Willingness to Pay for a National Health Insurance (NHI) in Saudi Arabia: A Cross-sectional Study

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Research Article

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Abstract

Background

Public health services in Saudi Arabia are provided free of charge to its citizens at the point of use. Recently, however, the government has realized that this model is unsustainable in the long run. Therefore, Saudi decision-makers are seeking to have a sustainable health system through the introduction of a contributory National Health Insurance that require making regular financial contributions from its members.

Objective

This study aims to explore the people's willingness to pay for a National Health Insurance system in Saudi Arabia. The study also aims to understand the factors affecting their willingness or unwillingness to pay NHI, such as, their demographic and socio-economic characteristics, the type of their usual health care provider, and their satisfaction with the current healthcare services.

Methods

A cross-sectional study design with Contingent Valuation (CV) technique was used to measure the value of National Health Insurance based on an individual's willingness to pay. The data were collected from 475 participants using an online survey via Google Forms between March 2021 and April 2021. Frequencies, logistic regression, and linear regression, were conducted to answer the research questions.

Results

The percentage of individuals who was willing to pay for NHI was higher than those who were not willing to pay (62.9%) vs (37.1%). There was a significant association between the type of usual healthcare provider and the likelihood of paying for NHI (OR CI = 0.20 to 0.51, p< 0.05=0.00). Also, there was a significant association between satisfaction with healthcare services and the likelihood of paying for NHI (OR CI = 0.02 to 0.31, p< 0.05=0.00). The median amount of money the people were willing to pay as a monthly contribution for NHI was 100 SAR (26.5 USD) with the average being 152 SAR (40 USD). There was a significant association between age and the maximum amount the participants were willing to pay (ß=-0.15,t=-2.55,p<0.05=0.01). In addition, the results show a significant relationship between income and the maximum amount of money people were willing to pay (ß=-0.25,t=3.81,p<0.05=0.001).

Conclusion

This study provided some evidence that most of the population of Saudi Arabia were willing to pay for NHI if implemented. The factors that appeared to influence the willingness to pay and the amount of monthly payment included the type of usual source of care, satisfaction with current public services, age, and income.

Background

Public health services in Saudi Arabia are provided free of charge to its citizens at the point of use, which may result in a huge financial burden on the government budget. These services are provided by the Ministry of Health's (MoH) network of hospitals and primary healthcare centers through which health services are distributed throughout the country, and other governmental institutions (military or university hospitals). The public sector is the largest provider of healthcare services in Saudi Arabia representing 75% of the healthcare services, with the remaining 25% provided by the private facilities [1]. The government finances public healthcare services from the oil revenues without collecting contributions from the citizens. The budget for healthcare in 2021 was SAR 175 billion, an increase of 4.6% of the SAR 167 billion budgeted in 2020 [2]. Healthcare costs are increasing globally, and Saudi Arabia is facing these same escalations. At present, the Saudi citizens population is estimated at 21 million, 6% of whom are aged 65 and above [3]. It is predicted that the older population will increase and make up 18.4% of the total population by 2050 [4]. While the rate of communicable diseases has decreased, that of non-communicable diseases, especially cardiovascular ones and diabetes, have increased [5]. Aging, change in disease pattern, and a rapid increase in population make the financing of healthcare an important and urgent issue. Moreover, the availability and quality of public healthcare services have been a persistent issue in the Saudi health system. Further, the free health care model has led to overutilization and longer waiting time for hospitals and specialists [6–9].

Despite reforms in the private health sector through the implementation of compulsory health insurance for expatriates, the Saudi health system still needs to mobilize additional resources to ensure the sustainability of the public healthcare services, especially with the fluctuations in oil prices. Saudi Vision 2030, an initiative established to reduce Saudi Arabia's dependence on oil by diversifying its economy, also seeks to improve and develop all public services, including healthcare. The vision has placed financing reform as a primary transformational enabler for a universal healthcare coverage which will ensure that all citizens, residents, and visitors to Saudi Arabia can obtain timely access to healthcare services, via insurance, without the risk of impoverishment [10]. The transformation involves creating a broader role for private health insurers, through the creation of a market of licensed and regulated insurers who will offer National Health Insurance (NHI). The NHI is a contributory insurance scheme into which citizens are required to make regular contributions which would supplement the government's health budget to meet the increasing costs. The contribution would be similar to an insurance premium with no refund for those who do not need to use the health services. The proposed model is similar to the private health insurance now being used for workers in the private sector. The NHI is expected to relieve some of the financial burden on the government as well as to improve the availability and quality of the public health services.

Little is known about the Saudi population's willingness to pay (WTP) a regular contribution for this proposed National Health Insurance (NHI) scheme. Knowledge about the perception of the Saudi population towards the proposed NHI could help policy makers shape their decisions and anticipate problems that may arise with its implementation. Thus, this study set out to explore the people's

willingness to participate in and financially contribute to a national health system in Saudi Arabia. The study also aims to understand the factors affecting their willingness or unwillingness to pay NHI, such as, their demographic and socio-economic characteristics, the type of their usual health care provider, and their satisfaction with the current healthcare services. Our study also tries to Assess the WTP for NHI at the national level to assist policy makers in determining the premiums in a more accurate way. Specifically, the study set out to answer the following research questions:

1. Are Saudi citizens willing to pay for a National Health Insurance (NHI)?
2. What is the maximum amount of money people are willing to pay for NHI?
3. Is there an association between the willingness to pay for NHI and the people's demographic and socio-economic characteristics, their type of usual health care provider, and their satisfaction with the current healthcare services?
4. Is there an association between the maximum amount of money people are willing to pay for NHI and the demographic and socio-economic characteristics, their type of usual health care provider, and their satisfaction with the current healthcare services?
5. What are the reasons for any unwillingness to pay for NHI?

Methods

Study Design

A cross-sectional study design with Contingent Valuation (CV) technique was used to measure the value of NHI based on an individual's willingness to pay (WTP). WTP it is defined as the maximum amount that an individual is willing to pay for a good or a service. Typically, an individual's WTP is measured by examining the price of the goods and services bought and sold in the marketplace. However, it is difficult to do the same for commodities which are not typically traded in the marketplace such as NHI. Therefore, this study resorted to the use of Contingent Valuation (CV) to investigate the willingness to pay for such an item. Contingent valuation (CV) surveys involve posing questions in such a way that the responses are contingent upon hypothetical markets described to the respondents. A number of previous studies have used CV methodology to examine the WTP for health insurance in developing countries [11–14], and two studies have been conducted in Saudi Arabia to assess WTP for NHI in one region of the country [15, 16].

Data Collection Instrument

The first section of the questionnaire presented a hypothetical scenario describing the implementation of a NHI that would ensure the sustainability of the current public healthcare services [Appendix 1]. Then, respondents were asked whether they would be willing to pay a monthly premium for this NHI scheme. If they declined to contribute, respondents were asked to give a reason. If they agreed to contribute, respondents were asked to state the maximum amount they would be willing to pay as a monthly insurance premium. Then the second part of the questionnaire collected information on their satisfaction with the healthcare services and their demographic and socio-economic characteristics, including their gender, age, marital status, region, education, income, and occupation.

Sample Size

Data were collected from 475 participants from different regions in Saudi Arabia between March 2021 and April 2021. The sample size was calculated using a margin of error of ± 5%, a confidence error of 95%, a 50% response distribution, and a population size of 21 million to arrive at the minimum required sample size of at least 385 participants. A decision was made to use all 475 responses received for this study.

Data Analysis

The data were analyzed using SPSS version 23.0. Descriptive analysis was computed for the research variables and the demographic factors. Logistic regression was used to determine the independent predictors for willingness to pay (WTP). Linear regression was used to determine associations of selected variables with the dependent variable which is the maximum amount people were willing to pay for NHI. A p-value of less than 0.05 was considered to be statistically significant.

Ethical Considerations

Institutional Review Bord (IRB) approval for the study was obtained from King Saud University (KSU), reference number KSU-HE-21-231.

Results

Demographics

A total of 475 responses were collected and a detailed description of the demographics of the sample is shown in Table [1]. Approximately 68.8% of the sample was female, and with regard to age, participants within the 18-29 age group comprised 30.1% of the sample, 26.1% was in the 30-39-year-old group, 24.4% in the 40-49-year-old group, and 19.4% in the ≥50-year-old group. The majority of the participants (62.1%) were married and lived in the central region (65.3%). In terms of education, the majority of the participants (55.4%) held a bachelor's degree, and 12% had a master's degree or PhD, with the rest being high school graduates or having other types of diplomas. With regard to income, one-third of the sample (32.8%) earned between 10,001 and 20,000 SAR, another third of the sample (32.0%) earned less than 5000 SAR, with the rest earning between 5,001 and 10,000 SAR (26.9%) or more than 20,000 (8.2%). Most of the participants (42.3%) were unemployed (students, retired, or other), 34.7% were public employees, and 22.9% were private employees.

Table [1]

Demographic characteristics of the sample (N=475).

Characteristic		N	%
Gender	Male	148	31.2%
	Female	327	68.8%
Age	18-29	143	30.1%
	30-39	124	26.1%
	40-49	116	24.4%
	≥50	92	19.4%
Marital Status	Single	148	31.2%
	Married	295	62.1%
	Other	32	6.7%
Region	Central	310	65.3%
	Eastern	95	20.0%
	Western	28	5.9%
	Southern	11	2.3%
	Northern	31	6.5%
Education	High school	88	18.5%
	2-year Diploma	67	14.1%
	Bachelor	263	55.4%
	Master	44	9.3%
	PhD	13	2.7%
Income	≤5000 SAR	152	32.0%
	5001-10000 SAR	128	26.9%
	10001-20000 SAR	156	32.8%
	20001-30000 SAR	29	6.1%
	>30000 SAR	10	2.1%
Occupation	Public employee	165	34.7%
	Private employee	109	22.9%
	Unemployed	201	42.3%

Willingness to pay (WTP)

The number of individuals who was willing to pay for NHI was higher than those who were not willing to pay (62.9%) vs (37.1%) [Figure 1].

A binary logistic regression was used to test the association between willingness to pay (WTP) and several factors such as demographics, type of usual health care provider, and satisfaction with the healthcare services [Table 2]. As shown in Table [2], there was a significant association between the type of usual healthcare provider and the likelihood of paying for NHI (OR CI = 0.20 to 0.51, p< 0.05=0.00). It seems that individuals using public health services were more likely to contribute and pay for NHI than those using private health services. Also, the analysis found a significant association between satisfaction with healthcare services and the likelihood of paying for NHI (OR CI = 0.02 to 0.31, p< 0.05=0.00). The results show individuals who were very satisfied with the healthcare services were more likely to pay to NHI.

Table [2]

Logistic Regression (N=475)

Characteristic		OR	OR 95% CI		P value
Gender	Male	1.056	0.60	1.86	0.85
	Female (ref)				
Age	18-29	.707	0.31	1.62	0.41
	30-39	.559	0.29	1.09	0.09
	40-49	1.573	0.77	3.22	0.21
	≥50 (ref)				
Marital Status	Single	.865	0.30	2.46	0.79
	Married	.970	0.40	2.35	0.95
	Other (ref)				
Region	Central	.942	0.40	2.23	0.89
	Eastern	.578	0.23	1.48	0.25
	Western	1.173	0.37	3.73	0.79
	Southern	5.803	0.73	45.88	0.10
	Northern (ref)				
Education	High school	.139	0.01	1.38	0.09
	2-year Diploma	.167	0.02	1.70	0.13
	Bachelor's	.108	0.01	1.02	0.05
	Master's	.120	0.01	1.18	0.07
	PhD (ref)				
Income	≤5000 SAR	.446	0.08	2.54	0.36
	5001-10000 SAR	.503	0.09	2.74	0.43
	10001-20000 SAR	1.005	0.19	5.45	1.00
	20001-30000 SAR	.387	0.06	2.57	0.33
	>30000 SAR (ref)				
Occupation	Public employee	.751	0.40	1.40	0.37
	Private employee	.631	0.33	1.19	0.16
	Unemployed (ref)				
Type of healthcare Provider	Public	**.320**	**0.20**	**0.51**	**0.000****

Characteristic		OR	OR 95% CI		P value
	Private (ref)				
Satisfaction with public health services	Very satisfied	**.070**	**0.02**	**0.31**	**0.000*** **
	Satisfied	.455	0.20	1.02	0.06
	Neutral	.511	0.25	1.03	0.06
	Unsatisfied	1.018	0.52	2.00	0.96
	Very unsatisfied (ref)				

The reasons for not being willing to pay for NHI are shown in Figure 2. Almost half of unwilling individuals (49.43%) indicated that they believed it was the government's responsibility to provide free health services for the citizens. Approximately one-third (36.93%) stated financial inability as the reason for their unwillingness to pay for NHI. Not using public healthcare facilities was the reason given by 10% of the unwilling respondents. The remaining 4% did not provide a reason.

Factors affecting the amount of money individuals were willing to pay for NHI

In our sample, 62.9% participants were willing to pay for NHI. The median amount of money the people were willing to pay as a monthly contribution for NHI was 100 SAR (26.5 USD) with the average being 152 SAR (40 USD) [Figure 3]. As shown in Figure 3, the majority of the respondents were willing to pay 100 SAR (26.5 USD) or less.

A linear regression was conducted to test the association between the maximum amount of monthly contribution and several factors such as demographics, type of usual health care provider, and satisfaction with the healthcare services [Table3]. The results show a significant association between age and the maximum amount the participants were willing to pay (ß=-0.15,t=-2.55,p<0.05=0.01). The younger participants were willing to pay more for NHI compared to the older ones. In addition, the results show a significant relationship between income and the maximum amount of money people were willing to pay (ß=-0.25,t=3.81,p<0.05=0.001). People with higher income were willing to pay more for NHI compared to the lower-income participants.

Table [3]

Linear Regression (N=299)

Predictor variables	ß	SE-*b*	*t*	*P*	95% CI	
					Lower	Upper
(Constant)	1.81	0.49	3.71	0.000***	0.85	2.77
Gender	0.03	0.13	0.21	0.84	-0.22	0.27
Age	-0.15	0.06	-2.55	**0.01****	-0.27	-0.03
Marital statue	-0.05	0.12	-0.44	0.66	-0.29	0.19
Region	-0.07	0.05	-1.39	0.17	-0.17	0.03
Education	0.00	0.06	-0.03	0.98	-0.12	0.11
Income	0.25	0.06	3.81	**0.000*****	0.12	0.37
Occupation	0.05	0.07	0.75	0.46	-0.08	0.19
Type of healthcare provider	0.02	0.11	0.22	0.83	-0.19	0.24
Satisfaction with public health services	-0.03	0.06	-0.03	-0.46	0.65	-0.14
Note: Maximum amount of money paid for NHI was the dependent variable. R^2 =0.091; AdjustedR^2 =0.062 F=3.14** ** p<0.05,**p<0.01, ***p<0.001*						

Discussion

This study explored the willingness of the citizens of Saudi Arabia to pay for a contributory National Health Insurance. The results indicate that majority of Saudi citizens were willing to pay a monthly contribution for the National Health Insurance (NHI), if implemented, in return for a sustainable and improved quality of public healthcare services. This finding is consistent with previous studies that examined people's willingness to pay for NHI in Jeddah city in Saudi Arabia [15, 16]. Our study provides evidence that citizens from other regions were also in favor of a NHI. People accepting NHI as an alternative financing mechanism might stems from the premise that this new system will improve the quality of public services as well as expand access to private facilities. The type of usual source of healthcare and satisfaction with the current healthcare services were found to have significant impact on the willingness to pay for NHI. People who usually used private health facilities were less likely to accept paying for an NHI. This was probably because they already had a private health insurance through their employer, so they did not see the need for a NHI. In Saudi Arabia, the employers in the private sector are required by law to provide their employees with health insurance. On the other hand, people who usually

used public health facilities were more likely to accept paying for an NHI. This was probably because they wanted to expand their choices and access private providers. Saudi citizens have always perceived private hospital services as being of a better quality than those in public hospitals [17]. Despite major investment in the public healthcare sector in Saudi Arabia by the government, many people remain dissatisfied with the availability and quality of care at publicly-run hospitals and clinics [8]. The free model currently used in the public sector has led to longer waiting time and the overutilization of emergency departments [9]. Increasing the involvement of the private sector through the NHI is an important approach that government is taking to decrease dependence on public funds and to improve the quality of care provided for NHI members. In addition to the type of usual source of care, the level of satisfaction with current health services was found to be a significant indicator of willingness to pay. People who were very satisfied with public services were more likely to accept contributing to NHI. This finding is consistent with a previous study that found that the respondents who were satisfied with the quality of public healthcare services were more willing to participate in NHI than those who were not [15]. This is not surprising as people tend to pay for things they perceive as valuable and satisfactory and they believe their contribution is worthwhile. The hypothetical scenario presented to the respondents promised that the new NHI would help to sustain the level of health services currently provided, improve its quality, and expand access to private sector care.

The median amount that people were willing to pay as a monthly contribution for NHI was 100 SAR (26.5 USD) with the average being 152 SAR (40 USD). The rates currently applied in the private health insurance (citizens and non-citizens) fall in four categories, the highest with an average monthly rate of 167 Sar (44 USD), and the lowest at 71 SAR (19 USD) [18]. So, it seems that the amount of money the respondents were willing to pay falls within the range of the rates currently used in the private insurance market. Two main factors, namely, income and age, were found to influence the maximum amount of money people were willing to pay for NHI. Higher-income individuals were more likely to pay a higher amount of money than low-income persons. This is expected as the higher the economic status, the more the individual would be able to pay insurance premiums compared to those with a low-level income. This is similar to previous studies that found higher-income individuals were more likely to participate in NHI [19–21]. Also, age was found to affect the maximum amount of money the individuals were willing to pay for NHI. It seems that young individuals were more likely to pay more money for NHI compared to older ones. This is consistent with other studies which found that age was a significant factor regarding the level of payment [21–24]. This is probably because the older people get, the more obligations they face which require dividing their limited resources carefully, while the younger people might have fewer financial responsibilities.

Almost one third of the study sample were unwilling to contribute to a national health insurance. Several reasons were provided. Almost half of these respondents stated that they believed it was the government's responsibility to provide free health services for the citizens. This is not surprising as most Saudi citizens consider healthcare to be a right and are accustomed to the free service model. Recently, however, the government has realized that this model is unsustainable in the long run. In spite of an increased budget allocation for free public health services, the actual average expenditure per capita is

expected to decrease [18]. This is because the population is rapidly growing and oil prices, from which most of the government revenues come, are fluctuating. Free healthcare has led to several problems such as overutilization and the abuse of services in addition to long waiting times and dissatisfaction with the quality of the services. Consequently, Saudi decision-makers are seeking to have a sustainable health system through the introduction of a contributory national health insurance. Other reasons for refusing to pay for NHI include some of the respondents not using public health services, and financial inability. More than half of the respondents who stated financial inability as their reason for not being willing to pay were unemployed or had monthly income less than 5000 SAR [Appendix 2], which may explain the lack of the means to contribute to a health insurance.

One of the limitations of the contingent valuation technique is based on whether it adequately measures people's willingness to pay for commodities which are not typically traded in the marketplace [25]. Contingent valuation assumes that individuals understand the system service in question and will express their preferences in the contingent market just as they would in a real one. However, most people are unfamiliar with placing monetary values on services that are not typically traded in the marketplace. Therefore, they may not have had a suitable basis for expressing their true value. It is also suggested that people place a different value on a good in a hypothetical situation compared to an actual situation [25]. Nevertheless, this study provides an exploration at the national level about the public's willingness to pay for NHI, which should lead to further studies on the subject.

Conclusion

This study provided some evidence that most of the population of Saudi Arabia were willing to pay for NHI if implemented, as the findings suggested that more respondents indicated acceptance of the idea of participating in a NHI than those who declined. The factors that appeared to influence the willingness to pay and the amount of monthly payment included the type of usual source of care, satisfaction with current public services, age, and income. Future research is recommended to explore the perceptions and barriers to implementing a national health insurance from the providers' point of view.

Abbreviations

NHI: National Health Insurance

WTP: Willingness to pay

MoH: Ministry of Health

IRB: Institutional Review Bord

KSU: King Saud University

Declarations

Ethics approval and consent to participate:

The study was reviewed and approved by the Ethics Committee of Scientific Research at the Deanship of Scientific Research that supports the King Saud University Institutional Review Board (KSU IRB). The committee, on behalf of the Institutional Review Board, approved the research (reference number KSU-HE-21-231). Informed consent was obtained from all subjects or, if subjects were under 18, from a parent and/or legal guardian. All methods were performed in accordance with the relevant guidelines and regulations.

Consent for publication:

Not Applicable

Availability of data and materials:

The dataset used was uploaded with the paper submission as a supplementary file.

Competing interests:

The author declare that she have no competing interests.

Funding:

Not Applicable

Authors' contributions:

Abeer Alharbi contributed to the research conceptualization, methodology, formal analysis, and writing – review & editing.

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References

1. Statistical Yearbook for the Year of 2019, Ministry of Health, Saudi Arabia [Internet]. [cited 2020 Nov 30]. Available from: https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx
2. The Ministry of Finance (MoF) Budget Statement [Internet]. [cited 2021 Jun 12]. Available from: https://www.mof.gov.sa/en/budget/2021/Documents/Budget2021_EN.pdf
3. General Authority for statistics. Population Estimates [Internet]. 2015 [cited 2021 Jun 13]. Available from: https://www.stats.gov.sa/en/43
4. Karlin NJ, Weil J, Felmban W. Aging in Saudi Arabia. Gerontol Geriatr Med [Internet]. 2016 Jan 19 [cited 2021 Jun 13];2. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5119868/
5. Al-Hanawi MK, Keetile M. Socio-Economic and Demographic Correlates of Non-communicable Disease Risk Factors Among Adults in Saudi Arabia. Front Med (Lausanne). 2021 Apr 6;8:605912.
6. Rahman R, Alsharqi OZ. What drove the health system reforms in the Kingdom of Saudi Arabia? An analysis. The International Journal of Health Planning and Management. 2019;34(1):100–10.
7. Al Asmri M, Almalki M, Fitzgerald G, Clark M. The public health care system and primary care services in Saudi Arabia: a system in transition. East Mediterr Health J. 2020 Apr 1;26(04):468–76.
8. Almutairi KM, Moussa M. Systematic review of quality of care in Saudi Arabia. A forecast of a high quality health care. Saudi Med J. 2014 Aug;35(8):802–9.
9. Walston S, Al-Harbi Y, Al-Omar B. The changing face of healthcare in Saudi Arabia. Ann Saudi Med. 2008 Aug;28(4):243–50.
10. Health Sector Transformation Strategy [Internet]. [cited 2020 Aug 27]. Available from: https://www.moh.gov.sa/en/Ministry/vro/Documents/Healthcare-Transformation-Strategy.pdf
11. Asgary A, Willis K, Taghvaei AA, Rafeian M. Estimating rural households' willingness to pay for health insurance. The European journal of health economics: HEPAC : health economics in prevention and care. 2004 Oct;5(3):209–15.
12. Bärnighausen T, Liu Y, Zhang X, Sauerborn R. Willingness to pay for social health insurance among informal sector workers in Wuhan, China: a contingent valuation study. BMC Health Serv Res. 2007 Jul 20;7(1):114.
13. Asenso-Okyere WK, Osei-Akoto I, Anum A, Appiah EN. Willingness to pay for health insurance in a developing economy. A pilot study of the informal sector of Ghana using contingent valuation. Health Policy. 1997 Dec 1;42(3):223–37.
14. Azizah Azhar, Md Mizanur Rahman, Mohd Taha Arif. Willingness to Pay For Health Insurance in Sarawak, Malaysia: A Contingent Valuation Method | Bangladesh Journal of Medical Science [Internet]. [cited 2021 Jun 6]. Available from: https://www.banglajol.info/index.php/BJMS/article/view/35876
15. Al-Hanawi MK, Vaidya K, Alsharqi O, Onwujekwe O. Investigating the Willingness to Pay for a Contributory National Health Insurance Scheme in Saudi Arabia: A Cross-sectional Stated Preference Approach. Appl Health Econ Health Policy. 2018 Apr 1;16(2):259–71.

16. Al-Hanawi MK, Alsharqi O, Vaidya K. Willingness to pay for improved public health care services in Saudi Arabia: a contingent valuation study among heads of Saudi households. Health Econ Policy Law. 2020 Jan;15(1):72–93.
17. Al-Borie HM, Damanhouri AMS. Patients' satisfaction of service quality in Saudi hospitals: a SERVQUAL analysis. Int J Health Care Qual Assur. 2013;26(1):20–30.
18. Wan Puteh DrSE, Aizuddin DrAN, Al Salem AA. Renewal of Healthcare Funding Systems by National Health Insurance in the Kingdom of Saudi Arabia (NHI). SJLS. 2020 Nov 19;5(11):236–45.
19. Sana A, Rida F, Tayyaba I, Masooma M, Ayesha Z, Kalsoom A. Willingness to Pay for Community-Based Healthcare Insurance Schemes in Developing Countries: A Case of Lahore, Pakistan. Ethiopian Journal of Health Sciences. 2020 Jan;30(1):135–42.
20. Mulligan J., Mtei G. Community Health Funds in Tanzania: A literature review. [Internet]. GOV.UK. [cited 2021 Sep 23]. Available from: https://www.gov.uk/research-for-development-outputs/community-health-funds-in-tanzania-a-literature-review
21. Babatunde O, Akande T. Willingness to Pay for Community Health Insurance and its Determinants among Household Heads in Rural Communities in North-Central Nigeria.:11.
22. Dror DM, Radermacher R, Koren R. Willingness to pay for health insurance among rural and poor persons: field evidence from seven micro health insurance units in India. Health Policy. 2007 Jun;82(1):12–27.
23. Edoh D, Brenya A. A community-based feasibility study of National Health Insurance Scheme in Ghana - PubMed [Internet]. [cited 2021 Sep 23]. Available from: https://pubmed.ncbi.nlm.nih.gov/17298144/
24. Adams R, Chou Y-J, Pu C. Willingness to participate and Pay for a proposed national health insurance in St. Vincent and the grenadines: a cross-sectional contingent valuation approach. BMC Health Services Research. 2015 Apr 9;15(1):148.
25. Butterfield BJ, Camhi AL, Rubin RL, Schwalm CR. Chapter Five - Tradeoffs and Compatibilities Among Ecosystem Services: Biological, Physical and Economic Drivers of Multifunctionality. In: Woodward G, Bohan DA, editors. Advances in Ecological Research [Internet]. Academic Press; 2016 [cited 2021 Sep 25]. p. 207–43. (Ecosystem Services: From Biodiversity to Society, Part 2; vol. 54). Available from: https://www.sciencedirect.com/science/article/pii/S0065250415000264

Figures

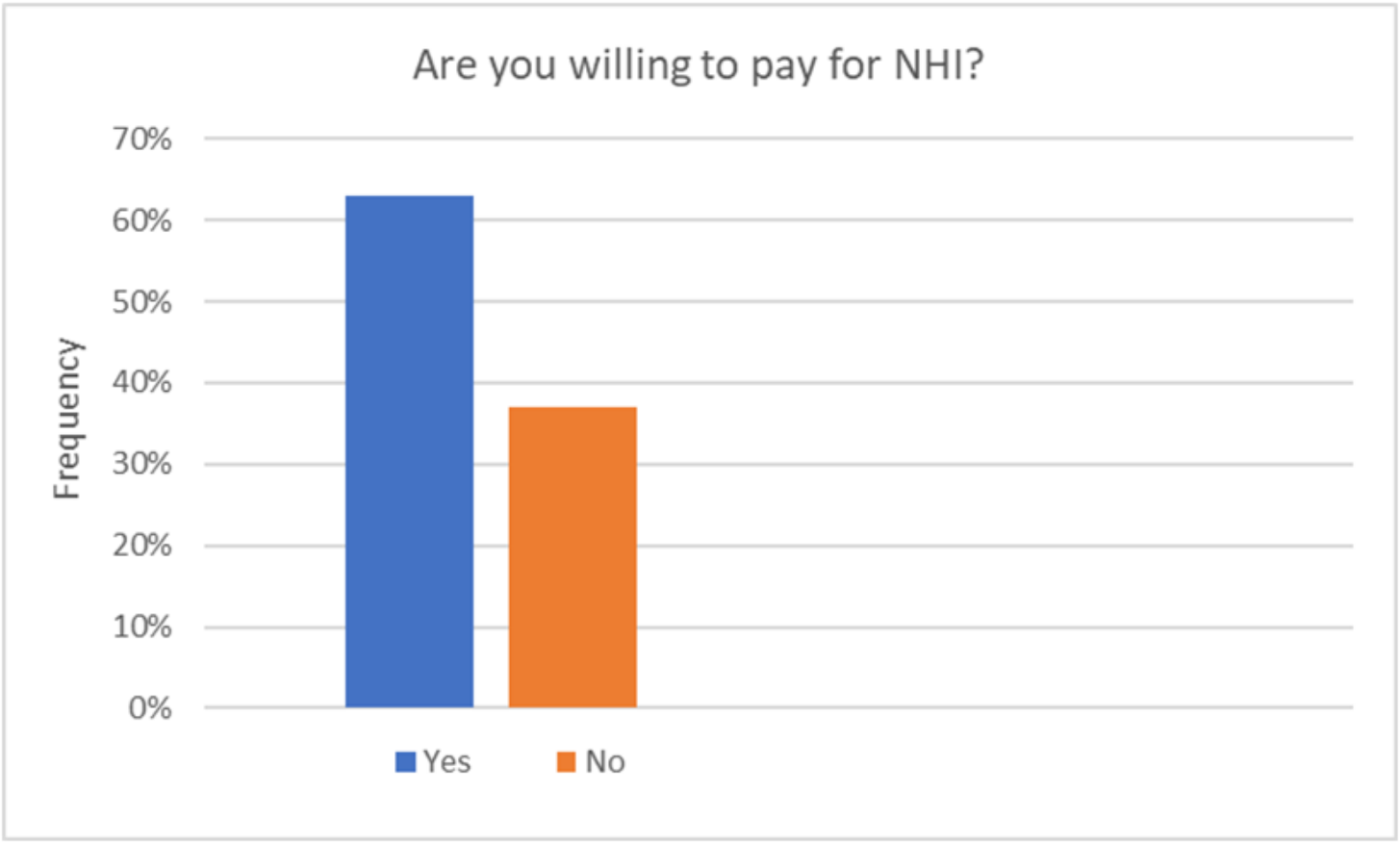

Figure 1

Frequencies of individuals willing and not willing to pay for NHI (N=475)

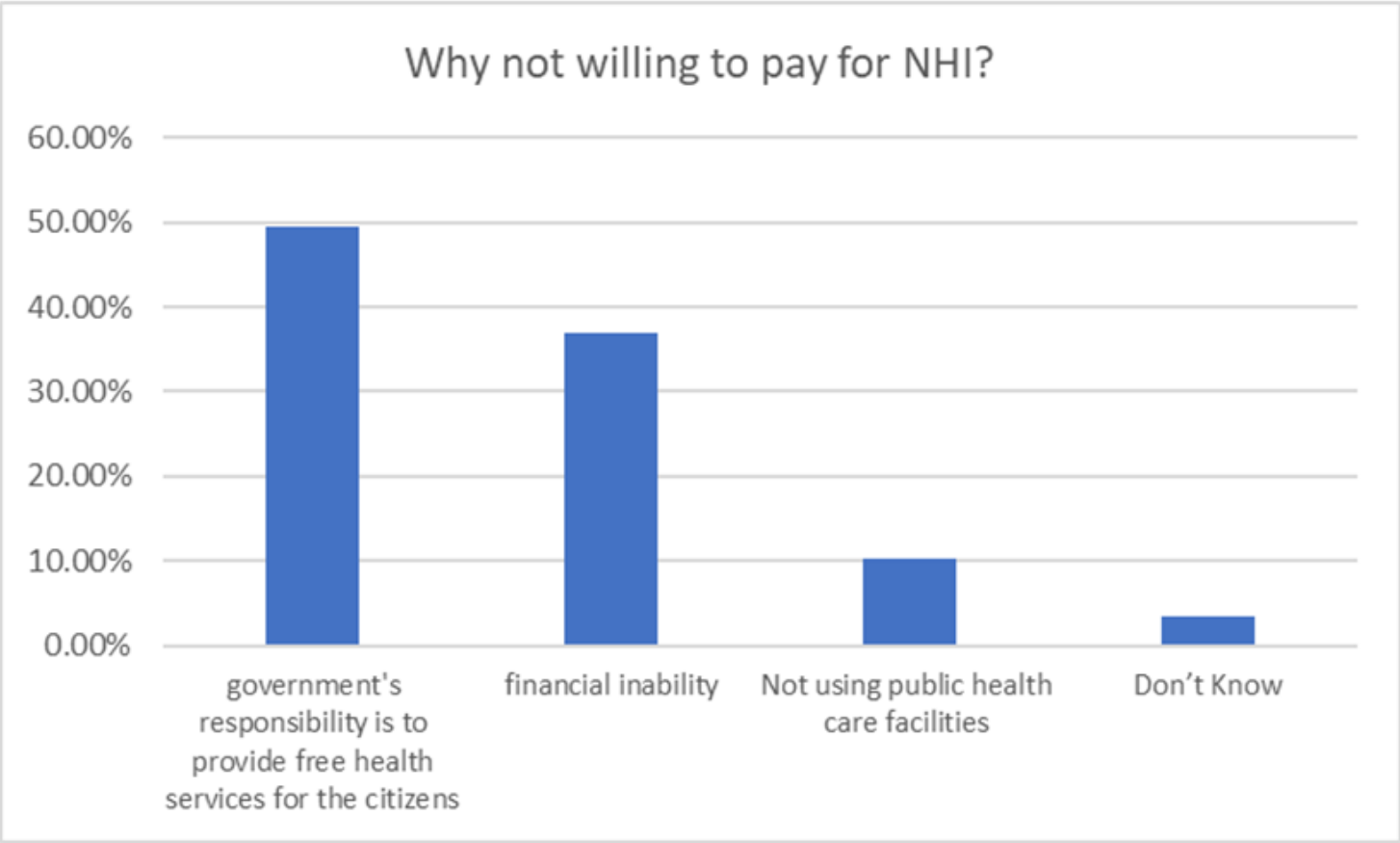

Figure 2

Reasons for unwillingness to pay for NHI (N=176)

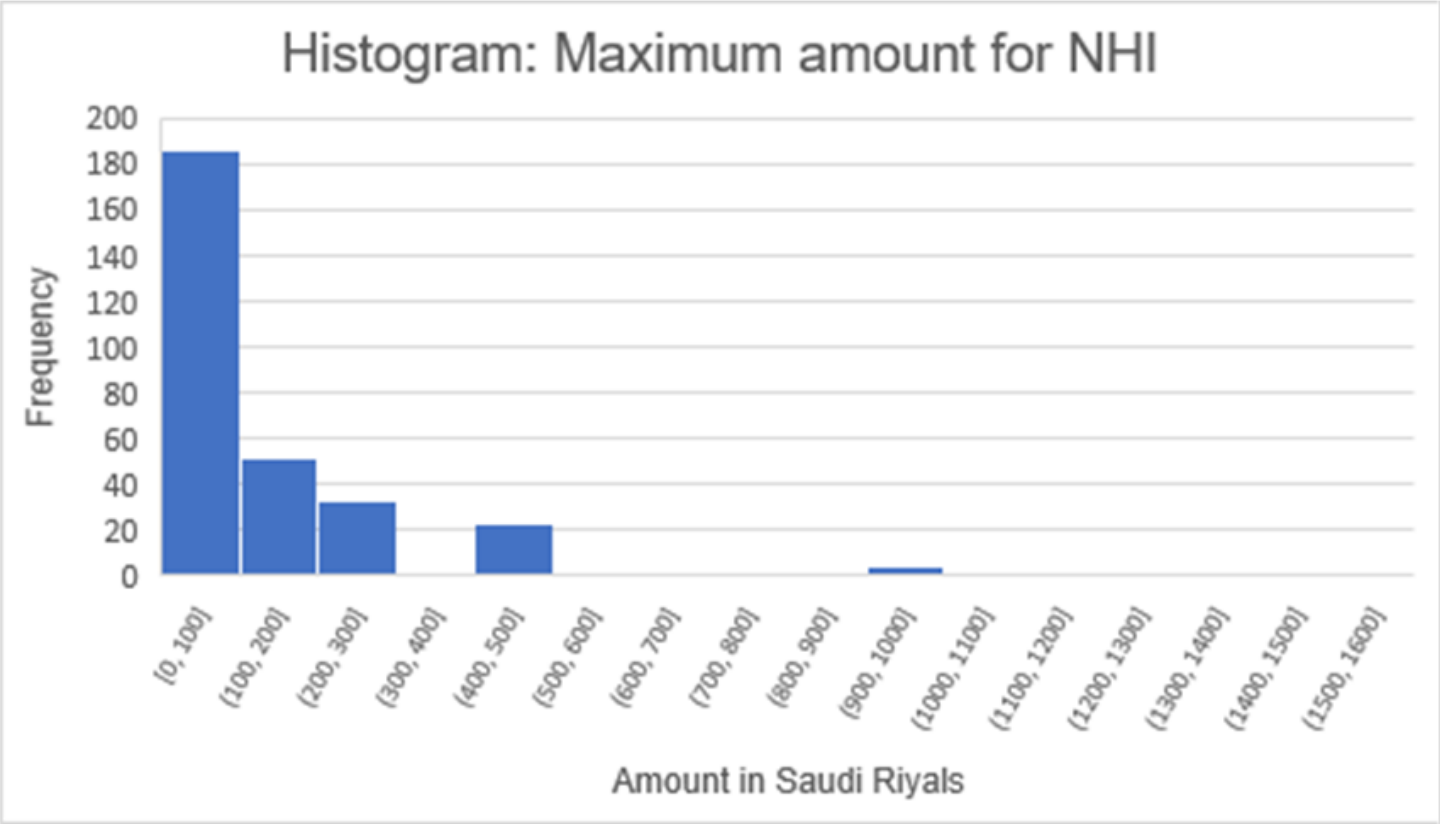

Figure 3

Distribution of maximum amount of money individuals are willing to pay for NHI (N=299)

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Appendix1.docx
- Appendix2.docx