



Willingness to join and pay for social health insurance and its determinants among teachers in Bahir Dar city, Northwest Ethiopia.

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This is to certify that the thesis prepared by Abyou Seyfu, entitled: “Willingness to join and pay for social health insurance and its determinants among teachers in Bahir Dar city, Northwest Ethiopia,” and submitted in partial fulfillment of the requirements for the degree of Master of Sciences in Pharmacoepidemiology and Social Pharmacy complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

Willingness to join and pay for social health insurance and its determinants among teachers in Bahir Dar city, Northwest Ethiopia.

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Background: Protecting people against catastrophic medical expenses is a means to ensure equity in health. Health insurance is a means to raise and pool funds to finance health services. Ethiopia approved compulsory social and community-based health insurance schemes. The implementation of social health insurance was delayed due to fear of low acceptance by the public servant.

Objective: To assess willingness to join and pay for the social health insurance scheme and identify factors associated among teachers in Bahirdar city, Northwest Ethiopia.

Methods: A cross-sectional study design was used to recruit 488 teachers. Multiple logistic regression was used to identify factors associated with teachers' willingness to join. The interval data logit was used to determine mean willingness to pay and predictors of willingness to pay.

Result: 337 (70.21%) of the respondents expressed their willingness to join and pay 2.46% of their monthly salary. Those who were married were 54% less likely to be willing to participate. Absence child aged ≤ 5 year, absence of acute illness in last one year and absence of chronic illness were factors negatively affecting the decision to join the scheme. Willingness to pay was significantly and positively associated with family size and the presence of acute illness.

Conclusion: More than half of the participants were willing to join the scheme with a mean premium contribution of 2.46% of their monthly salary. This is an important policy implication in revising the premium amount.

Keywords: Health insurance, Ethiopia, Willingness to join, Willingness to pay, Contingent valuation.

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Abbreviations

CBHI	Community-Based Health Insurance
CV	Contingent Valuation
DBDC	Double Bound Dichotomous Choice
ETB	Ethiopian Birr
HCF	Health Care Financing
OOP	Out of Pocket
SHI	Social Health Insurance
UHC	Universal Health Coverage
WHO	World Health Organization
WTJ	Willingness to Join
WTP	Willingness to Pay

1. Introduction

1.1. Background

The world's health care spending was nearly \$3.1 trillion in 1998. Social health insurance (SHI), taxation, private health insurance, and out-of-pocket (OOP) payments were the primary financial sources for about 95% of this expenditure (WHO, 2003). Within the era of sustainable development goals, the world health budget raised to US\$ 7.8 trillion in 2017 from US\$ 7.6 trillion in 2016. Between 2000 and 2017, it was raised by 3.9% (WHO, 2019). In low-and middle-income countries (LMICs), revenue is generated from domestic and external sources. There is a scarcity of resources in most low-income countries to ensure universal health coverage (UHC) (WHO, 2008). People with health-related problems had low incomes (Swartz, 2008).

It is crucial to escalating access to health care to minimize the load of health care service financial catastrophes (Sood & Wagner, 2018). Protecting people against catastrophic medical expenses is a means to ensure equity in health care financing (HCF) (Van Doorslaer et al., 2007). Out-of-pocket installments are a dynamic and unjust type of financing the wellbeing framework with catastrophic and ruining consequences for family unit expectations for everyday comforts, and the high dependence on OOP wellbeing use smother access to quality HCF hazard security (Aregbeshola & Khan, 2018).

Health insurance, to cover expenses related to health, is a policy that specifies a contract between the insurer and the customer (Bemisaal, 2001). Social health insurance, a health insurance scheme, helps to raise and pool funds to finance health services. It could also work along with other HCF mechanisms like community-based health insurance (CBHI) (Doetinchem, Carrin, & Evans, 2010). The SHI scheme's objective is to provide quality

and sustainable UHC to the beneficiary by risk pooling (HPR, 2010). Risk pooling programs can have an important implication when there is a disease burden among the poor in developing countries for wealth transfer. Hence health insurance helps to pool risks, which possibly bring wealth and risk transfer (Smith & Witter, 2004). Adverse selection is another concern for a health insurance scheme. To bridge the financial gap because of adverse selection, target subsidies should be planned carefully. The poor can be served by different insurance schemes (Parmar et al., 2012).

Two contrasting aspects, poverty and economic growth characterize Ethiopia. These aspects are longitudinally distributed. Poverty is significant in rural surroundings, whereas growth occurs in urban areas (Lie & Mesfin, 2018). The first insurance commercial code were issued in 1960 as a business. Four parts of the Commercial Code of Ethiopia were dedicated to giving a lawful structure in the protection of the insurance business (Abebe, 2009). The licensing and Supervision of Insurance Proclamation No. 86/1994 (article No.37) were used for more than twenty years (Mihretu, 2015). There was a big problem in the HCF strategy in Ethiopia. Formal health insurance were reached to only 0.02 % to 0.03 % of the total population since 1997 and 1998 (Obse, Hailemariam, & Normand, 2015). In the year 2008, 1.1 % of Ethiopians were involved in any of schemes. Only 1% of government's health care spending was used for activities related to insurance (Khalid & Serieux, 2018).

Currently health insurance plans come in various structures. Social health insurance, a program to include employees of the formal sector (both government and private) and pensioners whereas, CBHI is prepared for citizens out of the formal sector (Dibaba et al., 2014). From the two main programs established as a financial risk protection mechanisms,

CBHI was implemented since 2010 in 13 pilot *woredas* of the country (EHIA, 2015). In 2018/2019 fiscal year, the CBHI coverage was reached to 22.5 million people living in 657 *woredas* from 5 regional states and one city administration (EHIA, 2019). The country had planned to introduce Social health insurance to achieve UHC. Establishing an insurance system by itself may be fruitless. Successful implementation of the scheme can be ensured through awareness creation and discussion, thus improving the voluntarily participation of public servants (Agago, Woldie, & Ololo, 2012).

The scope this study mainly focused only on teachers working in public schools in Bahir Dar city administration during May and June 2019. It also considers contingent valuation (CV) to elicit willingness to pay (WTP).

1.2. Statements of the problem

A study showed that WTP could be affected by income, geography, and different other factors (Lasebew, Mamuye, & Abdelmenan, 2017). Willingness might also be affected by cultural beliefs (Dibaba et al., 2014). In Ethiopia, the inclusion of both the husband and wife for premium contributions, when both are employed in the formal sector, may negatively affect the family's monthly income (FMoH, 2010). A monthly salary decrement can further decrease employees' WTP (Dibaba et al, 2014). Despite the plan to start SHI in 2014, it has not been materialized (Haile, Ololo, & Megersa, 2014). It is majorly due to the low acceptance of the program (Gidey, et. al., 2019). Agreement among all stakeholders is important to successfully establish SHI (Doetinchem et al., 2010).

Willingness to join (WTJ) for SHI and factors that determine willingness to pay has not been well studied in Ethiopia. Acceptance rate ranging from 17% to 88% were documented by different studies done in Wolaita, Addis Ababa, Bahir Dar and Mekelle. (Agago et al., 2012; Lasebew et al., 2017; Tenaw, 2017; Yeshiwas et al., 2018; Gidey et al., 2019). There is no published study that exists related to teachers' WTP in Ethiopia. Also, there is no pilot testing of the SHI scheme done, implying the possibility of problems during implementation. There is only a single study done in Bahir Dar City among civil servants (Yeshiwas et al., 2018). However, the study did not determine the participants mean WTP. A single study done in Wolita Sodo also did not elicit teachers' capacity to contribute to the scheme (Agago et al., 2012). Teachers were selected because of their advocacy role in promoting the government policy. So, the aim of this study is mainly focused on determining average WTP and uncovering the factors that affect teachers' decision to enroll and pay SHI scheme in Bahir Dar city.

1.3. Significance of the study

This study will mainly help the Federal Ministry of Health, Ethiopian Health Insurance Agency and the Amhara region health bureau to know the teachers WTJ in the city and to take an action to revise the premium contribution.

In addition this study can help health professionals and academicians as one source of literature for further research.

1.4. Definition of key terms

Solidarity	An arrangement of a group for mutual support.
Risk pooling	The collection of health related money and resources for preventing common unpredictable financial risks.
Adverse selection	The tendency to prefer enrolling in health insurance scheme based on the risk of illness.
Willingness to pay	The maximum amount at which the individual is willing to pay for a good/ service or programme.
Moral hazard	The beneficiaries altered behavior in insurance schemes which is characterized by frequent obsessed need of health care because of being member of the insurance scheme.

2. Literature review

2.1. Health care financing and universal health coverage

Poverty is the main source of monetary misfortune from health stuns as the more unfortunate cannot manage the cost of the acquisition of adequate amounts of value nourishment, preventive and remedial medicinal services, and training (Atake, 2018). In LMICs, there were generally high OOP uses for medicinal services. Families may get into crisis to get health care services (World Bank & GAVI, 2010).

Some consider health care as a fundamental right and by others as a tradable ware. Throughout a little more than a century, in most industrialized nations UHC has gone from being desire only to reality, yet not all. However, for many, particularly in the developing countries, it remains close to fantasy (McKee et al., 2013). Universal health coverage is accomplishing more noteworthy criticalness given the importance ascribed to it by driving worldwide health organizations at the worldwide level and its capability to prove populace wellbeing crosswise over countries. (AJPHC, 2016).

The objective of the service inclusion measurement of UHC is that individuals demanding promotive, preventive, therapeutic, rehabilitative, or palliative wellbeing get them and are of adequate quality to accomplish potential wellbeing gains (World Bank, 2017). Fair budgetary security implies that everybody, regardless of their degree of pay, is free from monetary hardship brought about by utilizing required health care services (USAID, 2016). Being reasonable in UHC can manifest diminishing OOP installments through money related hazard security, either through pre-payment or tax collection (AJPHC, 2016).

Out-of-pocket payment predominate in low-income countries as HCF strategy compared with prepayment mechanisms like insurance and tax (Van Doorslaer et al., 2007). The

informal nature of African countries' economies made tax collection for SHI difficult (WHO, 2013). With the absence of health insurance, health care expenditure risks can be observed in any household. The OOP payments of health services would unsettle the households financial plan and lead to catastrophe (Van Doorslaer et al., 2007).

The consumer in health care cannot know in advance about his/her medical future expenses. Different features of health care can decrease the consumer's capacity to plan financially, which finally yields exposure to financial risk (Rapaport, 2015). Health insurance is one method to minimize catastrophic issues. Nevertheless, it is necessary to value individuals' decision making when health insurance is implemented (AbuBakar, et al, 2012). One of the motivations of health insurance is to protect consumers against adverse health shocks(Khalid & Serieux, 2018). From 1995-2008 in Ethiopia, the absolute wellbeing spending plan apportioned has expanded to 2 billion USD every year while the consumption has expanded from 0.4 to 1.6 billion USD (Abraha & Nigatu, 2009). Since 2011, Ethiopia had a total health expenditure of 4.65% of GDP. Besides. 33.8% of the total health expenditure was OOP spending. The total health expenditure per capita was \$16.6 (World Bank, 2014).

2.2. Health insurance

The absence of health insurance inclusion can expand the rate of welfare misfortune from wellbeing stuns (Atake, 2018). Health insurance, which is an inclusion against the danger of bringing about medicinal and related budgetary expenses, is one of the manners in which individuals in different nations pay for their health care demands. In every nation, some individuals cannot pay straightforwardly or OOP for the health care services they demanded. Because of this, numerous individuals may be genuinely distraught. In lower-

income nations numerous insurance programs spread just a base arrangement of administrations, for example, they do not give full budgetary risk prevention(Ho, 2015).

A few nations have thought that it was hard to join existing health insurance schemes for government workers or formal area employees into a more extensive protection pool covering different populace fragments because the more rich individuals in the formal sector dread losing a portion of their advantages (Doetinchem et al., 2010). Being a member of insurance schemes is very advantageous to improve health care services(Baloul & Dahlui, 2014b). SHI plans are legitimate projects financed predominantly through compensation put together commitments based on respect to the degree of salary. These plans are compulsory for characterized classes of employees and their employers. It depends on a mix of protection and solidarity (Panda et al., 2013). In this sort of plan, premiums are, for the most part charged as pay rates. This is one of the most higher standards of health insurance in which individuals from the member of the scheme will add to the plan dependent on their pay level. This can assist the insurer with pooling the risk and appropriate it to the individuals fairly(Basaza et al., 2017).

Solidarity has been viewed as an aggregate property of a particular socio-political culture, in light of shared desires and created as a major aspect of a collective, recorded learning measure. The three nations had various encounters of medical coverage and this may have added to the above contrasts in communicated eagerness to pay between nations. Building and 'living with' organizations that give reasonable widespread inclusion is probably going to be a basic piece of the learning cycle which bolsters the improvement of social solidarity (Goudge et al., 2012). Even though solidarity is common in social insurance, it is also aone that characterizes private insurance (Lehtonen & Liukko, 2011). The goal of solidarity

plans is to ensure its' individuals admittance to a predefined set of advantages. To accomplish this target, the expenses of the plan are shared by the network solidarity varies on a very basic level from the rule of actuarial decency in protection (Van der Aa et al., 2019).

Risk pooling is the assortment and the executives of money related assets so, huge, unusual individual monetary dangers become predictable and are conveyed among all individuals from the pool. Risk pooling can give money related assurance to family units even with high health care costs (World Bank & GAVI, 2010). Pooling is the health system work whereby gathered health incomes are moved to acquiring associations. This can help to share the monetary hazard related to wellbeing intercessions for which the demand is uncertain (Smith & Witter, 2004).

2.3. Willingness to pay and Methods of estimation

WTP is the greatest measure of cash that an individual is set up to offer to guarantee that a proposed human services measure is attempted (Marcinko & Hetico, 2006). Scientists concurred on the significance of legitimate WTP gauges. Many thought about that view of high worth by clients for substantial estimates of WTP is fundamental for building up an ideal estimating methodology (Breidert, Hahsler, & Reutterer, 2006). WTP can be evaluated from multiple points of view. Open-ended inquiries will give the WTP sum expressively while close-ended inquiries can be posed to utilizing a couple of strategies or tools (Aizuddin, Sulong, & Aljunid, 2014).

The Contingent Valuation technique is a generally utilized methodology for nonmarket valuation issues. A standard inquiry design which is Dichotomous Choice (DC), be set up

to request that people react to their WTP for a fixed offer sum. The offered sum may vary among the participants, however, every individual must be asked just one amount(Patterson, 1996). The Dichotomous Choice Contingent Valuation has been the most prominent strategy among experts of CV, because of its effortlessness of utilization in information collection. At the point when this elicitation technique is utilized, the respondent is possibly required to answer YES or NO when asked whether she/he is willing to pay a given sum for the good provided (Calia & Strazzera, 1998). On the off chance that a respondent demonstrates a readiness to the first offered sum, the new edge which is about twofold the first will be advertised. If the respondent is reluctant to pay the first offered sum, the subsequent limit is diminished to about a half portion of the first sum. This scrutinizing system has additionally been known as a "double-bound" approach(Cameron & Quiggin, 1994).

2.4. Determinants of enrolment in Health Insurance

There are regional and socioeconomic aberrations for the health insurance membership. Policies and intercessions to close the aberrations are a pressing demand in each nation (Baloul & Dahlui, 2014a). Offering minimal contribution health insurance to low-salary family units is one imaginative strategy through which to back social insurance arrangement and to keep away from catastrophic OOP health consumptions(Wright, Asfaw, & Gaag, 2009).

In China, people group level and individual level social capital were essentially and decidedly connected with the likelihood of farmers' WTJ government-subsidized community health insurance (Zhang et al., 2006). Likewise, an investigation done in Malaysia showed that for the employed people, it was discovered that income level, age,

sex, race, religion, level of education, work part and risk attitude influenced the choice to buy health insurance. In contrast, for the non-salaried people, the elements that influenced the choice to buy health insurance were race, religion, level of education, marital status, and OOP health consumptions (Abu Bakar et al., 2012). In Vietnam, the two primary explanations behind WTJ were an absence of cash to purchase a health insurance card and observation that health insurance is not essential in light of the respondents' great wellbeing status (Nguyen & Hoang, 2017).

According to a systematic review done in 2015 for LMICs, instructive fulfillment (less taught were happy to pay less than highly instructed), sex (men were eager to pay more than women), age (younger were happy to pay more than older people), and family size (bigger families were eager to pay more than smaller families) affected CBHI enrolment (Adebayo et al., 2015). The capacity to pay is an important thought in the choice to safeguard or not protect for health in any program (Mathiyazhagan, 1998). In Malaysia, study results demonstrated that over 63.1% of the respondents were eager to join and contribute about Int\$114.38 every month per family towards community health insurance. This was impacted by ethnicity, instructive level, family unit month to month salary, the existence of chronic disease and the availability of private insurance programs (Shafie & Hassali, 2013). Multiple regression analysis in a Bangladesh study also identified similar factors like income, occupation, geographical location and educational level as determinants of WTP (Ahmed et al., 2016). Additional evidence from Sera Leon showed that those who do not want to join were constrained by money (32%); they do not demand a health insurance scheme at all (15%); they had better options (28%); or that they did not have trust in the government (19%) (Jofre-Bonet & Kamara, 2018). The study in Nigeria

also resulted that age, monthly income, health status, recent sickness, cost of treatment, satisfaction level of quality of care, distance to health facility, and awareness of health insurance were found to be statistically associated with WTP (Falaki, Juni, & Rosliza, 2017).

Based on the study done in Ethiopia, considering CBHI as a scheme, about 78% of the respondents were WTJ. Most of the demographic characteristics, socioeconomic variables, and social capital were found to be significantly associated with WTJ for CBHI (Haile et al., 2014). Another study done in Wolayta Sodo among government employee teachers identified that 74.4% of them were WTP the proposed SHI scheme (Agago et al., 2012).

A study done in Mekelle among civil servants showed that lack of money to pay was the major challenge to participate in the scheme. Participants' WTP was significantly and positively associated with participants' level of income (Gidey et al., 2019). A similar study done among health professionals in St' Paul hospital showed significant associations between WTP and perceived quality of health care services [OR= 2.74, 95% CI =1.45-5.20], large amount of OOP [OR =1.84, 95% CI=1.02-3.31]. Overall, only 17% of health professionals were voluntary to select the scheme (Lasebew et al., 2017).

2.5. Conceptual framework

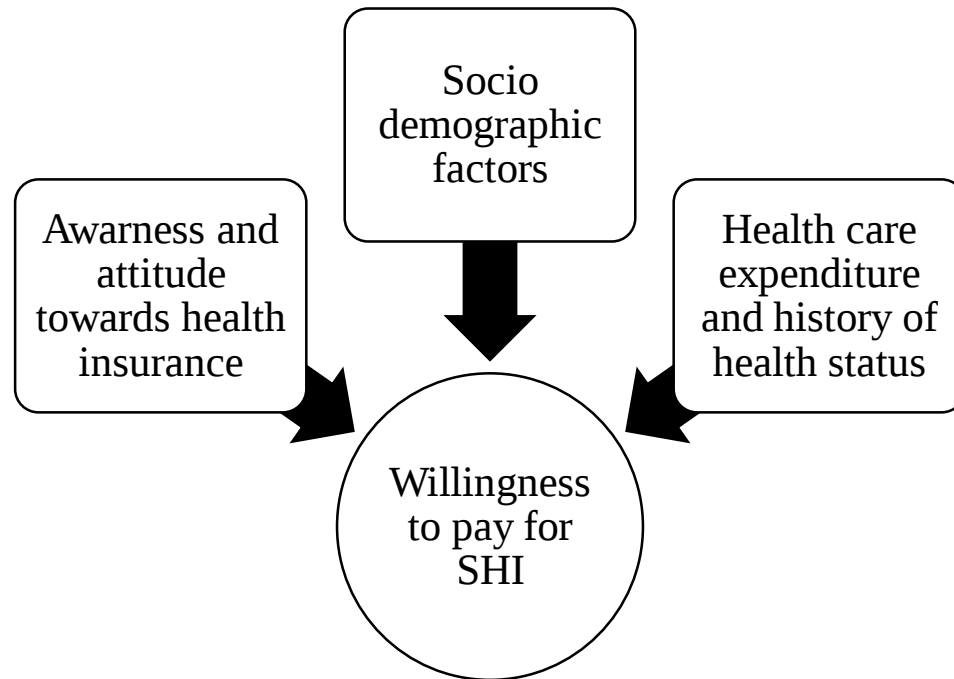


Figure 1: Conceptual framework shows different factors that can affect willingness to pay for social health insurance.

3. Objective

3.1.General objective

- To assess the willingness to join and willingness to pay for social health insurance and identify associated factors among teachers in Bahir Dar city, Northwest Ethiopia.

3.2.Specific Objectives

- To assess the WTJ SHI scheme among teachers in Bahir Dar city, Northwest Ethiopia.
- To determine the level of WTP SHI among teachers in Bahir Dar city, Northwest Ethiopia.
- To identify factors affecting WTJ SHI among teachers in Bahir Dar city, Northwest Ethiopia.
- To identify factors affecting WTP SHI among teachers in Bahir Dar city, Northwest Ethiopia.

4. Methods

4.1. Study Area

The study was conducted in public schools in Bahir Dar city. Bahir Dar is located 565 km away from Addis Ababa, the capital of Ethiopia. Bahir Dar is one of the country's largest cities and is the capital of Amhara National Regional State. Total residents in Bahir Dar city are estimated to 220,344. The city had ten public health center, two public referral hospitals, one general hospital, twenty seven specialty private clinics, four private hospitals and, three diagnostic laboratories. According to the Bahir Dar city education office report, the city had 77 first cycle elementary schools (41 public and 36 private) and 21 high schools (11 public and 10 private). About 1818 teachers were reported teaching/working in the existing public schools.

4.2. Study Design and period

The study follows a cross-sectional survey design and was conducted from May 15 to June 25, 2019.

4.3. Source and Study Population

All teachers working in 52 public schools in Bahir Dar city administration were considered as the source population for the study. Whereas the study population was all teachers working in the selected public schools during the study period.

4.4. Eligibility criteria

4.4.1. Inclusion criteria

All teachers who were working in selected government educational institutions and who were available during the data collection period and consented to participate in the study were included as respondents for the study.

4.4.2. Exclusion criteria

Teachers who did not work at least for 6 months in the study public schools, samples of teachers who were working for an apprenticeship, teachers who are foreign nationals, teachers who were working in a contract agreement bases, and those who were working in administrative positions during data collection, were excluded from the study.

4.5. Sample size determination and sampling technique

The sample size was calculated using the single population proportion formula by considering 74.4% ($P = 0.744$) as the proportion of teachers who were willing to pay SHI from a study done in Wolaita Sodo (Agago et al., 2012). 0.05 desired precision (d), 95% confidence interval.

and a design effect of 2 (Salganik, 2006).

$$n = \frac{(Z)^2 pq}{(d)^2} \text{ Where; } n = \text{the minimum sample size, } Z = 95\% = 1.96, p = \text{prevalence to}$$

be 0.744, $q = 1 - P = 1 - 0.744 = 0.256$ $d = \text{Margin of sampling error tolerated (5\%)} = 0.05$,

$n \rightarrow 293$, but since the sampling technique is stratified, we have to adjust for design effect.

Final sample size = $n * DE$, where $DE = \text{design effect} = 2$

Final Sample size = $293 \times 2 = 586$.

➔ But since the number of teachers in Bahir Dar City Administration were finite ($n=1818$), sample size adjustment was done using $n = n * N / N + n = 443$. Adding 10% for inappropriate and non-response rate, the minimum sample size was calculated to be 488.

A multistage stratified sampling technique was employed to select study participants. In the first stage sampling Twenty six out of 52 existing public schools under the Bahir Dar city administration (6 secondary and preparatory, and 20 primary schools) were selected randomly. Then schools were stratified into primary level and secondary/preparatory level based on governments' ranking. The total sample was proportionally allocated to each of the schools based on the number of teachers in each stratum (institution). Each individual participant were selected randomly among those who were available in the school during the data collection period.

4.6.Data collection procedure, method, and instrument

Data were collected through an interviewer-administered structured questionnaire. The study questionnaire was adopted from different literatures (Agago et al., 2012; Haile et al., 2014; Entele & Emodi, 2016; Falaki, Juni, & Rosliza, 2017; Yeshiwas et al., 2018; Gidey et al., 2019). The questionnaire prepared in both Amharic and English and had 39 questions that is grouped into four sections. The first section includes those questions related to sociodemographic characteristics followed by section two that includes questions to assess health care expenditure experiences/practices and attitudes of participants towards health insurance. Section three which is prepared to assess the respondent's awareness to SHI is followed by section four, that includes questions about health care financing scenarios and teachers WTP to SHI.

Four trained data collectors (two pharmacists, one nurse, and one teacher) together with the principal investigator collected the data.

4.6.1 Choice of WTP Method.

Double bound dichotomous choice (DBDC)CV method was used to determine the WTP amount. Different starting bids were assigned (i.e. 1, 2, 3 and 4% of monthly salary) and were distributed randomly to participants. The respondents were asked whether he/she is willing to pay for a specified bid amount. The initial bids were determined from the information gained during the bid determination survey.

The econometric expression for the model

If the respondent says ‘yes’ to the first bid, a second bid is offered twice as much. If the respondent says “No” to the first bid, a second lower bid (1/2 first bid) was offered. The initial bid amount was distributed to the respondents randomly to minimize starting point bias (Lopez-feldman, 2012). Assuming a linear functional form for the WTP, the econometric model is:

$$WTP_i(z_i, u_i) = z_i\beta + u_i(1)$$

Where z_i is a vector of explanatory variables, β is a vector of parameters and u_i is an error term assumed to be independently and randomly distributed with mean zero and constant variance, σ^2 .

Let the first bid amount be t_1 and the second one t_2 , and then each individual will be in one of the following categories:

1. The participants answers ‘yes’ to the first question and ‘no’ to the second, then $t_2 > t_1$.

In this case, we can infer that $t_1 \leq WTP < t_2$.

2. The participants answers ‘yes’ to the first question and ‘yes’ to the second, then $t2 \leq WTP < \infty$.
3. The individual answers ‘no’ to the first question and ‘yes’ to the second, then $t2 < t1$.
In this case, we have $t2 \leq WTP < t1$.
4. The individual answers ‘no’ to the first and second questions, then we have $0 < WTP < t2$.

Then, the probability of each of the four cases is defined as:

A. $y^1_i = 1$ and $y^2_i = 0$.

$$\begin{aligned}
 &= \Pr(t1 \leq WTP < t2) \\
 &= \Pr(t1 \leq z'i\beta + u_i < t2) \\
 &= \Pr\left(\frac{t1 - z'i\beta}{\sigma} \leq \frac{u_i}{\sigma} < \frac{t2 - z'i\beta}{\sigma}\right) \\
 &= \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t1}{\sigma}\right) - \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right) \quad (2)
 \end{aligned}$$

B. $\Pr(WTP > t1, WTP > t2) = \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right) \quad (3)$

C. $\Pr(t2 \leq WTP < t1) = \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right) - \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t1}{\sigma}\right) \quad (4)$

D. $\Pr(WTP < t1, WTP < t2) = 1 - \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right) \quad (5)$

The estimation of β and σ was based on the maximum likelihood method. The function that needs to be maximized to find the parameters of the model is:

$$\begin{aligned}
 &\sum_{i=1}^N \left[di^{yn} \ln\left(\Phi\left(z'i\frac{\beta}{\sigma} - \frac{t1}{\sigma}\right) - \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right) + di^{yy} \ln\left(\Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right) + \right. \right. \\
 &\left. \left. di^{ny} \ln\left(\Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right) - \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t1}{\sigma}\right)\right) + di^{nn} \ln(1 - \Phi\left(z'i\frac{\beta}{\sigma} - \frac{t2}{\sigma}\right)) \right] \quad (6)
 \end{aligned}$$

where di^{yn} , di^{yy} , di^{ny} , di^{nn} are indicator variables that take the value of one or zero depending on the relevant case for each individual. Each respondent contributes to the

logarithm of the likelihood function in only one of its four parts. Hence, we obtain directly β and σ then we can estimate WTP (Lopez-feldman, 2012).

4.7. Variables

4.7.1. Dependent Variables

- Willingness to join
- Willingness to pay

4.7.2. Independent Variables

- Age
 - Sex
 - Marital status,
 - Level of education
 - Work experience
 - Family size
 - Monthly income
 - Previous episodes of any disease
 - History of chronic disease
 - Existence of children in the household
 - Last year health expenditure
 - Information about health insurance
- ❖ Under five years age group is the most known frequently used age group to measure many health care indicators. In addition illness frequency in this age group is different and relatively high from other groups, due to this reason this age group is selected this used for analysis. Similarly, In the proposed social health insurance family members

bellow age 18 years are expected to be included in the list of beneficiaries. So availability of children bellow 18 years should be assed in our study. Those below this range are included in the above category described.

4.8.Data quality assurance

Data collectors were selected based on their educational level and possible familiarity in medical and health policy research. Training was given to the data collectors about the objectives of the study and the data collection process. Onsite supervision was done and during which doubts in the questionnaire were clarified.

The data collection tool was pretested among 25 teachers working in one secondary school which was not included in the main study. The pretest helped to check the validity of the different questions included in the questionnaire.

4.9.Data entry and analysis

Data were coded, cleaned, and entered into Stata and were analyzed using STATA version 14 statistical software. Descriptive statistics were used to calculate (mean, frequency and percentages), and results are presented using tables and figures. Multiple logistic regression was used for analysis to see the relation between predicting factors and individuals willingness to join the SHI program. The exact WTP in Double bound dichotomous choice survey is not known and this was because the individuals exact WTP will lay in intervals. Hence, DBDC data follows maximum likelihood function with the assumption of normality. Interval data logit was used to determine the mean WTP from both initial and second specified bids through *doubleb* command (Haab & McConnell, 2002; Lopez-feldman, 2012). Data normality test was done by graphical method (histogram), Reliability test was done by Cronbach alpha and Goodness to test was also done to know data fit with the model. Wald chi square test was also done to know the influence of the variables on the model.

4.10. Ethical consideration

Ethical approval was obtained from the ethical review board of the School of Pharmacy, Addis Ababa University. A letter was written by the Department of Pharmaceutics and Social Pharmacy, Addis Ababa University to Bahir Dar city Administration Education Office and permission was secured. Moreover, each School Directors provided consent. Participants of the study were also informed about the purpose of the study and asked for verbal consent before participating in the study. Data were collected after their consent obtained. The confidentiality of the information obtained in the course of the study was maintained by not using personal identifiers during data collection. The presentation of the result of the study was not linked with any specific participant or institution.

5. Results

5.1. Background characteristics of respondents

5.1.1. Socio-demographic characteristics of respondents

A total of 480 teachers were completed the interview with an overall response rate of 98.4 %. Two hundred one (41.9%) of the respondents were in the age group of 35–44 years and 106 (22.1%) were in the oldest age group, >44 years. Three hundred fifty seven (74.38%) were married and a small number of participants 11 (2.29%) were widowed. The average work experience of the teachers was 15.12 (± 7.44) years and their average personal and household monthly income ranges between 4943.91 (± 1778.32) and 7813.88 (± 3146.55) ETB (Table 1).

Table 1: Socio-demographic characteristics of teachers in Bahir Dar city, Northwest Ethiopia, 2019 (N=480).

Variables	Frequency	Percent
Age		
<35	173	36
35-44	201	41.9
>44	106	22.1
Sex		
Male	337	70.21
Female	143	29.79
Level education		
Degree	366	76.25
Diploma	77	16.04
MSc and above	37	7.71
Marital status		
Married	357	74.38
Never married	85	17.71
Divorced	27	5.63
Widowed	11	2.29
Work experience	15.12 $\pm$ 7.44 Years	
Household monthly income	7813.88 $\pm$ 3146.55ETB	
Family size		
<4	290	60.40
4-6	147	30.60
>6	43	9.00
Availability of Children $\geq$ 5 years of age Months in the household		
Yes	324	67.50
Availability children aged 6-18 years in the household		
Yes	286	59.58

ETB= Ethiopian Birr

5.1.2. Health care seeking behavior of respondents

About half of the study participants, 263 (54.79%) responded that at least one episode of acute illness occurred in their household during the past year. However, about 89 (18.54%) reported having a certain chronic disease during study time. All 263 participants who reported acute illness in their household, had visited at least one health care institution, including traditional health care providers for the acute illness encountered by the household members'.

As shown in (Table 2), 235 (48.96%) preferred to get care from government health facilities in case of illness. However, among those who reported acute illness, 144(54.75%) expressed their preference to visit private health care providers/ private health institutions. Almost all (96.6%) respondents claimed that out of pocket payment was the commonest medical bill payment method.

Table 2:Health care experience and expenditure among teachers in Bahir Dar city, Northwest Ethiopia, 2019 (N=480).

Variables	Frequency	Percent
Illness experienced in the household		
Yes	263	54.79
Chronic disease		
Yes	89	18.54
Health care visit (n=263)		
Yes	263	100
Type of health care provider visited (n= 263)		
Privately owned health facility	144	54.75
Government owned health facility	111	42.21
Traditional health care provider	8	3.04
Participants preference in case of illness		
Privately owned health facility	221	46.04
Government owned health facility	235	48.96
Traditional health care provider	24	5.00
Medical bill payment method participants used		
Out of pocket	464	96.67
Others(including getting free medical service)	16	3.33
One year household medical expenditure		
Mean= 1044.36 ETB $\pm$ 894.77 ETB, Min = 40 ETB and Max=7000		

The respondents expressed their reasons for preferring to visit a particular health care institution for the health problem that occurred in their household . Effectiveness of the health care service was a major reason for choice by the majority of the respondents 242 (50.40%). The respondents' belief in the institution 58 (12.08%), physical access to the

health institutions 48 (10.00%) and other reasons like hospitality of professionals in the facility 5(1.04%) were mentioned as factors influencing their choices (Table 3).

Majority of the study participants 391 (81.46%) used their bank savings as the primary source of money to pay the cost of health care while only 3(0.63%) demanded support from a third party to cover their health care cost. (Table 3).

Table 3: Reasons for choice of health institutions and source of money for covering health expenditure among teachers in Bahir Dar city, Northwest Ethiopia, 2019 (N=480)

Variables	Frequency	Percent
<i>Reasons for preferring a specific health care provider for the care received</i>		
The health service is effective	242	50.4
It is less costly	183	38.13
The health facility had low customer	121	25.21
Own belief	58	12.08
It is physically accessible	48	10.00
Other(Better hospitality)	5	1.04
<i>Source of money for health care received</i>		
Bank savings	391	81.46
Diverting money from other necessities of the household	138	28.75
Doing extra work	40	8.33
Borrowing	15	3.13
Support from a third party	3	0.63
Selling capital assets	1	0.21

Among the participants who visited health institutions in last one year, 112 (42.58%) were satisfied and 28 (10.65%) were very satisfied with the services they received. One hundred eighty four (38.33%) participants feel the services provided by public health institutions they visited was very poor. Whereas the quality of service in private institutions was reported to be good by 148 (30.83%) of the participants. Ninety six(36.5%) participants were dissatisfied with the medication and service cost they incurred since last one year for the health services they received, and the cost experienced was perceived to be difficult to afford for 109 (41.44%) of the study participants (Table 4).

Table 4: Attitude and feeling of the study participants towards health care services and costs among teachers in Bahir Dar city, Northwest Ethiopia, 2019.

Variables	Frequency	Percent
Participants level of satisfaction on the service they received from their preferred institution (n= 263)		
Very dissatisfied	28	10.65
Dissatisfied	89	33.84
Neutral	4	1.52
Satisfied	112	42.58
Very satisfied	30	11.41
Participants level of satisfaction on the cost for the health service they received from their preferred institution' (n= 263)		
Very dissatisfied	96	36.50
Dissatisfied	70	26.62
Neutral	6	2.28
Satisfied	62	23.57
Very satisfied	29	11.03
Participants perception regarding the quality of service provided in government health facilities.(n=480)		
Very Poor	184	38.33
Poor	167	34.79
Fair	75	15.63
Good	45	9.38
Excellent	9	1.88
Participants perception regarding quality of service provided in private health facilities. (n=480)		
Very Poor	47	9.79
Poor	70	14.58
Fair	137	28.54
Good	148	30.83
Very Good	78	16.25
Participants perception about health care costs affordability experienced last year (n=263)		
Very Easy	21	7.98
Easy	38	14.45
Neutral	25	9.51
Difficult	109	41.44
Very Difficult	70	26.62

5.2. Awareness and attitude regarding social health insurance

Most of the participants, 476(99.17%), reported that they heard about health insurance before the interview. Two hundred seventy (56.72%) of participants, mentioned mass media as their source of information. Among 375 individuals who perceived health insurance as beneficial, 260 (69.33%) believed that it could help to get timely care in case of illness. Three hundred nineteen (67.01%), participants preferred both out, and inpatient services are included in the insurance scheme. Similarly, 391 (82.14%) participants demanded all their family members to be included in the beneficiaries list (Table 5).

Table 5: Awareness, attitude and demand regarding SHI among teachers in Bahir Dar city, Northwest Ethiopia, 2019.

Variables	Frequency	Percent
Heard about health insurance (n=480)		
Yes	476	99.17
Source of information (476)^a		
Mass media	270	56.72
Friends	233	48.95
Insurance agency	128	26.89
Family	78	16.39
Other(staff, health institution, on transport)	13	2.73
Is health insurance beneficial? (n=476)		
Yes	375	78.99
Benefits of health insurance (n=375)^a		
Can help to have timely care in times of illness	260	69.33
Prevent from unexpected health expenditure	180	48.00
Can help others who cannot afford their medical cost	179	47.73
Improve health services quality.	74	19.73
Services to be included in the health insurance scheme (n=476)		
Both outpatient and inpatient services	319	67.01
Any health care service demanded	138	28.99
Only inpatient services	14	2.94
Only outpatient services	5	1.06
Who should benefit from the health insurance scheme (Beneficiaries) (n=476)		
All my family	391	82.14
Me, my wife/husband and children aged < 18	75	15.76
Only me	6	1.26
Me and my wife/ husband	4	0.84

a= multiple answers possible

5.3. Willingness to join and pay for social health insurance

Out of 480 participants covered in the study, 330 (68.75%) preferred the mandatory social health insurance scheme, 82 (17.08%) was interested in the OOP health care financing method and 68 (14.17%) were eager to join the voluntary insurance scheme.

In addition to those 330 respondents, another seven individuals agreed to join and pay the mandatory SHI scheme if the government implemented it. This makes the total number of respondents who would like to join a social health insurance scheme to 337 and 160 (47.48%) of them expressed their readiness to pay the initial bid amount (Fig. 2).

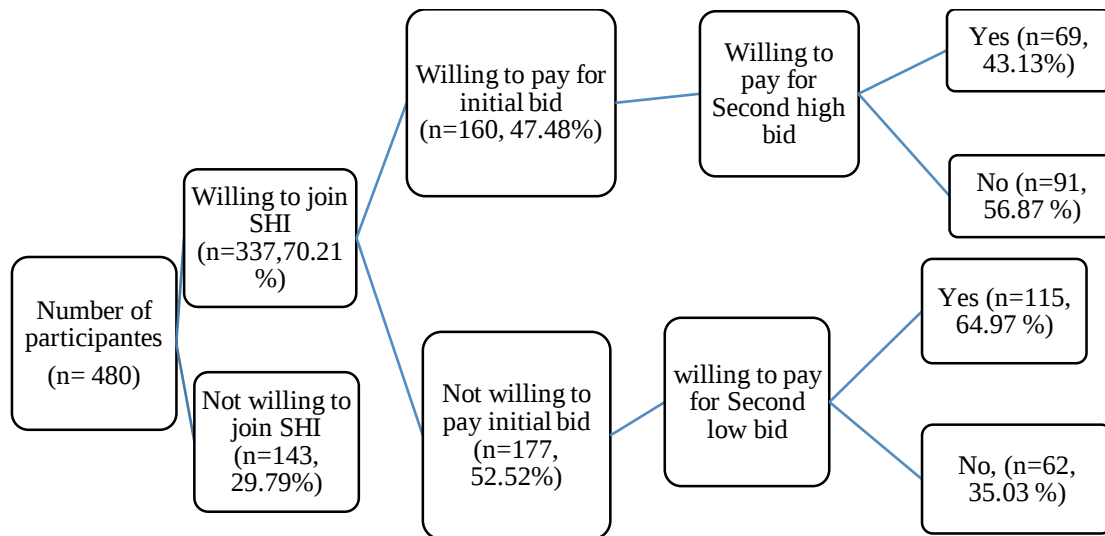


Figure 2: Summary of distributions of the double bound dichotomous questions results.

After the bid determining survey was done in one school, the initial bids were selected as 1, 2, 3 and 4. These four initial bids were distributed randomly in an equal manner for those who were willing to pay. Due to this, bids 2, 3 and 4, each was distributed for 84 respondents making 252 and the remaining 85 individuals received one as a starting bid for the hypothetical bidding game.

The participants gave multiple reasons for their readiness to join SHI. The major ones are, security and peace of mind in times of illness, 232 (68.84%) , sharing others medical costs, 167 (49.55%), getting ease access to medical services, 148(43.92%), and the higher frequency of the health problems they are facing, 59 (17.51%). Out of the 143 who were unwilling to join, 56 (39.16%) participants said that the insurance package does not cover all health care services, and 54(37.76%) participants did not have trust in government administered social insurance programs (Table 6).

Table 6:Reasons for being willing and not willing to join SHI among teachers in Bahir Dar city, North West Ethiopia 2019.

Variables	Frequency	Percent
<i>Reason for preferring SHI (n=337)b</i>		
I need to help others who cannot afford their medical costs	167	49.55
For security and peace of mind in times of ill-health	232	68.84
It provides free access to medical care at point of service	148	43.92
I am facing health problem frequently	59	17.51
Others(promoting the policy)	3	0.89
<i>Reason not willing to join SHI(n= 143)b</i>		
Insurance package does not cover all health services	56	39.16
Lack of trust in government programs	54	37.76
Poor quality of health service in a government health facility	43	30.07
Belief on that OOP payment is better.	31	21.68
Lack of trust in insurance schemes	25	17.48
Contributing money for sickness in advance is a taboo	10	6.99
Lack of enough money to pay.	9	6.29

b=multiple answers possible

The Double bound dichotomous choice contingent valuation (DBDC CV) model was used to determine the WTP amount. Mean WTP was calculated by considering both the initial and the second appropriate bids. The finding indicates that participants were willing to pay 2.46% of their monthly salary if mandatory SHI is implemented (Table 7).

Table 7: WTP amount (as percentage of respondents monthly salary amount) for SHI among teachers in Bahir Dar city, Northwest Ethiopia, 2019.

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
WTP	2.461932	0.0800455	30.76	0.000	2.305046	2.618818

5.4. Factors associated with willingness to join social health insurance

The multiple logistic regression model determining participants WTJ showed that marital status, existence of at least one child aged ≤ 5 years, occurrence of acute illness within one year prior to the study period, and presence of chronic illness were significantly associated with WTJ. Married teachers [AOR=0.46, 95% CI= 0.20-0.75] were 54% less likely to participate in the scheme. Similarly absence of at least one child aged ≤ 5 years [AOR=0.23, 95% CI=0.06-0.64], absence of acute illness in last one year in the household [AOR=0.32, 95% CI=0.20-0.49], and absence of chronic illness in the household [AOR=0.40, 95% CI=0.19-0.87] were factors negatively influencing teachers readiness to joining SHI scheme (Table 8).

Table 8: Factors associated with willingness to join for social health insurance among teachers in Bahir Dar city, Northwest Ethiopia, 2019.

Variables	COR	[95% Conf. Interval]		AOR	[95% Conf. Interval]	
Age	1.042471	1.013125	1.072668	1.012571	0.964412	1.063134
Marital Status						
Never Married				1.00		
Married*	1.468795	0.8956773	2.408635	0.4592966	0.2008191	0.750465
Divorced	2.113208	0.7713521	5.789374	1.083482	0.3462399	3.390521
Widowed	6.037736	0.7379303	49.40067	1.39926	0.139456	14.03977
Level of Education						
Diploma				1.00		
Degree	1.565636	.9395161	2.609021	1.442264	0.7898764	2.633482
MSc and above	2.735559	1.066878	7.014192	1.41322	0.4653658	4.291660
Family Size	1.190408	1.073197	1.32042	0.9688892	0.7619545	1.232024
Existence of Child aged *<5						
Yes				1.00		
No	0.4251012	0.282730	0.639164	0.2300172	0.0822256	0.643448
Monthly Income	1.000108	1.000043	1.000173	1.000029	0.9999137	1.000145
Number of children aged <5 years	1.682406	1.210783	2.337734	.6575236	0.3200121	1.351003
Illness in one year *						
Yes				1.00		
No	0.2394723	0.1573812	0.3643827	0.3182474	0.2039269	0.4966555
Chronic disease *						
Yes				1.00		
No	0.2455506	0.1231226	0.4897157	0.4027922	0.1858311	0.873059

*= Significant variables

5.5. Factors predicting teachers' willingness to pay

WTP was significantly and positively associated with family size and acute illness. Individuals who had not encountered any acute illness in their households within one year prior to the study period were willing to pay less compared to their counterparts. Nevertheless, as teachers' family size increased, the amount they were willing to pay also increased (Table 9).

Table 9: Factors predicting WTP for SHI among teachers in Bahir Dar city, Northwest Ethiopia, 2019.

Number of obs= 337		Wald chi2(11) = 29.16				
Log likelihood = -348.95441		Prob> chi2 = 0.0021				
	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
Age	0.0118072	0.0372438	0.32	0.751	-0.0611892	0.0848036
Gender	-0.1188004	0.1755976	-0.68	0.499	-0.4629653	0.2253645
Marital status	0.2463414	0.1606042	1.53	0.125	-0.068437	0.5611197
Education level	0.2209601	0.1906243	1.16	0.246	-0.1526568	0.5945769
Experience	-0.0453476	0.0372443	-1.22	0.223	-0.118345	0.0276498
Monthly income	0.0000491	0.0000376	1.31	0.192	-0.0000246	0.0001227
Family size **	0.1473891	0.0853228	1.73	0.047	0.0198406	0.3146187
Child exist	0.2528838	0.2622348	0.96	0.335	-0.261087	0.7668545
Acute illness **	-0.3873468	0.1691358	-2.29	0.022	-0.7188469	-0.055846
Chronic disease	-0.0665172	0.2128716	-0.31	0.755	-0.4837378	0.3507034
Ways of payment	0.1845133	0.7046789	0.26	0.793	-1.196632	1.5656590
_cons	0.8643122	1.37013400	0.63	0.000	-1.821101	3.54972500
Sigma_cons	1.230288	0.07156840	17.19	0.000	1.090017	1.37056000

**=*significant variables*

6. Discussion

About seven out of ten (70.21%) of the teachers expressed their willingness to join SHI. This result is comparable with result of the study done in other parts of Ethiopia and the world, there the proportions of respondents expressing willingness in Wolaita (74.4%), St Vincent (69.5%), South Sudan (68%), Nigeria (74.8%), Nepal (71.3%), Debremerkos (69.8%) and Bahir Dar (72.7%) (Agago et al., 2012; Adams et al., 2015; Basaza et al., 2017; Falaki et al., 2017; Khatiwada et al., 2017; Abebaw et al., 2018; Yeshiwas et al., 2018).

WTJ rate in this study (70.21%) is however, very high when compared to the findings of other studies done in Zambia (49.83%), Vietnam (28%), and Addis Ababa (19%, 17% and 35%) of the study participants were reportedly willing to join the SHI (Kaambwa, 2002; Lofgren et al., 2008; Entele & Emodi, 2016; Lasebew et al., 2017; Tenaw, 2017). On the contrary, the findings on the WTJ in the present study are relatively lower compared with previous studies done in Namibia 86.74%(Wright et al., 2009) and Mekelle 88.2% (Gidey et al., 2019). This might be due to geographical, sociodemographic, financial status and study period difference. Similarly, the design of the hypothetical market may have a contribution to this difference. Despite these two studies, in this study, the hypothetical market is comparable with the actual proposed SHI in Ethiopia.

The study indicated that, the existence of children aged ≤ 5 years of age in the household, was identified to be significantly associated with individuals' WTJ the SHI. Respondents with no children aged ≤ 5 were less likely to join the scheme. This might be due to the fact that as compared to adults, children are more likely to be affected by frequent acute illness and demand some level of health care. So, individuals with young children may choose

SHI to minimize the OOP they are required to incur to cover the health care cost related to their children's frequent illness (Al-hanawi et al., 2018). The multiple logistic regression analysis revealed also that, availability of family members with either acute or chronic diseases in the past one year, was significantly associated with WTJ the SHI.

Individuals who did not experience acute or chronic illness in the household were less likely to express their willingness to join the SHI scheme. This might be because individuals who had experienced a chronic or acute illness may prefer to join a health insurance scheme in order to minimize the financial risk related to OOP for the health service demands. Similarly a study done among secondary school teachers in Nigeria showed that WTJ was significantly associated with recent illness encountered (Falaki et al., 2017). More over being married was significantly associated with WTJ. In this regard, those study participants who were married were 54% less likely to participate in the scheme. In natural scenario married individuals are expected to seek insurance programs more in compared with single individuals, but in this study the result shows something different. But some other studies also support this result. A similar study done in Debre Markos among civil servants showed that single individuals were 5.1 times more likely to seek for the proposed SHI [AOR=5.1, CI=1.6-16] (Abebaw et al., 2018). Another study done among teachers in Wolita Sodo showed that unmarried teachers were 2.7 times more likely to pay for the scheme (Agago et al., 2012).

This study also document that teachers were willing to pay an average of 2.46% of their monthly salary as a premium contribution. Which is lower than the figure obtained from other studies on a similar issue which showed that the average percentage of contribution the respondents were willing to commit were in China (4.6%), South Sudan (5%) and

Mekelle (3.6%) of their monthly salary (Bärnighausen et al., 2007; Basaza et al., 2017; Gidey et al., 2019). It is also lower than the nationally proposed minimum contribution which is 3% (FMoH, 2010). On the other hand this value is higher than the result from the Debrebirhan study in which the respondents were willing to contribute only 1.88% of their salary to the SHI scheme (Mekonnen, Wondaferaw, & Mekonen, 2020). This difference might be due to the difference in time, the profession and income level of the participants across studies.

The study identified that teachers with larger family sizes were willing to pay more premiums. This might be due to the perceived possible financial burden that could be experienced to seek health care for more family members. This finding is supported by other studies done in Vietnam (Lofgren et al., 2008) Juba (Basaza et al., 2017) and systematic review done in LMICs (Adebayo et al., 2015). However, similar study done in Namibia (Wright et al., 2009) showed there was no significant association between family size and WTP. The findings of this study also indicated that the presence of acute illness in the household was significantly associated with individuals' WTP. This finding is similar to other studies conducted in Nigeria (Falaki et al., 2017) and South Sudan (Basaza et al., 2017). The possible explanation for this result is that individuals may adversely select the scheme in order to be free of the fear of financial burden in case of a similar illness. A similar study done in Addis Ababa showed that illness in the past three months were two fold positively associated with WTP SHI (Mekonne et al., 2020).

As a limitation, this study is prone to bias due to the interview. Since teachers do not mostly have an encouragement tip to disclose their actual WTP, they might express high WTP due to prestige effects or express lower WTP from their actual demand due to consumer

collaboration effects (Breidert et al., 2006). Besides, this study did not include teachers from private institutions, which can negatively influence the generalizability of the results for all teachers in Bahir Dar City.

As a strength, this study uses an adequate number of participants from a large number of schools. Also, the hypothetical market's design is tried to make it similar to the government's proposed scheme. The bid determination survey is also one of the strengths of this study.

7. Conclusion

Nearly 71% of teachers who participated in the study were voluntary to join the scheme. This Can be considered as an important and positive indication to initiate the implementation of the scheme among the study. An average of 2.46% of the respondents' monthly salary was estimated as the mean WTP, which is below the nationally proposed premium amount. From this, we can conclude that teachers will well accept SHI in Bahir Dar, Ethiopia, if the premium contribution is slightly reduced.

8. Recommendations

- The government of Ethiopia should consider assessing the willingness of civil servants to join and pay for SHI before implementing the SHI scheme.
- The government should also review the amount of premium contributions expected from employees.
- The government should do ongoing nationwide studies to know the national figure of civil servants willingness to join and pay for social health insurance.

9. References

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10. Annex.

Interviewer -administered semi structured questionnaire.

Addis Ababa University

School of Pharmacy

My name is _____. Currently; we are conducting the study on willingness to pay for social health insurance among teachers served in government institutions in Bahir Dar city administration. To get adequate evidence for the study, your collaboration is valuable. The interview may take a maximum of 20 minutes and the participation in this study is voluntary based. You have the right to skip any question which is not comfortable for you or you can withdraw from the study at any point; there is no influence that insists you to complete every question, unless you voluntarily confirmed to participate.

Your participation and all the information you provided will be confidential. In any condition your name will not be mentioned and the whole data is restricted for access to the data set to the principal investigator and research team. There is no right or wrong answer for the interview question and everything needed is your response and feeling with regard to the questions stated here.

If you have any questions or concern; please donot hastate to raise it.

Are you voluntary to participate? **Yes** ☐ **No** ☐

If the participant agreed to participate and give his/her consent, proceed the interview; if not proceed to the next participant.

Section 1: Personal and household characteristics.

S/No.	Variables	Response
1.	Age	_____ years
2.	Gender	1=Male 2=Female
3.	Marital status	1= Never married 2= Married 3= Divorced 4= Widowed
4.	What is the highest level of education you have attained?	1 = Certificate 2 = Diploma 3 = Degree 4 = MSc and above
5.	Work experience	_____ Years
6.	Your monthly income	_____ETB
7.	House hold monthly income	_____ETB
8.	Family Size	_____
9.	Number of family members aged ≤ 5 years	_____
10.	Number of family members aged ≤ 18 years	_____

Section 2: Health care experience expenditure and attitude.

11.	Have you or any of the members of your household fallen sick in the last one year?	1= Yes 2 = No
12.	Is there anyone in the household who have a chronic disease (eg. Diabetes, hypertension)?	1=Yes 2=No
13.	Did you seek care for the recent episode?	1=Yes 2=No
14.	What is your preference for medical care when you and your family get sick?	1 = Private health facilities 2 = Public health facilities 3 = Traditional healer. 4 = Other
15.	Reasons for going to the specified institution.	1 = It is physically accessible 2 = Own belief 3= It is less costly 4 = The health service is effective 5 = The health facility is deserted. 6 = Other _____

16.	How do you pay for the medical bill?	1 = Out-of-pocket 2 = Medical insurance 3 = Other_____
17.	Satisfaction with overall health care services in the preferred institution.	1 = Very dissatisfied 2 = Dissatisfied 3 = Neutral 4 = Satisfied 5= Very satisfied
18.	Satisfaction with overall medical costs in the preferred institution.	1 = Very dissatisfied 2 = Dissatisfied 3 = Neutral 4 = Satisfied 5=Very satisfied
19.	About how much do you spend (for yourself and your household members) on health care in a year (e.g. last year)?	_____ ETB
20.	Your perception regarding quality of care in government health facilities.	1 = Very Poor 2 = Poor 3 = Fair 4 =Good 5 =Excellent
21.	Your perception regarding quality of care in private health facilities.	1 = Very Poor 2 = Poor 3 = Fair 4 =Good 5 =Excellent
22.	From your experience how do you fill about paying health care costs/affordability/?	1 = Very Easy 2 = Easy 3 = Neutral 4 = Difficult 5 = Very Difficult
23.	What is your means of getting money for health care costs?	1 = Borrowing 2 = Assist by third party 3 = Sell capital Assets 4 = Doing extra work 5 = From bank savings 6= Cut back other things (Eg. Foods)

Section 3 :Awareness towards social health insurance.

Government is considering implementing a policy, Social Health Insurance. In this type of health insurance, all formally employed workers will contribute a certain proportion of the set premium, and the employer (firm/ company or organization) will pay the other part of the premium. If this policy is implemented, contributing to such a fund will be made compulsory for all formal employees and their employers. When insured, workers (and probably their families) will be entitled to free services or will only be asked to pay a very small fee when they seek medical care. The questions that follow are about your views about such a policy.

24.	Have you heard about health insurance?	1= Yes 2= No
25.	If yes, What was the source of information?	1= Mass Media 2= Family 3= Friends 4= Insurance Agency 5= others_____

26.	Do you believe health insurance is beneficial?	1=Yes 2= No
27.	If yes, which of the following do you anticipate the benefits of health insurance?	1. Prevent from unexpected health expenditure 2. Can help others who cannot afford their medical cost 3. Can help to have timely care in times of illness 4. Improve health services quality 5. Other(specify)_____
28.	If the policy were implemented, what services would you want the premium to cover?	1 = Only Out-patient services 2 =Only in-patient services 3 = Both out-patient and in-patient services 4 = Any service demanded
29.	If the policy were implemented who should be the beneficiaries?	1= Only you 2= You and your wife/husband only 3= Your Family 4= others _____

Section 4: Health system financing scenario and individuals willingness to pay for mandatory health insurance.

Now I will present three financing systems for health care. Please identify which health financing you are willing to join.

Scenario A: No insurance (out-of-pocket model): you will pay the full cost for each visit to health institution and for the medicine prescribed to you and your families. If you are not able to pay you will not receive any service. A service is given at cost price. There are not either any exemption cards (free service). The total annual cost for a household depends on how many family members that will be ill and visit the health institution.

Scenario B: Compulsory health insurance: All employees are compulsorily obliged to pay and contributed a monthly premium to a health care fund which is calculated from their monthly salary. The fee is based on deducting specified percentage of their gross monthly salary determined by insurance agency. There are not either exemption cards. Thereby the employees spouse and family members of less than 18 years are entitled to free health care at a nearby health center and free medicine if prescribed by a doctor. The fund will be managed through an independent health care fund. If care at a higher level is demanded,

the insured patient will be supported and entitled to free health service in these facilities. The beneficiaries will pay at least 10 percent of the total cost of outpatient services as a copayment. By pass fee will be required (50% of the total cost) from the insured individuals if there is breakage of the expected referral link.

Scenario C. voluntary health insurance: Each employee/household can choose to voluntarily pay a monthly premium (fee) to an insurance organization. For a household the fee is based on the number of beneficiary in the household and number of health facility visit. All persons in the household paying the fee are entitled to free health care at a nearby health facility and free medicine if prescribed by a doctor. If care at a higher level is demanded, the insured patient will be supported by an amount based on the cost per day at the nearby health center.

30.	Which system do you prefer?	1= A	2= B	3= C
31.	Do you think the government should set up the type of health insurance stated in B?	1= Yes	2= No	
32.	If most people Prefer B and the system would be implemented, are you willing to join insurance?	1= Yes	2= No	
33.	If Yes to Q32, what is your reason for your answer?	1= It provides free access to medical care at point of service 2= I need to help others who cannot afford their medical costs 3= For security and peace of mind in times of ill-health 4= I am facing health problem frequently 5= Other(specify)_____		
34.	If your answer is NO to Q32, what is your reason for your answer?	1=I do not have enough money to pay		

		2.=insurance package does not cover all health services 3=OOP charge is better 4=Lack of trust in government programs 5=Lack of trust in insurance scheme 6=poor quality of health service in government health facility 7=Contributing money for sickness in advance is a taboo 8= others _____
35.	If the insurance premium will be [_____] of your monthly income (deducted from your gross salary) are you willing to join the insurance?	1= Yes 2= No
36.	If your answer is Yes for Q35 would you pay double of the above specified amount?	1= Yes 2= No
37.	If answer is No for Q35 will you pay half of the amount specified?	1= Yes 2= No
38.	Maximum how much percent of your gross monthly salary are you willing to pay?	_____% of monthly salary.
39.	If your answer is 0% for Q40 what is your reason?	1=I doubt the management of the fund 2=It is the responsibility of the government to pay for such a program 3=Because of lack of money 4=Other rich members of the society should pay for the program 5=Other (specify)_____

Thank you for your kind participation!!!!!!

8.1. Amharic version questionnaire.

ክፍል 1: የግልናየቤተሰብመግለጫዎች

ተቁ	ጥያቄዎች	መልሶች
1.	እድሜ	_____ ዓመት
2.	ጾታ	1= ወንድ2=ሴት
3.	የጋብቻሁኔታ	1= ፈጽሞያላገባ2= በትዳርየሚኖር 3= የተፋታ4= የትዳርአጋሩየሞተበት
4.	የትምህርትደረጃ	1 = ስርተፊኬት2 = ዲፕሎማ 3 = ዲግሪ4 = ሁለተኛዲግሪናበላይ
5.	የስራልምድ	_____ ዓመት
6.	የእርስዎወርሀዊገቢ	_____ ብር
7.	የቤተሰብ/house hold ወርሃዊገቢ	_____ ብር
8.	የቤተሰብአባልብዛትእርስዎንጨምሮ	_____
9.	እድሜአቸው5ዓመትናከዚያበታችየሆኑየቤተሰብአባላትብዛት።	_____
10.	እድሜአቸውከ6-18ዓመትየሆኑየቤተሰብአባላትብዛት።	_____

ክፍል 2: የጤናአገልግሎትልምድወጭናአመለካከት።

11.	እርስዎወይምከቤተሰብዎአባላትመካከልባለፈውአንድዓመትውስጥየታመመነበር?	1= አዎ 2 = የለም
12.	እርስዎወይምከቤተሰብዎአባላትመካከልየታወቀህመምያለበትአለ (ምሳሌ፡ ስኳር፡ ግፊት)?	1= አዎ 2 = የለም
13.	እርስዎወይምከቤተሰብዎአባላትመካከልህመምሲያጋጥምዎደህክምናሄደዋል?	1= አዎ 2 = የለም
14.	እርስዎወይምየቤተሰብዎአባልሲታመምለህክምናየሚመርጡትተቋምየቱነው?	1 = የመንግስትጤናተቋም 2 = የግልጤናተቋም 3 = የባህልህክምና 4 = ሌላካለ::
15.	ከላይየመረጡትንተቋምየመረጡበትምክንያትምንድንነው?	1 = ለቤቴቅርብስለሆነ። 2 = የግልእምነት 3 = ወጭውዝቅተኛስለሆነ። 4 =የተሻለመፍትሔስለማገኘት። 5 =ተቋሙወረፋስለሌለው። 6= ሌላ_____።
16.	ለህክምናወጪየሚከፍለበትመንገድምንድንነው?	1 = በቀጥታክፍያ 2 = በጤናኢንሹራንስ 3 = ሌላካለ_____
17.	በተቋሙአጠቃላይየህክምናአገልግሎትምንያህልደስተኛነዎት?	1 = በጣምደስተኛአይደለሁም 2 = ደስተኛአይደለሁም

		3 = ገለልተኛ 4 = ደስተኛነኝ 5= በጣም ደስተኛነኝ
18.	በተቋሙ አጠቃላይ የህክምና ዋጋ/price/ ምን ያህል ደስተኛነት?	1 = በጣም ደስተኛ አይደለሁም 2 = ደስተኛ አይደለሁም 3 = ገለልተኛ 4 = ደስተኛነኝ 5= በጣም ደስተኛነኝ
19.	ባለፈው አንድ አመት የቤተሰብዎ የህክምና ወጪ ስንት ነው?	_____ ብር
20.	የመንግስት የጤና ተቋማትን የህክምና አገልግሎት ጥራት እርስዎ እንዴት ይገልጡታል?	1 = በጣም ዝቅተኛ 2 = ዝቅተኛ 3 = መካከለኛ 4 = ጥሩ 5 = በጣም ጥሩ
21.	የግል የጤና ተቋማትን የህክምና አገልግሎት ጥራት እርስዎ እንዴት ይገልጡታል?	1 = በጣም ዝቅተኛ 2 = ዝቅተኛ 3 = መካከለኛ 4 = ጥሩ 5 = በጣም ጥሩ
22.	ከዚህ በፊት ካለዎትል የምድተኝነት ውጤት የህክምና ወጪዎችን ክብደት እንዴት አገኙት?	1 = በጣም ቀላልነው 2 = ቀላልነው 3 = ገለልተኛነኝ 4 = ከባድነው 5 = በጣም ከባድነው።
23.	ለህክምና ወጪዎች ለማሳገፍ የሚያገኙት ክፍት ነው?	1 = በመበደር 2 = በሌሎች አካላት ድጋፍ 3 = ንብረት ንብመሸጥ 4 = የትርፍ ጊዜ ሰዓት በመስራት 5 = ባንክ ክጠራ ቀምጡት 6= አንዳንድ ወጪዎችን በማጠፍ (ምሳሌ. የምግብ፣ ልብስ)

ክፍል 3 :ስለ ማህበራዊ የጤና መድሃኒቶች ምረቃ ምርመራ

መንግስት ማህበራዊ የጤና መድሃኒቶችን በማስተዋወቅ ላይ ይገኛል።

በዚህ መርሃ ግብር ሁሉም መደበኛ ስራተኞች የደሞዛቸውን የተወሰነ ፕሮሰንት እንዲያዋጡ ይደረጋል።

ቀሪው ንደግሞ ቀጣሪ ተቋማት ይከፍላሉ። ይህ ፖሊሲ ሲተገበር በዚህ ፈንድ ማዋጣት ግዴታ ይሆናል።

ወይም ትንሽ መጠን ክፍያ ሊከፍሉ ይችላሉ፡፡ ከዚህ ቀጥሎ ያሉት ጥያቄዎች ስለ ጤና መድሃኒቶች ያለው ትንሽ መለካከት የተመለከቱ ናቸው፡፡

24.	ስለጤናመድህንሰምተውያውቃሉ?	1= አዎ2= የለም
25.	የመረጃምንጭዎምንነበር?	1= ከመገናኛብዙኃን2= ከቤተሰብ 3= ከጓደኛ4= ከጤናመድኅንኤጀንሲ 5= ሌላ_____
26.	የጤናመድኅንጠቃሚነውብለውያስባሉ?	1= አዎ2=የለም
27.	መልስዎአዎከሆኑጥቅሞቹየትኞቹናቸው? መልስየለምከሆነይህንጥያቂይለፉት።	1. ከድንገተኛየህክምናወጭይታደጋል። 2. የህክምናወጭመሸፈንየማይችሉሰዎችንያግዛል። 3.በህመምጊዜያለስጋትበወቅቱለመታከምያስችላል። 4.የህክምናአገልግሎትጥራትንያሻሽላል። 5.ሌላነለ_____
28.	የጤናመድኅንፖሊሲቢተገበርየትኞችየጤናአገልግሎቶችእንዲካተቱይፈልጋሉ?	1 =ተመላላሽህክምናብቻ። 2 =ተኝቶህክምናአገልግሎትብቻ። 3=የተመላላሽናየተኝቶህክምናአገልግሎቶችንሁሉ። 4=ማንኛውምአስፈላጊህክምና።
29.	እርስዎየጤናመድኅንአባልቢሆኑበመድህንአገልግሎትተጠቃሚዎችእነማንእንዲሆኑይፈልጋሉ?	1= እኔብቻ 2= እኔናባለቤቴ 3= እኔባለቤቴና18 ዓመትናከዚያበታችየሆኑየቤተሰብአባላት። 4= ቤተሰቦቼበሙሉ 5= ሌላነለ_____

በመቀጠል፤ አይነትየጤናፋይናንሲንግአማራጮችቀርቦዋል።አማራጮችንአንብቦውተከታይጥያቂዎችንይመልሱ።

ይህን አማራጭ ከመረጡ በማንኛውም የህክምና ጉብኝት ወለደን ዳንዱ የአገልግሎትና የመድሃኒት ወጪ በቀጥታ ይከፍላል፡፡

ካልከፈሉ አገልግሎት አያገኙም ። ማንኛውም የነጻ ህክምና አገልግሎት አይኖርም። አመታዊ የህክምና ወጪዎች በአገሩ አገልግሎት ይወሰናል።

ሁሉም መደበኛ ተቀጣሪዎች በአሰገዳጅነት የመድኃኒት ፕሮግራም አባል ይሆናሉ።

የዚህ ፕሮግራም አባልነት ማረጋገጫ ለሚፈጥረው ህድረ ምረቃ ምርመራ ማሳተፍ ይቻላል፡፡

ዓመት በታች የሆኑ የቤተሰብ አባላት ነጻ ህክምናና መድሃኒት ያገኛሉ። የዚህ ፕሮግራም ፈንድ ገለልተኛ በሆነ ተቋም የሚመራ ይሆናል። አፍተኛ ህ

ክምናቢያስፈልግዎትበስፍተኛተቋማትየነጻህክምናየገኛሉ። የመድሀኒትአባላትህክምናሲፈልጉየህክምናውንወጪ 10

ፕሮሰንት እንዲከፍሉ ይደረጋል። ታካሚዎች መደበኛውን የራራ ልቦን ሰለት ከጣሱ የህክምናውን 50 ፕሮሰንት እንዲከፍሉ ይደረጋል።

እያንዳንዱ ሰው በፈቃደኝነት ወርሃዊ የበመክፍል አባል ይሆናል። የቤተሰቡ ቁጥር በጨመረ ቁጥር ለእያንዳንዱ የቤተሰብ አባል ተጨማሪ ክፍያ ይይዝናል። ሁሉም በመድሃን ፕሮግራም የተካተቱ አባላት በአቅራቢያ ባለተቋም እንዲሆኑ ይገባል። ክፍያ ተኛ ህክምና ቢያስፈልገው ታካሚው በሚኖርበት አካባቢ ባለየ ህክምናዎች ተስልቶ በሚከፈልብ ድጋፍ ይደረግለታል። ከተሰጠው ገንዘብ ላይ ሆኑ ውጭዎችን ታካሚው በራሱ የሚሸፍን ይሆናል።

30.	ለእርስዎ የተሻለው አማራጭ የትኛው ነው?	1= ሀ	2= ለ	3= ሐ
31.	መንግስት አማራጭ “ለ” ላይ የተጠቀሰው ንጥር ግራም መተግበር አለበት ብለው ያስባሉ?	1= አዎ	2= የለም	

32.	ብዙሰው አማራጭ ለ እንዲተገበርበፈልግና መንግስት ቢተገብረው፤ እርስዎ የጤና መድሃኒካል የመሆን ፍላጎት አለዎት?	1= አዎ 2= የለም
33.	ለ ጥያቄ 32 መልስዎ አዎ ከሆነ ምክንያትዎ ምን ይሆናል?	1= የህክምና የጤና አገልግሎት ንብረት ጥገና ስትያስችላል። 2= የህክምና ወጪዎችን መክፈል የማይችሉ ሰዎች ንጥር ለመካፈል። 3= ህመም በሚከሰት ጊዜ እንዲሰማኝና ለወጪ እንዳልጨነቅ። 4= በተደጋጋሚ የጤና ዕክልሥ ለሚገጥመኝ 5= ሌላ ካለው _____
34.	ለ ጥያቄ 32 መልስዎ የለም ከሆነ ምክንያትዎ ምን ይሆናል?	1= የአባልነት ክፍያ ለመክፈል አቅም የለኝም። 2= የመድሃኒት ምርጫ ሁሉንም የጤና አገልግሎቶች ስለማይሸፍን። 3= ከኪስ የቀጥታ ክፍያ መክፈል የተሻለው በየስለማስብ። 4= በመንግስት የመድሃኒት ምርጫ ሞት ሙሉ እምነት የለኝም። 6= የመንግስት የጤና ተቋማት አገልግሎት ጥራት ዝቅተኛ ስለሆነ። 7= ወደ ፊት ለሚከሰት የጤና አክልቀድ ሞት ዝቅተኛ መክፈል ተገቢ ስላልሆነ። 8= ሌላ ካለው _____
35.	የጤና መድሃኒት የአባልነት ክፍያ አጠቃላይ ወርሀዊ ደሞዝዎ (____) ቢሆን የጤና መድሃኒት አባል ለመሆን ፈቃደኛ ነዎት?	1= አዎ 2= የለም
36.	ለ ጥያቄ 35 መልስዎ አዎ ከሆነ የአባልነት ክፍያው የደሞዝዎን አጥፍቦ ሆን አባል ለመሆን ፈቃደኛ ነዎት?	1= አዎ 2= የለም
37.	ለ ጥያቄ 35 መልስዎ የለም ከሆነ የአባልነት ክፍያው የደሞዝዎን ማሸቢያን አባል ለመሆን ፈቃደኛ ነዎት?	1= አዎ 2= የለም
38.	ከፍተኛ ሊከፍሉት የሚችሉት ወርሃዊ የአባልነት ክፍያ?	የወርሀዊ ደሞዜን _____ % እከፍላለሁ።
39.	ለ ጥያቄ 40 መልስዎ 0% ከሆነ ምክንያትዎ ምን ይሆናል?	1= የፈንዱ ቁጥጥር ስር አትላይ እምነት የለኝም። 2= የሰራተኞች ገዢና መድሃኒት ሙሉ ክፍያ መሸፈን ያለበት መንግስት ነው በየስለማምን። 3= የአባልነት ክፍያ ለመክፈል አቅም ስለሌለኝ። 4= በኢኮኖሚያዊ ተሻሻሎች የበለጠ መክፈል አለባቸው በየስለማምን። 5= ሌላ ካለው _____

በቃለመጠይቁ ሥለተሳተፉ ክልብ አመሰግናለሁ!!!!