were only willing to pay MYR6.00 to MYR20.99 for outpatient charges in private healthcare facilities which also lower than average charges during that time was MYR30.00. The studies by Al Junid (2000) and Raja et al. (1992) showed that their respondents' WTP were less than MYR10.00 and MYR15.00 for outpatient charges in private healthcare facilities respectively. The above findings show that private healthcare services charges were expensive and Malaysia's population's WTP is less than usual. Walraven in his study in a rural area of Tanzania found that majority of his respondents were not willing to pay the average outpatient fee of Tsh350 and majority of them had WTP only Tsh100 for an OPD visit which was very much less than the average fee (Walraven 1996). This phenomenon also occurs in other countries.

Willingness to pay is a basis of population acceptance and together with the influencing factors will give a basis calculation the level of individual's contribution. By knowing the influencing factors will further support and justify the calculation with more certainty.

Many studies showed that there were many factors influenced WTP for healthcare services. The study found that WTP extra than MYR1.00 for outpatient registration fee in government facilities was negatively influenced by marital status but positively influenced by income, have health insurance and their choice of outpatient services whereas WTP for simple outpatient services charges in private facilities was influenced negatively by number of dependent and have disease but influenced positively by locality, income and have health insurance and

Marital status was found in this study to have negative association with WTP for government outpatient healthcare services. However, not much study investigates the association between marital statuses with WTP for healthcare services. The only study was by Mataria et al. and he found in his study in Palestine that marital status was not significantly associated with WTP (Mataria et al. 2006). It was found in this study that the number of household dependents has negative significant association with WTP for simple outpatient services charges in private healthcare facilities. Household with higher number of dependents were willing to pay lesser amount compared to household with lesser number of dependents. Different result was found in a study by Saulo et al. in rural Tanzania in which that there was no significant association between household size and WTP for artemisinin-based combination therapy (Saulo et al. 2008). Household size or dependent number may not necessarily relate with health utilization or visit. That was why household number of dependents might not be associated with WTP. Locality was found to have positive significant association with WTP for simple outpatient services charges in private healthcare services in this study. Urban respondents were willing to pay higher amounts compared to respondents who stayed in the rural area. Weaver and colleagues found similar results in their study in Central African (Weaver et al. 1996). This could be due to urban respondents being more accessible to private healthcare facilities and hence increases their healthcare services utilization at private facilities.

The study revealed that there was positive significant association between respondents' socio-economic status (SES) with their WTP for both outpatient registration fee in government and simple outpatient services charges in private healthcare facilities. Respondents with high SES were willing to pay higher amount compared to respondents with low SES. Donaldson, Hui-Chu, Ryan et al. and Shafie and Hassali found the similar results in their studies that WTP for healthcare services was positively associated with household income (Donaldson 1999, Hui-Chu 2010, Ryan et al. 1997 and Shafie & Hassali 2010). Income was one of the important resources for every individual to purchase goods including healthcare services. By having high income, individuals will be more able of spend more and their WTP is higher. Similar findings noted for having insurance and WTP for both outpatient registration fee in government and simple outpatient services charges in private healthcare facilities. Individuals with insurance were willing to pay higher amount. Individuals who have health insurance are usually individuals with good or high SES who can afford to pay for their insurance premium monthly or annually and their WTP is higher. In facts, having health insurance also known to have association with high utilization and moral hazard.

It was found during this study that respondents' choice for outpatient healthcare had positive significant association with WTP for the outpatient registration fee in government healthcare facilities. Respondents who chose other than

government healthcare facilities for their outpatient choice were found willing to pay a higher amount. These may relate with respondents who chose other than government healthcare facilities for their outpatient choice were respondents who stay in the urban area which has higher accessibility to other than government healthcare facilities, and they also might have higher income. These further increases their utilization. Apart from that, the presence of a disease was also found to have negative significant associations with WTP for simple outpatient services charges in private healthcare facilities. Households with a disease were willing to pay lesser amount compared to households without disease for the past one year. Hui-Chu also found similar results in his study WTP for lung cancer treatment, that health status showed a negative influence on patients' WTP (Hui-Chu 2010). The possible answers for above findings were that respondents having a disease will need frequent visit to healthcare services. That is why they only willing to pay lesser amount.

These study findings proved that Malaysian community willing to pay extra for outpatient services and understood that healthcare is not cheap. This may assist policy makers in deciding to revise the current outpatient service's charges. With this baseline research regarding WTP for health services which include comprehensive possible influencing factors among comparable Malaysian population, the findings from this study could be used in estimating the new proposed outpatient service's charges. In facts, the influencing factors could also be used as a basis in suggesting the detail of basic packages for future health financing scheme and factor to be consider in choosing individual to be subsidised.

However, the study has its limitation where it was only quantitative study conducted. It would have been more fruitful if the study can be combined with a qualitative component to assess further and to explore and explain the findings from the research. It is suggested that further study using the qualitative study to identified more issues and challenges of population WTP and also explore a barrier to their WTP for healthcare services.

CONCLUSIONS

The study showed the general Malaysian population values health care services. The public understood the scenarios of increase health care expenditure that similar to other commodities. They accept that these old fees schedule in government healthcare facilities have not been reviewed for years and it is timely to be reviewed. Yet, the amount of increment are only three times higher than previous fee. This might be due to subsidy mentality of the community. The public cannot accept any more increment for private health care services because the charges were already high. These findings are useful for estimating the economic value of medical services which government currently looking at.

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