College of Health Science, School of Public Health

AWARENESS AND AFFORDABILITY OF THE NEWLY PROPOSED SOCIAL HEALTH INSURANCE AMONG PUBLIC SERVANTS IN ARBA MINCH TOWN, SNNPR, ETHIOPIA/2019

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A RESEARCH THESIS SUMBMITTED TO DEPARTMENT OF SCHOOL OF PUBLIC HEALTH, COLLEGE OF HEALTH SCIENCE, ADDIS ABABA UNVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTTER OF PUBLIC HEALTH IN HEALTH ECONOMICS (MPH/HE).

JUNE /2019

ARBA MINCH, ETHIOPIA

Addis Ababa University

College of Health Science, School of Public Health

Awareness and affordability of the newly proposed social health insurance among public servants in Arba Minch town, SNNPR, Ethiopia/2019

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Abstract

Background: As part of the efforts being made to meet universal health coverage, Ethiopia plans to introduce social health insurance (SHI) scheme for the formal sector. Contribution will be collected as 3% of employee's gross salary from both employee and employer, despite that the scheme is expected to enhance access to healthcare, there is a concern that the premium may not be affordable to majority of civil servants and there could be limited interest to join the scheme. Therefore, this study aims to assess awareness and affordability of the newly proposed social health insurance among public servants in Arba Minch town, South Ethiopia.

Methods and material

Cross-sectional study designed was used among randomly selected 713 public servant at Arba Minch town. The survey participates were selected based on multistage stratified random sampling method. Data was collected via structured questioner, then it was cleaned, coded, entered in to EPI data v.3.1 and exported to SPSS version 25 statistical package for analysis. Descriptive statistics used to summarize awareness and affordability of the scheme and both bivariate and multivariable logistic regression was used to examine factors driving the outcome variables. Odd and 95% CI was used to report the finding.

Result

The study revealed that half of the participants never heard of social health insurance. Working sector, regularly listening for health information through mass media and participation in social network are significantly positively associated with awareness of SHI. From the total survey participants, 607 (87.7%) respondents are able to afford the 3% of gross salary per month as scheme premium. Educational status, family size and net income were significantly explains affordability to the scheme. Among the total respondents, 254 (36.7%) are willing to join for the scheme and interest to join the scheme is affected by awareness of the scheme, household size, regularly listening for health information and participation in social network.

Conclusion and recommendation

The study revealed that affordability to health insurance would not be a serious challenge to introduced SHI for the formal sector. The major problems are found to be limited knowledge about the design of health issuance and willingness to participate in the scheme. Half of the respondents were never heard of social health insurance. Although more than three fourth were able to afford, majority were not willing to join the scheme. Therefore, it is better to work hard on public awareness of the scheme. The evidence from this research indicates that provision of health information on mass media could be used as one strategy to enhance understanding of health insurance and to change perception on SHI scheme.

Acknowledgment

First of all, I would like to thank my almighty God for his unreserved forgiveness to stand a live and support throughout my accomplishment.

I would like to extend my deepest gratitude and appreciation to my advisors Anagaw Derseh (PhD) for his friendly support throughout this research undertaking. I am also thankful to Addis Ababa University College of Health Science, School of Public Health for giving me the opportunity to go through research undertaking process.

My special thanks goes to the study participants for their consent and provision of the required information.

Also I would like to thank the mangers of Arba Minch General Hospital, Arba Minch Health Center, Arba Minch Health Science College, Arba Minch Teachers Education College and selected Arba Minch town administration offices for their contribution on providing me with the necessary document, arranging time and place of data collection.

Lastly, I would like to extend my great graduated to my family and all my friends who stand on behalf of me throughout the work.

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Acronyms

AMHSC	Arba Minch Health Science College
ATTC	Arba Minch Teachers Education College
AMGH	Arba Minch General Hospital
AMHC	Arba Minch Health Center
AOR	Adjusted Odds Ratio
CBHI	Community Based Health Insurance
COR	Crude Odds Ratio
CTCO	Culture, Truism and Communication Office
EHIA	Ethiopian Health Insurance Agency
ETB	Ethiopian Birr
EO	Education Office
HI	Health Information
HHS	Household Size
HO	Health Office
PVHF	Private Health Facility
PHF	Public Health Facility
NHIS	National Health Insurance System
OOP	Out Of Pocket
SHI	Social Health Insurance
UHC	Universal Health Coverage
USD	United State Dollar
WHO	World Health Organization
WTJ	Willingness To Join
WTP	Willingness To Pay

1. Introduction

1.1.Background

In most of developing countries the out of pocket payment for health care service has been accounting for more than 40% of their expenditure and that limits the poor from accessing the health care and leads to complicated health problems(1).

In Ethiopia, promising improvement was seen in the domestic share of health expenditure, yet household OOP spending (33%) remains a major domestic source. More than 73% of the population pay for health care from their OOP and the total per capita OOP expenditure of households for health was 231 ETB per year. With regard to residency, the average per capita OOP was higher in urban than rural(2, 3)

With the stated OOP, health care purchase become catastrophic in Ethiopia. For instance, 55% of OOP spending financed through the household's own cash, 35 % financed through assistance from friends and family members , while 6% was financed through selling the household's own livestock and cereals and 4% were by borrowing money(3)

Reducing OOP payment is one of the health care financing strategies of the government of Ethiopia to fasten the journey to UHC. With regard to reducing OOP payment, the proposed initiative is strengthening the on-going Community Health Insurance scheme and implementing the proposed Social Health Insurance scheme(4). Regarding CBHI, 39% (375 woredas) were enrolled, that is in line with the HSTP target. About 3,084,036 households or 15,638,789 beneficiaries were enrolled into CBHI in 2009 EFY, but Social health insurance was expected to commence and achieve full enrolment of the target population starting the first years of HSTP. However, its implementation was delayed due to reasons like the need to improve quality of health(5). Also there is limited evidence on the scheme, all of them addressed for willingness to pay. There is also a perception that the premium will be un affordable. (6).

Hence this study was aimed at assessing awareness and affordability of the newly proposed Social health insurance among public servants in Arba Minch town, South Ethiopia and from my knowledge this will provide policy important recommendations and also will serve as base line literature for future scholars in the area.

1.2.Statement of the problem

In the world 150 million populations have been suffering from financial shock to spend for health care expense due to the high direct out of pocket payment. Especially these problems creates vicious circle in developing countries meaning those who had no access to basic health care due to high direct out of pocket payment could stay with their morbidity and this prevents them from routine life activity and productivity thereby they even do not cover for their basic life expenditure other than health care(7).

In most of developing countries out of pocket payment for health care service has been a major challenge that limits the poor from accessing the health care and leads to complicated health problems(1). In Ethiopia out of pocket expenditure covers more than one third of health care spending(8).

In around forty low and middle income countries 25.9 % of the household borrowed money or sell household items to buy for health care. Furthermore, the catastrophe is higher among the poorest household and in country which has no health insurance system.(9)

The poorer is excluded from accessing primary health care due to the financial shock in some low income countries. This indicates that getting healthcare access is a serious problem in developing countries that mandates the establishment of health insurance reforms that distributes the risk for all the members to ensure health care equity(10). On other hand, limited government health care budget is the main problem in developing countries that leads to high direct out of pocket payment(8).

A study of 59 developing countries found absences of health insurance system as one of the main problem that makes health expenditure in the form of catastrophic up to nearly 40% of all house hold life expenditure(11).

In Ethiopia out of pocket expenditure covers more than one third of health care spending(2). With the stated OOP, health care purchase become catastrophic in Ethiopia. For instance, 55% of OOP spending financed through the household's own cash, 35 % financed through assistance from friends and family members , while 6% was financed through selling the household's own livestock and cereals and 4% were by borrowing money(3)

The government of Ethiopia health spend is 6.65% of the total expenditure that is far from Abuja declaration to spend for 15% for health. Per capital health expenditure that is $28.65 in which is significantly low from developing African countries that is $37.7 and far less than the WHO recommendation to deliver essential health service in 2015 which is $60(2)

As per the report, about 7.4% the country population is covered by health insurance and from this, 96% were covered by CBHI. With regard to the merit of health insurance membership, about 87% of insured individuals rated their health condition either 'very good' or 'good'(3)

One of the health care financing strategies of Ethiopian government is reducing OOP by strengthening the on-going Community Health Insurance scheme and implementing the proposed Social Health Insurance scheme(4), but with regard to SHI, implementation was delayed due to various reasons like poor quality of service and there is also perception that the scheme premium is un affordable. Also delay in the commencement of social health insurance has also negatively affected the coverage of the formal sector population in insurance and the potential resource mobilization from it (5).

Study conducted on teachers in Wolaita Sodo town tried to assess awareness about the scheme and found that 55.2% of the study participants were not aware of the proposed SHI(6) , and this indicates to dig more about understanding of the scheme in different sectors of public servants.

On the other hand the same study conducted on health workers at St. Paul's hospital millennium medical college, Addis Ababa, Ethiopia showed that 86.8% of respondents believed and agreed that health workers should get freely the insurance service without paying for SHI and instead the government should give full insurance coverage for health workers(12).

The other concern related with the newly proposed SHI is limited evidence and lack of public awareness that slow down the process of installing the scheme as a good mechanism of health care financing(6).

Empirical evidence on affordability of the newly proposed social health insurance is closely absent, therefore this paper aimed at assessing awareness and affordability of the newly proposed SHI among formal public servants in Arba Minch Town.

1.3.Significance of the study

Even though Social Health insurance is a key to achieve universal health coverage, particularly for disadvantaged groups of peoples in developing countries, it is found at infancy stage in those countries(13). In Ethiopia only 1.2 % of formal sectors employees have been covered by private insurance(8), looking for the gape the government has developed SHI for formal sector employees in 2011, but yet not been implemented. Before the implementation limited studies have been conducted on the proposed scheme, but all of them were assessing for willingness to join and pay for the scheme. In regard to affordability of the scheme, it has not been assessed.

Therefore, this paper will assess the affordability and awareness of the scheme in addition to its willingness to join. In this regard the paper will help as a base line data for future scholars and before the implementation of the scheme it will come up with significant recommendations for the FMOH and EHIA in order to look for the premium and that fasten smooth implementation of the program.

2. Literature review

2.1.Landscape of health care financing in Ethiopia

The health care financing strategies were adopted by the government of Ethiopia since 1998 and the financing source includes for the government treasury, out of pocket payment and that of external partner support(4).

According to the sixth national health account in health expenditure share, 30% covered by the government, 33% by households, and 1% by private employers and 36% by the rest of the world(1). However, total spending on health has increased significantly, the government health spend is 6.65% of the total expenditure, that is far from Abuja declaration to spend for 15% for health. Though there is a good progress in per capital health expenditure that is $4.5 in 2010/11 to $28.65 in 2013/14, till it is significantly low from developing African countries that is $37.7 and far less than the WHO recommendation to deliver essential health service in 2015 which is $60(1). To augment the stated strategy, the government of Ethiopia and Ministry of Health has opened for alternative financing options by creating Channel 1, 2 and Channel 3. With this change, still off-budget funding is palpable in the total health expenditure(4).

Even promising improvement was seen in the domestic share of health expenditure, yet household OOP spending remains a major domestic source that is around 33%(1). According to Ethiopian national household health service utilization and expenditure survey, 73% pay for health care from their OOP and the total OOP spending was estimated to be 18.2 billion ETB. As estimated, the total per capita OOP expenditure of households for health was 231 ETB per year. With regard to residency, the average per capita OOP was higher in urban than rural, that is 355 ETB per capita in urban, whereas 200 ETB in rural areas. With the stated OOP, health care purchase become catastrophic in Ethiopia. For instance, 55% of OOP spending financed through the household's own cash, 35 % financed through assistance from friends and family members , while 6% was financed through selling the household's own livestock and cereals and 4% were by borrowing money(2)

As per the report, about 7.4% the country population is covered by health insurance and from this, 96% were covered by CBHI. It was 1.25% in 2010/11, but the stated progress was due to the implementation and expansion of CBHI in the last five years. With regard to the merit of

health insurance membership, about 87% of insured individuals rated their health condition either ‘very good’ or ‘good’(2).

Even though there is palpable changes and success stories with the 1998 health care financing strategies, as per the envisioned health transformation plan to ensure for universal health coverage, revision of the existing financing strategy become an important agenda. In order to improve UHC, the government needs to speed up implementation of health insurance in different part of the population(4).

Reducing OOP payment is one of the health care financing strategies to fasten the journey to UHC. With regard to reducing OOP payment, bold progress was seen, but still left with high OOP (33%) payment burden. Making health care service fee affordable by supporting and negotiating fees for health services with the private health sector to make them fair, working on cost driving factors, ensuring for essential drugs, medical supplies and medical technologies and generate and use evidences to revise and set user fees considered as initiatives to reduce significant OOP expenditure. Besides, the other initiative to reduce OOP is, strengthening the on-going Community Health Insurance scheme and the proposed Social Health Insurance scheme through Strengthen health insurance governance; establish bigger health insurance pool and implement various risk mitigation mechanisms(4).

Regarding the health care financing management, the government took for the lion share (44%), followed by household (33%), NGOs (19%) and the rest managed by insurance companies and other private sectors(4)

2.2.Concepts of Social Health Insurance and public servants

Social health insurance (SHI) is one of the principal methods of health financing. Twenty-seven countries have established the principle of universal coverage via this method and Several low- and middle-income countries are currently interested in extending their existing health insurance for specific groups to eventually cover their entire populations(14).

Social health insurance (SHI) is a financing scheme where money is pooled to avert risks of members(15)and its establishment has been advocated by the World Health Organization as a key to achieving universal coverage of health care and to ensure access to health services, particularly for the disadvantaged in less developed countries. It is common to see for SHI in developed country as means for health financing, but it is at infancy stage in developing countries(13).The foremost task of SHI is to share the costs of health services in an equitable and affordable way, through risk pooling and prepayment. In many developing countries however, health spending is arguably too low to achieve good health care for the population. In these instances, SHI can have the additional task of generating further funds (relative to the current situation) for health(16).

2.3. Design features of health insurance schemes in Ethiopia

The UHC strategy adopted by the government of Ethiopia intends to work to overcome financial catastrophe via providing financial protection lunching two forms of health insurance platform of SHI and CBHI schemes. CBHI will target urban informal sector employees and rural residents(17). The scheme was established by FMOH and governed by EHA in collaboration with regional states. In the beginning it was piloted in 13 wordas in 2011 and then scale up to 161 woredas. As of December 2017, it has been covered 16.7% of the total country population(18). Enrollment to the scheme is on household voluntary base and premium feasibility was assessed in context of the regions. There general subsidy which is provide by the government to all members and Target subsidy is given to indigenous or vulnerable groups of the community that covers 10% of members of the CBHI(19). SHI is established in 2011 with proclamation number 690/2010 to enroll formal sector employees of both the public and private sector and pensioners. In the case of the husband and the wife being employed both, must be registered with the SHI scheme as members.

As provided in the legal framework, dependents covered by the SHI system are children and spouses of contributing employees and pensioners. The total eligible population for SHI represents 19% of the population(17). The beneficiaries of the Social Health Insurance scheme

constitute the member and his/her family; specifically; spouse, biological or legally adopted children below the age of 18 years, mentally and physically ill children above the age of 18 who cannot sustain themselves. The health service package to be provided to beneficiaries will include essential health services and other critical curative services from health facilities that have concluded contract with EHIA. This includes outpatient care , inpatient care, delivery services , surgical services, prescribed generic drugs and diagnostic tests whereas the following services are excluded not to be covered by SHI, those are indirect medical expenses such as transport expenses, per diem, rent, etc. that are incurred by patients and/or their attendants; treatments outside the country; treatment of injuries resulting from natural disasters, social unrest, epidemics which require the proclamation of martial law by local, regional or the federal governments; treatments arising from extreme sports for which the organizers are responsible for covering the expenses that arise in connection with the event or sport; drug abuse/addiction treatments; periodic medical check-up unrelated to illness; occupational injuries, road traffic accidents and other injuries covered by other legal provisions; cosmetic surgeries, organ transplants, dialysis except acute renal failure; provision of spectacles, contact lens, In Vitro Fertilization (IVF), Hip replacement and other prosthesis; dentures, crowns, bridges, implants and root canal treatments except those required due to infections; Hearing aids and associated appliances, and health services provided to any beneficiary free of charge(20).

Each member of SHI will contribute 3% of their monthly salary if the person is an employee of the formal sector or 1% of their pension if the beneficiary is a pensioner. For employees, the employer will contribute a matching 3% of the salary, and for pensioners, the government will contribute a matching 1% of the pension and also if married and both of them are public servant, each of them are expected to pay the 3% share(17).

Limited evidence on awareness on the concept, principles and benefits of health insurance; affordability of the scheme is also another challenge; limited government resource, and inadequate technical skill to plan and coordinate the insurance schemes are challenges that interfere with proper implementation of the schemes(21).

In 2015, government employees amounted to 1.9 million, the total number of pensioners was 303,000, the number of private sector employees was 1.9 million, and the number of dependents was 13 million (22).

2.4. Empirical studies on SHI

2.4.1. SHI awareness and perception

Awareness of the scheme is an important determinant for the acceptance of the insurance scheme. For instance, on study conducted at Walaita Sodo on WTJ for SHI reported that 55% of the respondents were not aware of the scheme on that awareness on the basics of the health insurance had positive predictability with WTJ. Also study conducted at St. Paul's hospital millennium medical college, Addis Ababa, Ethiopia showed that 86.8% of respondents believed and agreed that health workers should get freely the insurance service without paying for SHI and instead the government should give full insurance coverage for health workers.

In addition, study conducted on the same topic at north west Ethiopia, Deber Markose town suggested that out of 127 government employee who were not willing to pay 51% were believed as it was the government responsibility to finance SHI for employee and 39% agree that as OOP is better than joining for SHI(6, 12, 23)

Another Study conducted on health insurance technology in Ethiopia: reported that 58.76% of study households were preferred joining health insurance than relying on direct out-of-pocket financing mechanism. Also Study conducted on Preference for health care financing options, willingness to pay for compulsory health insurance among government employees in Ethiopia reported that 90% of the respondents preferred health care insurance whereas the remaining 10% were prefer out of pocket expenditure.

Another study conducted on civil servants in Deber Markos town, north west identified fear of poor implementation and the benefit package might not cover all needed services as the two most commonly stated reasons for not willing to pay the proposed social health insurance scheme(23).

2.4.2. Affordability of SHI

Study conducted in central Vietnam found lack of money to buy premium as reason for not willing to pay(24). Also Study done in Addis Ababa, Ethiopia identified being unable to buy for the proposed premium as main reasons for not willing to pay (12).

On the study conducted at Ghana on barriers and motivational factors that drive the willingness to join and pay for national health insurance were identified as the major factors which motivated both subscribers and non-subscribers were: affordability of the NHIS premium(25).

Also anther study conducted in Ghana on Ghana's national health insurance scheme affordability revealed that 29% of all the households surveyed were identified as unable to afford the expected annual NHIS contributions for full insurance ("unafforders"), in terms of socioeconomic status, all the unafforders were in the first and second socio-economic quintiles with almost 69% in the first quintile alone. The unafforders also had a mean household size of 5.5, larger than the mean household size of 4.4 for all the households survey(26).

Study conducted in United States on the affordability of health insurance coverage identified as the majority of the uninsured have sufficiently low incomes that at least partial financial assistance would be necessary to make coverage affordable(27).

There is limited empirical evidence on the newly proposed SHI, but all of them encounter for WTP, no study done to assess the affordability of the proposed scheme. Therefore this paper is entitled to assess affordability and awareness of SHI Scheme.

2.4.3. Interest to join SHI

Study conducted on willingness to join and pay for SHI among teachers in Wolaita Sodo town revealed that 71.3% of the study participants were willing to join the proposed social health insurance and three fourth of those WTJ were WTP for the proposed SHI scheme. The same study conducted at Deber Markose town, North West Ethiopia reported that 69.8 % of the respondents were willing to join and pay the proposed 3% of their monthly salary as monthly premium and 13.3% was willing to pay more than 3%. Also Study conducted on Preference for health care financing options a willingness to pay for compulsory health insurance among government employees in Ethiopia reported average WTP for mandatory SHI as 57.94ETB per month which is much lower than the national average household health care expenditure. In addition, studies done on willingness to pay for SHI among academic staff of a public university in Malaysia revealed that 72.5% of the respondents were willing to pay an average of RM79.32 per month per household for SHI, in central Vietnam found that 73.1% of respondents were willing to pay an annual premium of 27.1 USD with 0 level copayment, 72.2% of the respondents were willing to pay 22.1 USD with copayment of 10% , and 71.6%, of the respondents were willing to pay 18.8 USD with 20% copayment, and at Kampala/ Uganda; 77% of the employees were willing to join the proposed scheme and 91% were willing to pay contributions to SHI Fund(6, 23, 24, 28-31). The survey conducted by WHO stated that

the average house hold in Ethiopia expend 1380 ETB per year (115 ETB /month) for all forms of health care service(32).

The most significant and common factors that determine WTP for SHI are income, educational background, family size, occupation and age of members (6, 23, 28-30, 33). For instance, study conducted on WTP in Wolaita Sodo town suggested that WTP was found to be positively predicted by better and the perception about who should pay insurance premium(6). Other factors related to WTP are history of problem of paying medical bills, the amount of money they currently spend on health care, the extent to which paying of premiums would result in the foregoing of some important consumption items, their perception of quality of care in health facilities, history of past hospitalization and perceived poor health status were consistently correlated with higher WTP for insurance (6, 31, 33). In addition, low coverage of the benefit package of the proposed SHI, fear that implementation of SHI creates workload on health workers, poor implementation of the scheme lack of trust in the quality of health service given were factors that determine the willingness to pay for the scheme(12)

Study conducted on Preference for health care financing options a willingness to pay for compulsory health insurance among government employees in Ethiopia reported that family with member in need health care were significantly associated with willingness to pay for mandatory health insurance(6, 29).

Study conducted in Addis Ababa, Ethiopia identified the main reasons for not willing to pay were; not being able to afford the premium charges (23%), lack of adequate information on the SHI scheme (9%), fear on the transparency and accountability of the insurance system in terms of susceptibility to bias and corruption (43.5%), and 45.7% want an independent institution to manage the scheme(12).

The same study done in central Vietnam identified reason for unwillingness to join SHI as; no enough money to buy the scheme (70.1%), complicated SHI administration (3.6%) and poor health care quality (0.6%)(24).

2.5. Conceptual frame work of the study

The figure below shows the effect of independent variables on the outcome variables; Affordability, Awareness and WTJ of SHI. Those listed independent variables directly and indirectly will have impact on the outcome variables whose significance of association is to be identified.

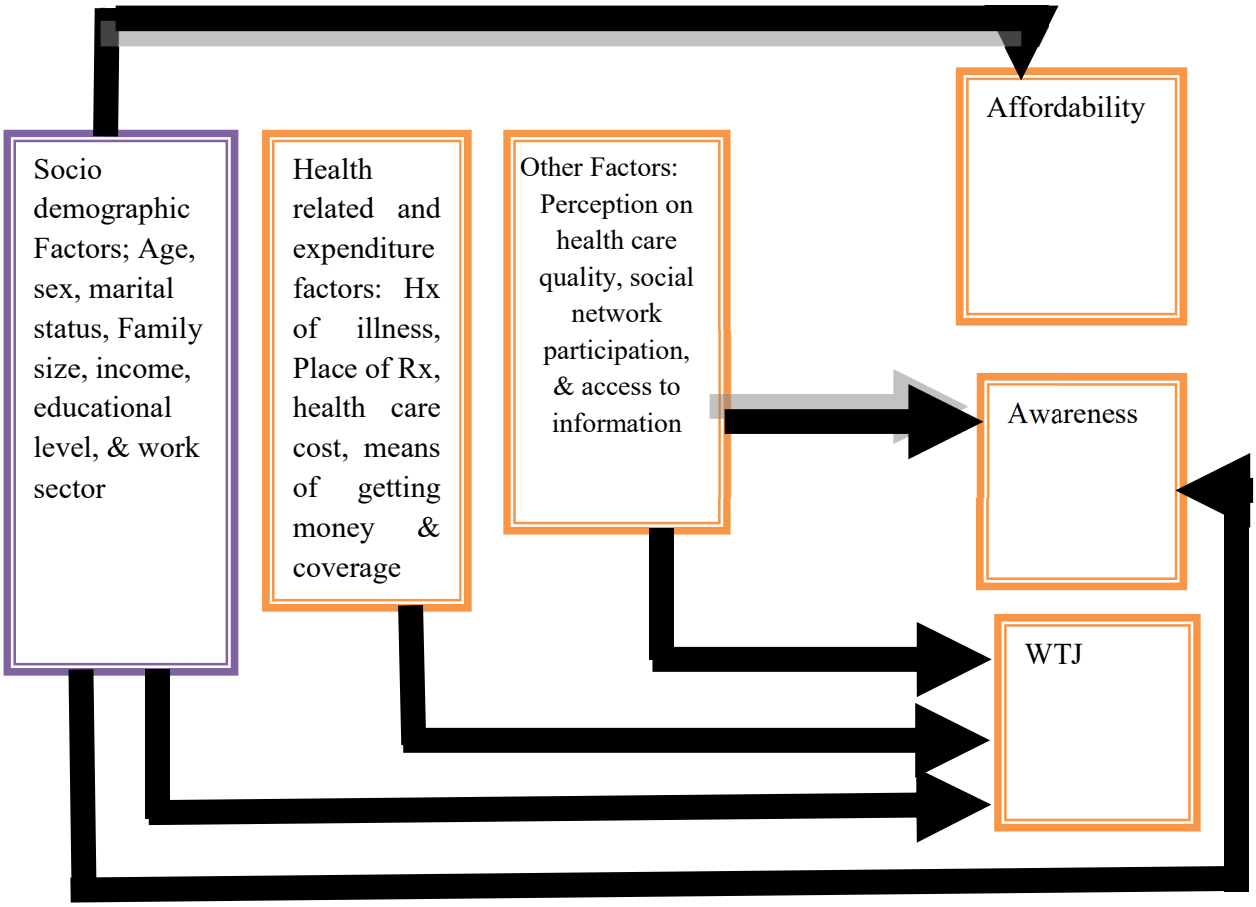


Figure 1: Conceptual framework is derived from reviewed literatures for the Study on awareness and affordability of the newly proposed SHI in Arba Minch town, southern, Ethiopia, 2018/19.

3. Objectives

3.1.General Objective

- To assess awareness and affordability to the newly proposed social health insurance among public servants in Arba Minch town , South Ethiopia in 2019.

3.2.Specific Objectives

- To examine awareness of social health insurance among target population of the scheme
- To estimate the extent of affordability to contribute 3% of gross salary for social health insurance among public servants by sector.
- To identify factors affecting affordability and awareness of SHI scheme.
- To assess the extent of variations in WTJ and affordability to Social health insurance

4.Methods and Materials

4.1. Study Area and Period: The study was conducted from January 01-30/2019 in Arba Minch town which is found in 550 km in south of Addis Ababa, the capital of Ethiopia and 270 km far from Hawassa the capital city of the Southern Nation, Nationalities and Peoples Region. The town is center of Gam zone administration and gifted with different tourist sites like; more than forty springs, crocodile market, God's bridge, Abay and Chamo lake and Nechsare national park. The town has four sub cities; Sekela, Secha, Nechsare and Abay sub cities with total population of 125, 411. Among the total population, close to 4.2% or 5, 281 are public servants with no health insurance coverage. In the town, there are different types of federal and state institutions, public health facilities and town administration offices.

4.2. Study design: Institution-based cross-sectional design were used to assess factors associated with awareness, affordability and willingness to join SIH among public servants in Arba Minch town

4.3. Source population: All formal public servants of Arba Minch town which has no health insurance coverage.

4.4.Study population: Public servants in selected public sectors

4.5.Study unit; Selected public servants in selected sectors

4.6.Inclusion criteria; Permanent public employees who are Ethiopian citizen and who present during the time of data collection.

4.7.Sample size determination

The required sample size was computed using single population proportion formula for the dependent variable "**Awareness of SHI**". The prevalence was taken from study conducted on willingness to join and pay for SHI scheme among teachers in Wolaita Sodo town in which 45% of participants were aware of the scheme (6). Also used for 95% confidence interval (1.96), with (5%) margin of error and design effect of "2" was used to determine the sample, since we used for multistage stratified sampling technique.

$$\frac{(\mathbf{Z\alpha/2})^{\mathbf{2}}\mathbf{P(1-P)}}{d^2}$$

n= 2*(1.96) **2** *(0.45*0.55) /0.05*0.05= 388

With a 10% non-response rate, the total sample size were 427

For the dependent variable "**Affordability**", we considered the prevalence as 50%, 95% confidence interval (1.96), with margin of error (5%), and design effect"2".

$$\frac{(\mathbf{Z\alpha/2})^{\mathbf{2}}\mathbf{P(1-P)}}{d^2}$$

n= 2*(1.96) **2** * (0.5*0.5) /0.05*0.05= 392

With a 10% non-response rate, the total sample size were 431.

For the variable " **Willingness to Join**", based on previous study, prevalence of willingness to join for social health insurance among health workers at St. Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia was 69.8%(23), besides we used for 95% Confidence interval (1.96), with margin of error (5%) and design effect "2".

$$\frac{(\mathbf{Z\alpha/2})^{\mathbf{2}}\mathbf{P(1-P)}}{d^2}$$

n=2* (1.96) **2** * (0.302*0.698) /0.05*0.05= 648

With a 10% non-response rate, the total sample size were 713.

As shown above, for each of the objective we computed the sample size and among, the sample size of willingness to join was the largest, that was 713, therefore the largest sample size (713) was considered as the sample size of this study.

4.8.Sampling procedure

Multi stage stratified random sampling technique were used to select study participants. In order to accommodate heterogeneity of sector and income, the first stratum categorized public servants of the town in to three strata that was higher academic institutions servant, health facilities servant and town administration office servant. Using lottery method among three public health facilities, Arba Minch General Hospital and Arba Minch Health Center were selected; among three higher academic institution in the town; Arba Minch Health Science College and Arba Minch Teachers Training College were selected and among sixteen town administration offices; Municipality, Education Office (EO), Health Offices (HO), Public Service and Human Resource Office (PSHRO), Culture, Truism and Communication Offices (CTCO) were selected. The second stratum categorized servants in academic instituting in two strata that is academic staffs and administrative/ supportive staffs and also servants of health facility in two strata that is professional staffs and administrative staffs, whereas, since servants in town are homogenous, no need of further stratification. The total servants in Arba Minch Health Science College were 260 (administrative/supportive staffs were, 98 and academic staffs were 152); Servants of Arba Minch Teachers Training College were: 276 (administrative/supportive staffs were, 126 and academic staffs were 150) whereas numbers of staffs in Arba Minch General Hospital were 563 (Admin staffs, 265 and professionals, 301) and servants in Arba Minch Health Center were 134 (admin, 25 and professionals,109) number of staffs in municipality office were 65, in EO were 24; in HO were 31; in PSHRO were18, and in CTCO were16 in number.

Based on the proportion of each respective stratum to the total sample size; the study participants from: Arba Minch General Hospital were 563/1378*713= 291(Admin, 134 and professionals, 157); Arba Minch Health Center 134/1378*713= 69 (Admin, 13 and professionals, 56) ; Arba Minch Health Science College were 260/1378*713= 135 (Admin, 51 and academic, 84); Arba Minch Teachers Training College were: 276/1378*713 = 142 (Admin, 64 and academic, 78) , Arba Minch town municipality office 65/1378*713= 33; EO, 24/1378*713= 12; HO, 31/1378*713 = 14; PSHRO, 18/1378*713 = 9 and from CTCO, 16/1378*713 = 8 in number. Then, obtaining list of employee for each stratum, participants from each stratum were selected by simple random sampling using computer generated random number.

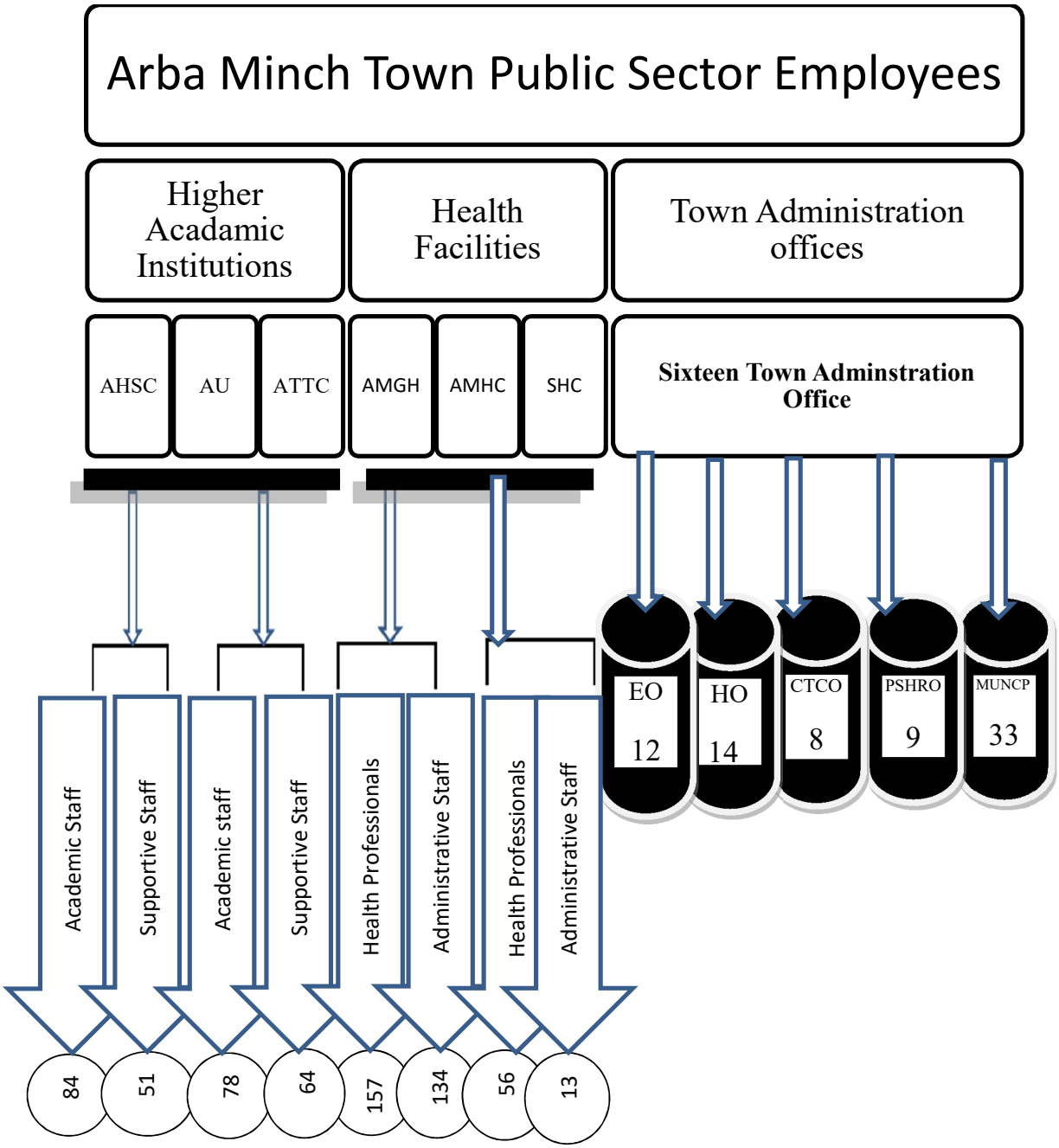


Figure 2**:** Schematic representation of the way of selecting study units among from formal public servants in Arba Minch tow/2019.

4.9.Variables

4.9.1. Dependent Variable – Affordability,, Awareness and Willingness to join for SHI

4.9.2. Independent variables

4.9.2.1.Socio-demographic factors: Sex, age, marital status, number of family members, income, level of education, and work sector.

4.9.2.2.Health status and health expenditure factors: history of illness in the household in last 12 months, Seek medical treatment, and get treatment, place of treatment, reasons for going to treatment, health care costs, coverage of the households for the health care costs, means of getting money for health care and any health care coverage.

4.9.2.3.Other factors: Perception on the availability and quality of health care service from public providers, access to information on health and insurance, experience of participating in different Social network (Idder/Ikub).

4.10. Data collection Tool and procedure

4.11. Data Collection Tool

Data were collected using structured pre-tested questionnaire. The questionnaire was prepared in English and translated to Amharic. Again changed back to English to check for consistency. Both close ended and open ended questions were used. The questionnaire contains five sections: socio-demographic variables (age, sex, marital status, religion, monthly income, educational status and occupation), health status and expenditure variables, awareness and perception towards SHI, WTJ and affordability variables.

4.12. Data collection procedure

The data collection process were taken place from January 1-30/2019 by using structured questionnaires. Intensive three days training was given for data collectors and supervisors on data collection tools, cleaning, precautions to be taken while collection, the approach and most common mistakes committed during data collection. Then after, using Amharic version questionnaire, six diploma holders and two supervisors were used for data collection.

4.13. Data Quality control

Data consistency and completeness were checked and data entry were done in daily basis by assigned supervisors and immediate correction was taken. Moreover, principal investigator and supervisors were made supervision on the data collection process to check the accuracy and validity of the questionnaire, pre-testing of the questionnaire was done at Arba Minch poly technical college on five percent (5%) of the actual sample prior to the actual study period. After pretesting the questionnaire, cronbatch's Alpha was calculated by using SPSS window version 25 to test internal consistency (reliability) of the item.

In addition, content validity were cross checked by another expert at the college. The questionnaires were checked for completeness and consistency in daily basis. In case of absent participants during the survey, three times re-visit were done and non- respondent were considered otherwise. Moreover, the collected data were cleaned, coded and entered to EPI data version 3.1.

4.14. Data analysis

Data was cleaned, coded, entered in to EPI data v.3.1 and were exported to SPSS version 25 statistical package for analysis. A descriptive statistical analysis were done to show the characteristics of survey participants.

Binary logistic regression were used to identify factors associated with awareness, affordability and WTJ of the scheme. The crude and adjusted odds ratios with their corresponding 95% confidence intervals were computed. Also multicollinearity was checked for each outcome variables.

According to the recommendation of Hosmer and Lemeshow a *p*-value of <0.25 to be used as a screening criterion for variable selection(34). Therefor variables which have p-value less than 0.25 in bivariate analysis were taken in to multivariable analysis. The results were presented in text and tables based on the type of data.

4.15. Measuring Affordability

Although the "affordability" of health care is a common concern, the term is rarely defined. Fundamentally, affordability is a function of income, spending, and judgments about the value of goods and services for their price(35).

With regard to economic measurement of affordability, here we used for normative approach which states "afford" to pay for health insurance if it would have minimum income left to meet its other socially-defined minimum needs, such as food and shelter. Hence, this consider for the proposed SHI premium contribution, federal Poverty line (FPL) and family size(36).

According to the 2015/16 poverty analysis of Ethiopia, the poverty line is Birr 7184 per year per a person(37). When the net income after covering the poverty line could covers for the proposed 3% of SHI premium, then the scheme is affordable for the individual. According to the review of concepts to guide policy makers(35), affordability of the scheme was assessed as below.

*If net income- [household size *(per capital _income less poverty line)] >3% gross salary, the person can afford to pay 3% of his gross salary for SHI. If net income- [household size *(per capital _income less poverty line)] <3% gross salary, the person cannot afford to pay 3% of his gross salary for SHI.*

4.16. Operational Definition

Net Income: cumulative of monthly salary and monthly income from other sources

Affordability: the ability to pay the proposed 3% of gross monthly salary as premium contribution for social health insurance without fall below poverty line

Awareness: The term "Awareness" defined as a knowledge or understanding of Social Health Insurance.

4.17. Ethical Considerations

Ethical clearance was obtained from the ethical clearance review bored of School of Public Health. Informed consents were taken from the study participants. Privacy and confidentiality were maintained throughout the study period; each questionnaire was coded without any personal identification and support letter was obtained from each selected organization.

4.18. Dissemination of result

The final report of the study will be communicated with Gamo zone public sectors, FMOH, national, regional, zonal, and town EHIA and respective departments. Effort will be applied to present this study in different symposiums and the paper will be sent for pear reviewed publication. Applicable parts of the result will be translated in to local language and disseminated to public servants working in the study area.

5. Result

5.1. Socio demographic characteristics of the respondents

In this study, 692 respondents were willingly participated with response rate of 97%. Majority of the respondents, 251(36.3%) were in the age group of 25-29 years, whereas the mean age was 32 years with SD (±7.7). In case of sex; 442(63.9%) were male and 443(64%) were married.

About 386(55.8%) were Orthodox Christians followed by 263(38%) Protestants. It was found that, 276(39.9 %) were under family size of 1-2 and the average size was 3 (±1.926 SD). Out of the total respondents, 300(43.4%) had earn net monthly income less than 4000 ETB with median net income of 4,631 ETB.

More than half, 405(58.5%) were degree and above holders and 360(52 %) of theme were working in health facilities with mean service year of 9.5 (±7.288 SD). From the total respondents, 78(11.3%) had legitimate authority in their working institution and 33.1% live in rented house (table 1)

Table 1: Socio demographic characteristics of the respondents among forma public servants in Arba Minch town/2019.

Variables	Category	Frequency(n)	Percent (%)
Age (years)	20-24	81	11.7
	25-29	251	36.3
	30-34	146	21.1
	35-39	96	13.9
	>39	118	17.1
Sex	Male	442	63.9
	Female	250	36.1
Marital Status	Single	249	36
	Married	443	64
Religion	Orthodox	386	55.8
	Protestant	263	38
	Muslim	43	6.2
Family Size	1-2	276	39.9
	2-4	239	34.5
	>4	177	25.6
Educational Level	Certificate & below	71	10.3
	Diploma	216	31.2
	Degree & Above	405	58.5
Working Institution	Health Facility	360	52
	College	276	39.9
	Town Administration	56	8.1
Service Year (years)	1-5	265	38.3
	5-10	217	31.4
	10-15	90	13.0
	>15	120	17.3
Net Income	<4000	300	43.4
	4000-6500	200	28.9
	>6500	192	27.7

5.2. Health status and health expenditure

One third of the respondents were got sick in 12 months recall period and received modern health care. It was found that, 122(17.6%) visited public health facilities and 165 (23.8 %) visited modern health care facilities for less than two times in the recall period. Besides, 152 (22%) spend less than 1000 ETB and 220 (31.8%) covered their health care expenditure from their OOP, whereas 16 (2.3%) forced to borrow many from relatives (table 3).

Table 2: Health and health expenditure status of the respondents among formal public servants in Arba Minch town /2019.

Variables	Category	Frequency(n)	Percent (%)
Got sick in the last 1-year	Yes	236	34.1
	No	456	65.9
Got health care	Yes	236	34.1
	No	456	65.9
Types of health facilities to get health care	Public Health Facility	122	17.6
	Privet Health Facility	73	10.5
	Both Public & Privet	40	5.8
Frequency of Visit to modern health care	<2 times	165	23.8
	>2 times	71	10.3
Birr spent for modern health care in last 1- year	<1000 (0)	152	22
	>1001 (1)	84	12.1
Covered all from OOP	Yes	220	31.8
	No	16	

5.3. Awareness and perception of SHI scheme

It was found that, 347(50.1 %) respondents were never heard of SHI before and out of them, 76 .8 % were working at different town administration offices. However, 379 (54.8%) respondents regularly get health information from mass media and 507 (73.3%) were participating in social network. More than half of those participate in social network and 77% of those regularly get health information were aware of the scheme. Among 356(49.9%) respondents who heard about the scheme, 31.5% used social media as source of information, and the least used for training and newspapers (1.7%). Regarding knowledge of SHI, more than one third, 270 (39%) knew about the benefit package whereas 9.8% knew about amount of premium contribution (Figure 3, Table 3)

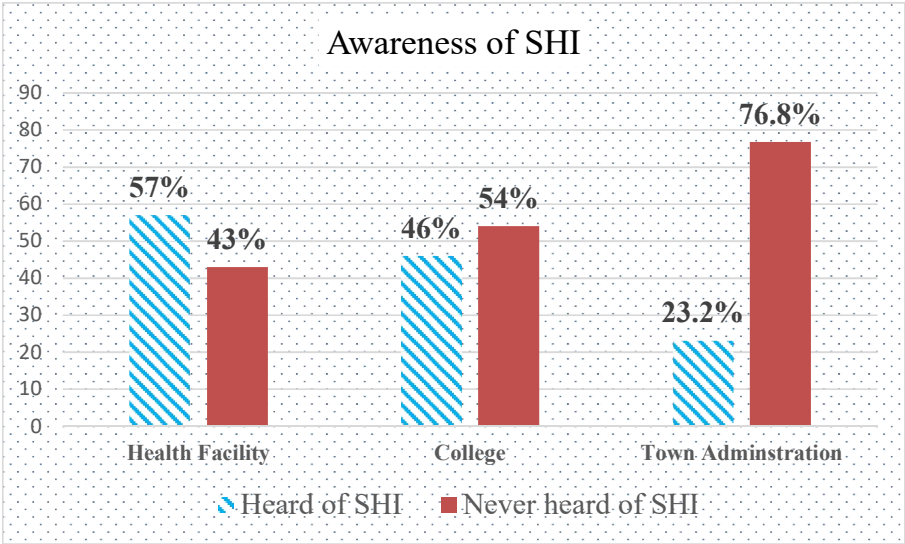


Figure 3; Respondents awareness on the newly proposed SHI among formal public servants in Arba Minch town/ 2019

The study revealed that, only 81 (11.7%) and 70(10.1%) strongly agreed and disagreed on introduction of SHI as a means of getting health care for public servants respectively. Besides, 172(24.9%) strongly disagreed with mandatory contribution and being member of SIH scheme and only 66(9.5%) strongly agree with the stated means of membership. About 175(25.3%) believed that introducing SHI will improve their health care quality, whereas 176 (25.4%) doesn't believe on the importance of introducing SHI as a means to improve health care quality. In addition, 184 (26.6 %) trusted EHIA on proper management of the premium contribution whereas, 152 (22%) did not trust the agency in this regard.

Table 3: Awareness about SHI scheme among formal public servants in Arba Minch town/ 2019

Variables	Category	Frequency (n)	Percent (%)
Regularly get health information by mass media	Yes	379	54.8
	No	313	45.2
Have you participated in any social network?	Yes	507	73.3
	No	185	26.7
Have you heard about SHI	Yes	345	49.9
	No	347	50.1
Knowledge on SHI	Benefit package	270	39
	Premium contribution	68	9.8

5.4. Factors associated with awareness of the newly proposed SHI scheme

In the bivariate analysis, working sector, education status, service year, regularly get health information through mass media, and social network participation were identified to have significant association with awareness of the scheme.

The multivariable analysis revealed that, working sector, regularly listening for health information through mass media and social network precipitation were significantly associated with awareness of the newly proposed SHI scheme. Civil servants who works in health facility were 3 times more likely to be aware of the scheme as compared to those working in town administration sectors. (AOR=3.12; 95%CI: 1.35, 7.22). Respondents who get health information regularly from mass media were 15 times more likely aware as compared to those who don't regularly listen for health information (AOR=15.21; 95%CI; 10.41,23.6). The odd of respondents who participate in social network were 2 time more likely to be aware of SHI as compared to those who don't participate in social network (AOR=2.097, 95%CI; 1.33, 3.38) (table 4).

Table 4: Factors driving awareness of the scheme among public servants in Arba Minch town/2019.

Variable	Category	Aware	Not aware	COR (95%CI)	PV	AOR (95%CI)	PV
Working sector	Health Facility	205	155	2.819(1.45,5.47)	0.002	3.12(1.35,7.22)	0.008
	College	127	149	4.375(2.27,8.42)	0.001	2.8(1.23,6.34)	0.014
	Town Administration	13	43	1		1	
Educational status	Certificate and below	28	43	1		1	
	Diploma	110	106	1.6(0.94,2.75)	0.090	1.25(0.61,2.54)	0.540
	Degree and above	207	198	1.6(0.96,2.68)	0.071	1.75(0.89,3.45)	0.100
Service year	1-5	118	147	1		1	
	5-10	114	103	1.4(0.96,1.97)	0.080	1.19(0.74,1.91)	0.450
	10-15	49	41	1.5(0.92,2.40)	0.120	1.10(0.6,2.03)	0.750
	>15	64	56	1.4(0.92,2.19)	0.140	0.96(0.55,1.68)	0.900
Get health information from Mass media regularly	Yes	292	87	3.16 (2.20,4.53)	0.001	15.7(10.41,23.6)	0.001
	No	53	260	1		1	
Participate in SN	Yes	55	130	3.159(2.20,4.53)	0.001	2.1(1.33,3.38)	0.001
	No	290	217	1		1	

5.2.Affordability of the newly proposed SHI

With regard to net income, 300 (43.4 %) had monthly net income less than or equals to 4000 ETB; 200 (28.9 %) had 4000-6000 ETB, whereas 192(27.7%) had monthly net income of greater or equals to 6500 ETB. In addition, 212 (30.6%) had income from other source which complements their salary and all of them can afford the scheme when compared to that of respondents living with salary alone. Out of the total respondents, 607 (87.7%) were able to afford the newly proposed 3% of gross salary per month as SHI scheme premium (fig 4).

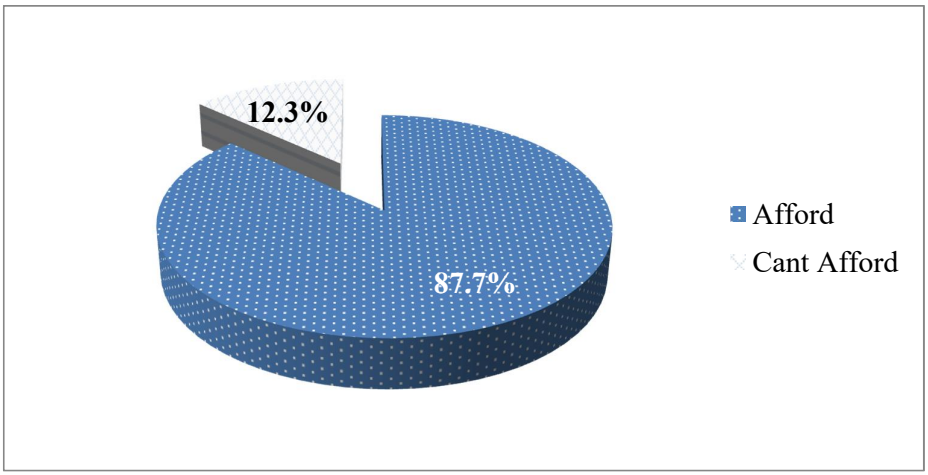


Figure 4: Affordability of SHI among public servants in Arba Minch town/2019 (n=692)

From participants working in town administration office, 50(89.3%) were able to afford the scheme and majority of those who can afford the scheme were married and had family size of note more than two. On the other hand, 395(97.5%) of respondents with educational status of degree and above were found to afford the scheme (table 5).

Table 5: Affordability and socio economic status of public servants in Arba Minch town (n=692)

Variable	Afford		Not afford	
	Frequency	Percent	Frequency	Percent
Working Sector				
Health Facility	313	86.9	47	13.1
College	244	88.4	32	11.6
Town Administration	50	89.3	6	10.7
Family size				
1-2	267	96.7	9	3.3
2-4	208	87	31	13
>4	132	74.6	45	25.4
Educational status				
Certificate and below	29	40.8	42	59.2
Diploma	183	84.7	33	15.3
Degree and above	395	97.5	10	2.5
Marital Status				
Single	231	92.8	18	7.2
Married	376	84.9	67	15.1

5.2.1. Factors associated with affordability SHI Scheme

Marital status, educational status, family size and net income were found to be significant factors associatiated with affordability of SHI Scheme in bivariate analysis. Respondents with family size of 1- 2 were 3 times more able to afford the premium as compared to that of family size $\geq$4 (AOR= 3.02, 95%CI; 2.05, 7.13). As the result revealed public servants with educational status of degree and above were 75% more able to afford the scheme as compared to those with certificate and below level (AOR=1.75, 95%CI; 1.22,3.16). However participants with diploma level were not significantly associated with affordability of the scheme. Regard to their net income, those who gate monthly net income $\geq$ 6500 ETB were 2 times more able to afford the insurance scheme as compared to servants with monthly net income of $\leq$ 4000 ETB (AOR= 2.042, 95%CI; 1.01,6.15). Whereas net income between 4000-6500 ETB were not significantly associated with affordability of the scheme (table 6).

Table 6: Determinants of affordability to SHI scheme among public servants in Arba Minch town (n=692)

Variables	Category	COR (95% CI)	PV	AOR(95% CI)	PV
Marital Status	Single	1		1	
	Married	2.3(1.32,3.94)	0.003	1.44 (1.08,3.58)	0.42
Family Size	1-2	10 (4.8,21.31)	0.001	3.02 (2.05,7.13)	0.015
	2-4	4.42(2.06,9.49)	0.001	1.43(1.44,5.88)	0.021
	>4	1			
Educational status	Certificate & below	1		1	
	Diploma	1.12(0.07,0.23)*	0.001	1.24(0.6,1.32)	0.07
	Degree and above	2.02(5.108,11.04)	0.03	1.75(1.22,3.16)	0.023
Net income	<4000	1		1	
	4000-6500	1.02(1.11, 2.107)	0.015	1.37(0.45,2.34)	0.062
	>6500	2.26(1.62,9.148)	0.012	2.042(1.01,6.15)	0.033

5.3.Willingness to join SHI

More than one third, 254 (36.7%) of respondents were willing to join the newly proposed SHI and among the willing respondents more than half (65.35 %) were male and again more than half 157 (63.35) works at health facilities (Fig 5).

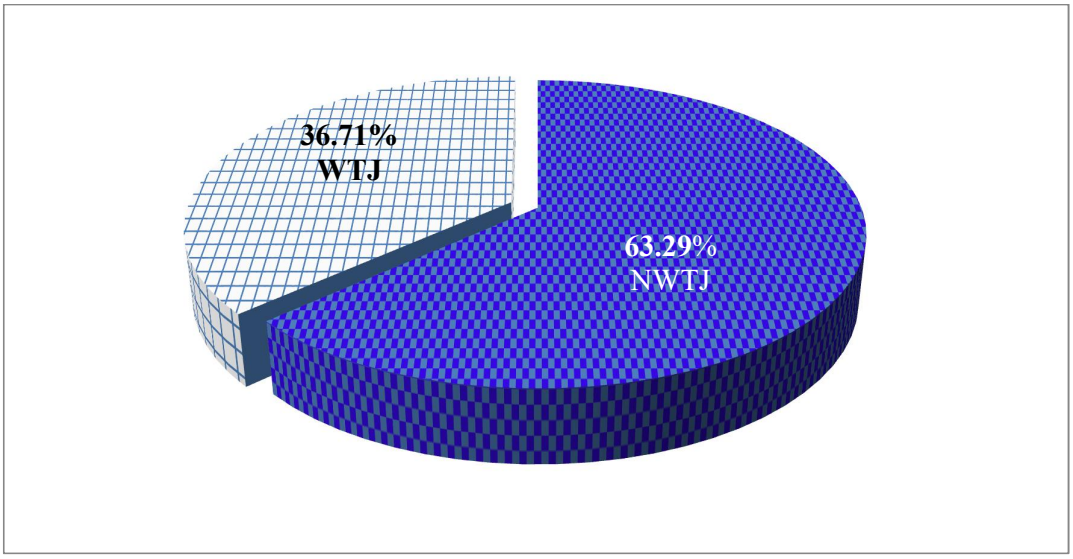
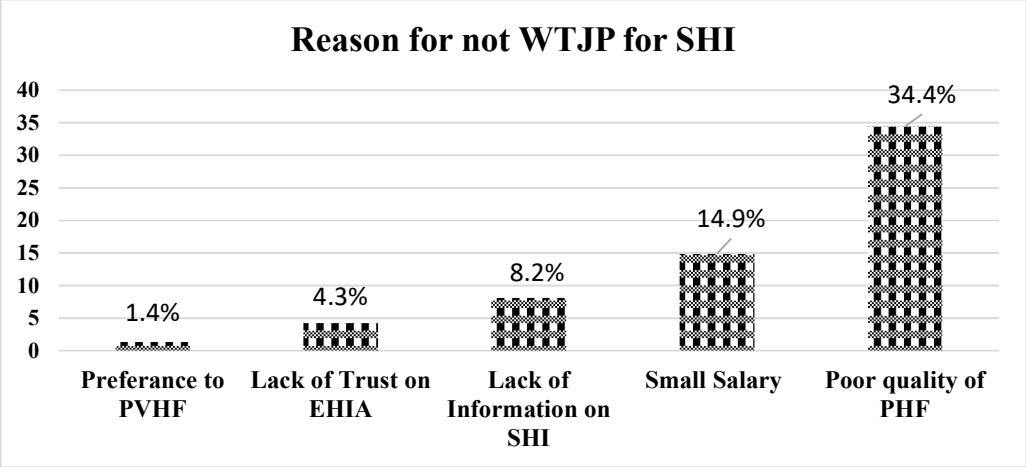


Figure 5: Willingness to join SHI scheme among public servants in Arba Minch town (n=692)

The main reason for not willing to join SHI were poor quality public health facility service, small monthly salary, lack of trust on the agency governing the contribution, Preference to use private health facilities and lack of enough information about SHI. Out of 254 respondents who are willing to join SHI, 171 (24.7%) respondents were willing to pay less than 1% , 42(6.1%) were willing to pay 1-2 % and 41(5.9%) respondents were willing to pay 2-3% of their gross monthly salary per month with mean 1.47% ($\pm$ 0.766) monthly gross salary (Fig 7).



Key note: PVHF- Private health facility; PHF- Public health facility

Figure 6: Reason for not willing to join newly proposed SHI among public servants in Arba Minch town (n=692)

5.3.1. Factors associated with willingness to join newly proposed SHI

Religion, working sector, family size, history of getting sick in the last 12 months, institution where heath care provided, knowledge about SHI, amount of OOP health care expenditure, regularly getting for health information from mass media and social network participation had significant association with willingness to join SHI during bivariate analysis. However, awareness of SHI, family size, regularly listening for health information and participation of social network were significantly associated with willingness to join SHI during multivariate analysis. Public servants who heard about SHI were 2.4 times more likely willing to join and pay for SHI as compared to those who didn't heard of the scheme (AOR=2.392; 95%; CI, 1.599,3.759). Participants with >4 family size were 52 % more likely to be willing to join as compared to respondents with family size less than two (AOR=1.52; 95%CI; 1.324, 8.829).

The odds of those who participate in social network were 1.6 times more willing to join SHI as compared to respondents without the participating (AOR=1.569; 95%CI; 1.040, 2.367). Respondents who regularly follow for health information were 1.5 times more likely willing to join SHI as compared to those who did not listen for (AOR=1.509; 95%CI; 1.004, 2.270) (Table 9).

Table 7: Determinants of willingness to join SIH among public servant in Arba Minch town, 2019 (n=692)

Variable	Category	WTJ	NWTJ	COR (95%CI)	PV	AOR(95%CI)	PV
Religion	Orthodox	153	233	1.515(0.766,2.997)	0.67	0.97(0.46,2.05)	0.95
	Protestant	88	175	1.16(0.577,2.335)	011	1.12(0.79,1.63)	0.52
	Muslim	13	30	1		1	
Family Size	1-2	105	171	1		1	
	2-4	92	147	1.3(0.87,1.92)	0.20	0.72(0.48,1.09)	0.190
	>4	57	120	1.32(0.87,1.98)	0.18	1.52(1.33,7.82)	0.011
Working Sector	Health Facility	137	223	2(1.027,3.894)	0.04	1.58(0.78,3.2)	0.120
	College	104	172	2.032(1.055,3.915)	0.03	1.35(0.66,2.72)	0.402
	Town Admin	13	43	1		1	
Do you heard of SHI	Yes	170	175	3(2.2,4.2)	0.001	2.3(1.52,3.46)	0.001
	No	84	263	1		1	
Got Sick	Yes	95	141	1.259(0.911,1.74)	0.16	1.57(0.86,2.87)	0.140
	No	159	297	1			
Service preference in last one year	Private facility	57	65	0.489(0.228,1.049)	0.01	0.47(0.20,1.06)	0.070
	Public facility	26	48	0.618(0.341,1.12)	0.06	0.80(0.42,1.52)	0.490
	Both	12	28	1		1	
Amount of OOPP	<1000	58	94	1		1	
	>1001	37	47	0.68(0.424,1.09)	0.10	0.75(0.42,1.36)	0.351
Do you get health information regularly	Yes	175	204	2.541(1.835,3.518)	0.001	1.5(1.08,2.28)	0.048
	No	79	234	1		1	
Participation in Social network	Yes	205	302	1.884(1.299,2.732)	0.001	1.54(1.01,2.35)	0.040
	No	49	136			1	

5.4.**Association between Affordability and Willingness to Join**

Among respondents who afford the scheme, 386 (63.6%) were not willing to join the scheme. Conversely, out of those who cannot afford the scheme, nearly 33 (39%) were willing to join the proposed SHI (Table 8).

Table 8: Association between affordability and willingness to join of SHI among public servants in Arba Minch town (n=692)/2019

		Willingness to join SHI				PV	Total	
		Yes		No				
		NO	%	NO	%		NO	%
Affordability status	Afford	221	36.4	386	63.6	0.655	607	87.7
	Not Afford	33	38.8	52	61.2		85	12.3
Total		254		438			692	100

6. Discussion

The current paper examines awareness, affordability and perception to involve in the proposed Social Health Insurance scheme in Arba Minch town. Previous studies show that awareness and understanding of the concept of health insurance is positively associated with membership of a scheme(38).

In this study, it is found that half of participants were never heard of the scheme. This finding is more or less similar with study conducted at Woliata Sodo town (23). However, it is remarkably higher than study conducted in Addis Ababa, Central Vietnam, rural population of Bangalore, India, Northwest Ethiopia, East Delhi, Andhra Pradesh and Nigeria (6, 12, 24, 39-43). This could be due to the difference in socio demographic characteristics of the previous studies and the current study area; Addis Ababa, Vietnam, India and Nigeria might have high accessibility to get the information from different Medias as compared to the current study area.

Awareness of SHI is significantly associated with working sector, regularly listening for health information through mass media and social network precipitation. The findings are consistent with studies conducted in a rural population of Bangalore, India and Andhra Pradesh (40, 42, 43). Public servants working in health facility were found to be more aware of SHI scheme. This finding is complemented with study conducted on health professionals in Addis Ababa(12). This is might be due to accessibility of information as their profession is linked with the scheme in one or other way.

Public servants who regularly follow for mass media were found to be more aware of the scheme as compared to those who did not follow for media. The finding is complemented by study done on the role of mass media in health care development and importance of mass media in communication of health in India(44, 45). The fact that, while following for mass media regularly, they are opportune to get for advocacy of health insurance on the way.

Also public servant who are actively participating in social network were found to be more aware of SHI Scheme compared to those who were not participating. This finding is supported by study conducted in Dessie town, Ethiopia in which “Iddir “association increased initiation of health insurance scheme(46). This might be attributed to the fact that social network participation provide an opportunity to discus with peers and other people in different social gatherings, thereby that support share of knowledge and attitude among

theme, and also especially, “Eddir” function in the character of risk pooling that poster understanding of health insurance.

Despite low interest to join SHI, majority of the public servants in the study area can afford for 3% of their gross salary for health insurance coverage. It was found in this study that educational status, family size and net income were significantly associated with the affordability of the newly proposed SHI scheme. This finding is consistent with study done in America on the uninsured and affordability of health insurance coverage and study done on refusal to enroll in Ghana’s national health insurance scheme(26, 27).

Participants with better net income were more able to afford the scheme as compared to their counterpart. The study done India also confirmed that higher income increase the probability of purchasing health insurance(38). Respondents with smaller family size were more able to afford the premium as compared to those with larger family size. The finding is also in line with study done in Ghana, which revealed that the un afforders had a mean household size of 5.5, larger than the mean household size of 4.4(26). As expected, expense of life will increase with increasing of family size and that might interfere with affordability of the scheme.

As result revealed, public servants with educational status of degree and above were more able to afford the scheme. This finding is found to be similar with the finding of study conducted in Boston (47).This is mainly because, when educational status of public servants is advancing their carrier as well as monthly income will also improve.

With regard to willingness, in the current study, only one third of the respondents were willing to join the newly proposed SHI. This finding is higher than study conducted in St. Paul’s hospital millennium medical college, Addis Ababa, Ethiopia in which only 17% were willing to pay for the scheme (12). This gape might be related with selection of only health professionals as study unit in the previous study as compared with our study. On the other hand, the current finding is lower than studies conducted on government employees in Mekelle City, on teachers in Wolaita Sodo, on civil servants in Northwest Ethiopia, Kampala (Uganda), and Malaysia(23, 29, 31, 39, 48, 49). Since awareness of the scheme drive for demand, this might be attributed to low awareness of the scheme in our study area. Majority, two third were not willing to join the scheme in the current study. The main reason for not willing to join SHI were perceptions related to poor quality public health facility service, small monthly salary, lack of trust on the agency governing the contribution, preference to use private health facilities and lack of enough information about SHI.

Among respondents who were willing to join the scheme, only one fourth were willing to pay less than or equals to 1%, and few respondents were willing to pay 1-2 % and 2-3% of their gross monthly salary per month. The finding is more or less consistent with study done in Mekelle City, Northern Ethiopia (48). Conversely, it is less than the finding seen on study conducted in Wolaita Sodo and Vietnam(6, 24), in which nearly half and majority were willing to pay 3% and 4% respectively. The gape might be linked directly or indirectly with awareness of the scheme, participants' professional background, net income and trust on the agency overseeing the scheme.

In the current study adequate information about SHI, family size, active engagement on different social network were significantly determine willingness of respondents to join SIH scheme. It was found that participants with large family size were more willing than with small size. The finding is supported by studies done in Debrebrehan, Ethiopia, Nigeria, India and Uganda (23, 31, 38, 50). Probably while family size increase, the probability of risks of illness will increase, and that might drive for security of health care.

As study report revealed, those who heard about the scheme where more willing to join the scheme. This finding is complemented by studies done; on teachers' WTP in wolaita Sodo, on civil servants' demand for SHI in Bahir Dar city and on knowledge and attitude of civil servants in Osun stata of Nigeria (24, 39, 51). Whenever there is better information and understanding about the scheme, people will be driven to choose for it as priority.

As identified, the other determinant of willingness is social network participation; those who participate in social networks like "Eddire" and "Ekub" were more willing to join the scheme. This finding is supported with the study done in Nigeria(50). This might be attributed to the fact that social network participation provide an opportunity to discus with peers and other people in different social gatherings, thereby that support share of knowledge and attitude among theme, and also especially, "Edir" function in the character of risk pooling that poster understanding of insurance.

Regarding the relationship between affordability and willingness to join, even though the correlation is not significant, 87% of the respondents who were able to afford the scheme were not willing to join the insurance scheme. This is mainly because of the fact that willingness is not only determined by affordability of the scheme rather it is found in the study that family size, knowledge of the scheme and social network engagement as significant factors.

6.1. Strength and Limitation of the study

6.1.1. Strength of the study

The study incorporated participants from different sectors considering for variety of income and educational status. Thereby can be applied for public servants of the country.

The study, specifically exploring for affordability of the scheme is first in its kind in the country and will serve as a base line for future researchers and aid for the policy decision regarding the scheme.

6.1.2. Limitation of the study

The study used for open-ended contingency evaluation approach to assess participants' willingness to pay amount. It is subject to non-response and also affected by rounding errors. Pensioners and private formal servants were not included as they are part of the proposed scheme

7. Conclusion and Recommendation

7.1. Conclusion

The study revealed that half of the participants were never heard about the newly proposed social health insurance. This indicate that there is lack of awareness on the scheme in the area and awareness creating to precede the enrollment process. Working sector, regularly listening for health information through mass media and social network precipitation were significantly affect the awareness of the newly proposed SHI scheme.

Even though only one third of the respondent were willing to join and pay for the scheme, majority were able to afford the newly proposed 3% of gross salary per month contribution as social health insurance scheme premium. Educational status, family size and net income were factors that significantly interfere with participant's affordability status.

Majority of the respondents were not willing to join and pay for the scheme. The main reason for not willing to join and pay were poor public health facility quality service, small monthly salary, lack of trust on the agency governing the contribution, preference to Private health facilities and lack of enough information about SHI.

7.2. Recommendation

Based on the findings we forward the following recommendations:

As the study indicated that more than half were not heard of the scheme and one of the reasons not to join was lack of information on the scheme. Therefore there is a need to reinforce information, education and communication about SHI before the implementation of the scheme through advocacy and awareness creating activities.

It was found that, only one third of the respondents were willing to join and pay for the scheme and hence it is better to work on factors which affect the willingness to join the scheme. In this regard, it is important to improve quality of health services offered from public facilities and enhance trust on the agency running the scheme.

Although majority of respondents were able to afford the proposed monthly contribution, but till there are employees who cannot afford. Therefore it is better to think of remedial to enroll those who were not able to afford the insurance scheme like provision of indigent subsidy.

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Annex – 1: Information Sheet and Consent Form

The below participant information sheet and informed consent form were used for study units

My name is Bahiru Mulatu and I am MPH in Health Economics student in Addis Ababa University. Now I am working as data collector for the research being conducted to assess awareness and affordability of the newly proposed SHI among formal sector employee in Arba Minch Town/ South Ethiopia. I kindly request you to express your understanding freely about Social Health Insurance.

The study title: awareness and affordability of the newly proposed Social Health Insurance among formal sector employee in Arba Minch Town/ South Ethiopia, 2018-19 G.C

Purpose of the study: The main aim of this study is to write a thesis as a partial requirement for the fulfillment of a master's degree in Health Economics for the principal investigator. Moreover, the result of the study will be used as evidence and input for high decision makers at country level FMOH and HIA.

Procedure and duration: The data collectors will collect the necessary information from participants using structured data extraction tools to have pertinent data that is helpful for the study. The duration of data collection will be for 30 days.

Risk and discomfort: By participating in this research project, there is no risk that comes to the participants. Whereas expressing full concern and understanding is of great important to the research project which is in turn important for overall implementation of program.

Benefit: The research have no direct benefit to those who have participated in this project. But the indirect benefit of the research for the participant and overall as a country is very great, as identifying area of improvement and taking appropriate decision helps to fasten the appropriate implementation of the insurance scheme, enhance the walk to universal health coverage and improve health care service and decrease consequences related with catastrophic health care financing.

Confidentiality: The information acquired from the participant will be confidential. There will be no information that will identify in particular. The findings of the study will be general for the study community and will not reflect anything particularly of individual persons.

The data extraction tools will be coded to exclude showing names and other personal information's. No reference will be made in oral or written reports that could link participants to the study.

Rights to refusal or Withdrawal: Giving permission for this study is fully voluntary. You have the right to permit or not for this study. If you decide to permit the study, you have the right to terminate the study at any time if you consider something related to the study is wrong.

Contact address: This research project will be reviewed and approved by the institutional review board of College of Health Science, School of Public Health, Addis Ababa University. If at any case you want to know more information about the research and its undertakings, you can contact the committee through the address of advisor and /or principal investigator.

Principal investigator: Bahiru Mulatu(Bsc), Arbaminch Health Science College
Mobile phone: +251-913-884-116 E-mail:bahiru.mulatu2@gmail.com

Anagaw Derseh (PhD), College of Health Science, School of Public Health, Addis Ababa University
Advisor Tel: _____ e-mail: _____

Annex-2: Declaration of informed voluntary consent:

The below consent form were used for declaration of their willingness for each participants during data collection.

I have read/was read the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the right of participation and the contact address for any queries. I have been given the opportunity to ask any questions for things that may have been unclear. I was informed that I can terminate the study at any time. Therefore, I declare my voluntary consent to permit this study to be conducted in this institution with my signature as indicated below.

Signature of the participant_____

Name: _____ Date_____

Signature of Principal Investigator_____

Name: _____ Date_____

Thank you for your cooperation!!

Annex -3: Data Extraction Tool

Part –I: Assessing Socio -Demographic factors

No	Variables	Category	Skip
1.	Sex	Male …….1 Female ……..2	
2.	Age	……	
3.	Religion	Orthodox ……1 Protestant ……2 Muslim ……3 Others ……..4	
4.	What is your Marital Status	Never married….. 1 Married …… 2 Divorce …… 3 Widowed ……...4	
5.	Types of occupation & Position	……..	
6.	What is the highest level of education you have attained	Certificate and below ….. 1 Diploma …….. 2 BSc /BA …….. 3 Masters and above …….. 4	
7.	How long have you been worked	....……	

Part -II: Assessing Health related &expenditure factors:

S.NO	Variables	Category	Skip
1.	Have you or any of the members of your household got sick in the last 12 months?	Yes …… 1 No...…… 2	
2.	If yes #1, you took to treat him/her?	Yes …… 1 No...…… 2 →	7
3.	If yes#2, where you took to get treatment	Health center ……..…1 Hospital ……...…....…. 2 Private clinic ……..……...3 Traditional healer ……...4	
4.	How much you spent for the treatment/care you received	……	
5.	Do you able to cover the health care cost of your house with your out of pocket payment	Yes…… 1 No...……. 2	
6.	What are other means you used to cover your cost	Borrowing money……1 Deny treatment ……2 Any other support…….3 Others ……..4	
7.	What you did the sick person	……	
8.	Does your organization provide any benefit while get sick	Yes…… 1 No...……. 2	
9.	If yes, what type of benefit	Clinic service in the organization ….. 1 Contracted hospital/clinic where all workers get treated……..2 Workers go anywhere they want for treatment, but make claims after that...3 Additional medical allowance …….... 4 Other (specify).....5	

Part-III: Assessment of awareness and attitude towards SHI

S.No	Variables	Category	Skip
1.	Did you heard about SHI	Yes……..…… 1 No...……. 2 →	4
2.	If yes, source of information	Social media (internet , radio, TV…….1 Friends ……..2 Government announcement and news paper ……3 Workshops/training/meeting …….....4 Others ……..……..5	
3.	What you know about SHI	Benefit package ……1 Premium contribution ……..…… 2 If other, specify ……3	
4.	Do you involve in social network	Yes……...…… 1 No...…… 2 →	6
5.	In which social network?	Edire ……1 Ekub …… 2 Others ……...…3	
6.	Do you agree that SHI is important	Strongly agree……1 Agree …….2 No opinion ……3 Disagree ……4 Strongly disagree……...5	
7.	Do you agree that SHI to be mandatory	Strongly agree……1 Agree …….2 No opinion ……3 Disagree ……4 Strongly disagree……...5	

8.	Do you believe that SHI will improve quality of health care	Strongly agree……1 Agree …….2 No opinion ……3 Disagree ……4 Strongly disagree……...5	
9.	Do you agree that SHI as mandatory	Strongly agree……1 Agree …….2 No opinion ……3 Disagree ……4 Strongly disagree……...5	
10.	do you agree that insurance should give freely without personal contribution	Strongly agree…….1 Agree ……..2 No opinion …….3 Disagree …….4 Strongly disagree……5	

Apart-IV: Assessing Willingness to join and pay

S.NO	Variables	Category	Skip
1.	Do you want to join SHI	Yes……. 1 No ……. 2 → 5	
2.	If yes#1, do you want to pay for SHI	Yes…..…… 1 No ……. 2	
3.	If yes#2, What is the maximum amount you would be willing to pay as a monthly contribution in terms of % of gross salary	……	
4.	Which way of paying do you prefer	Monthly payroll deduction…… 1 Once per annum ……2	
5.	What is the reason	Lack of trust in government administration due to corruption……1 Un able to afford the premium Fear of quality of care……2 Limited disease coverage by the benefit package ……..……3 Lack of adequate information on the scheme ……4 Others ……... 5	

Part-V: Assessing Affordability

S.NO	Variables	Category	Skip
1.	What is your monthly Salary	……	
2.	How many family do you have	……	
3.	How many family mere below 18	…….	
4.	Do you have income by other family members	Yes …….. ……..1. No ……. 2.	5 →
5.	If yes #3, how many?	……	
6.	Do you have other source of income rather than your salary	Yes …….. ……..1. No ……. 2.	
7.	If yes for #5, how many?	……	

Amharic Version

ክፍል -1:

ተ.ቁ	ዝርዝር	መልስ	ማለፍ
101	ጾታዎ	1. ወንድ 2. ሴት	
102	ዕድሜዎ	_____	
103	ሀይማኖትዎ ምንድን ነዉ	1. ኦርቶዶክስ 2. ፕሮቴስታንት 3. ሙስሊም 4. ሌላ ከሆነ ይገለፅ--------	
104	የጋብቻ ሁኔታ	1. ያላገባ/ች 2. ያገባ/ያገባች 3. የተፋታ 4. የትዳር አጋር የሞተበት/ባት	
105	የስራ መስክና ደረጃ	_____	
106	ከፍተኛ የትምህርት ደረጃ	1. ሴርተፊኬትና ከዚያ በታች 2. ዲፕሎማ 3. የመጀመሪያ ዲግሪያ 4. ማስተርስ እና ከዚያ በላይ	
107	ምን ያህል የስራ ልምድ አለዋት	_____አመት	

ክፍል-2:

ተ.ቁ	ዝርዝር	መልስ	ማለፍ
201	በባለፈዉ 12 ወራት ዉስጥ በቤትዎ የታመመ ሰዉ ነበር	1. አዎን 2. የለም	መልስዎ 2 ከሆነ ወደ ጥያቄ 205 ይለፉ
202	አዎን ከሆነ መልሰዎ #1 አሳከመዉታል	1. አዎን 2. አይ	መልስዎ 2 ከሆነ ወደ ጥያቄ 207 ይለፉ
203	አዎን ከሆነ መልሰዎ #2, የት አሳከሙት	1. ጤና አጠባበቅ ጣቢያ 2. የመንግስት ሆስፒታል 3. የግል ክሊኒክ 4. የባህል ህክምና ቦታ	
204	ለተደረገልዎ ህክምና ምን ያህል ገንዘብ ከፈሉ	_____ ብር	
205	ለቤተሰብዎ ህክምና ክፍያ ከኪስዎ ይሸፍናሉ	1. አዎን 2. አይ	መልስዎ 2 ከሆነ ወደ ጥያቄ 208 ይለፉ
206	ሌላ ምን መንገድ ተጠቀመዉ ነዉ የህክምና ወጪዎን የሚሸፍኑት	1. ገንዘብ በመበደር 2. የቤት ቁስ በመሸጥ 3. ሌላ ካለ	
207	ታማሚዉን ምን አደረጉ	_____	
208	መስሪያ ቤትዎ በህመምዎ ጊዜ የሚሰጥዎት ድጋፍ አለ	1. አዎን 2. የለም	መልስዎ 2 ከሆነ ወደ ጥያቄ 301 ይለፉ
209	አዎ ከሆነ መልስዎ(ምን አይነት ድጋፍ ይደረግልዎታል)	1. የኪሊኒክ አገልግሎት 2. የሆስፒታል አገልግሎት 3. ሰራተኞች የትም ታክመዉ ያመጡትን ሂሳብ ማወዳደቅ 4. የህክምና ድጎማ 5. ሌላ ካለ ይገለጽ.....	

ክፍል-3:

ተ.ቁ	ዝርዝር	መልስ	ማለፍ
301	ስለ ማህበራዊ ጤና መድህን ዋስትና ሰምተዉ ያዉቃሉ	1. አዎን 2. አልሰማሁም	መልስዎ 2 ከሆነ ወደ ጥያቄ 304 ይለፉ
302	አዎን ከሆነ መልስዎ የመረጃ ምንጭዎ ምንድን ነዉ	1. ከማህበራዊ ሚዲያ (ኢንተርኔት , ሬዲዬ ቴሌቭዠን) 2. ከ□ደኞቼ 3. ከመንግስታዊ መግለጫዎችና ጋዜጣ 4. ከስልጠናዎች ና ስብሰባዎች 5. ሌላ ካለ ይገለጽ	
303	ስለ ማህበራዊ ጤና መድህን ዋስትና ምን ያዉቃሉ	1. ስለሚሰጠዉ ጤና ሽፋን 2. የወራዊ መዋጮ መጠን 3. ሌላ ካለ ይገለጽ	
304	ማህበራዊ አገልግሎት ውስጥ ተሳትፈዉ ያዉቃሉ	1. አዎን 2. አልተሳተፍኩም	መልስዎ 2 ከሆነ ወደ ጥያቄ 306 ይለፉ
305	አዎን ከሆነ መልስዎ የትኛዉ ማህበራዊ አገልግሎት ውስጥ ተሳተፉ	1. ዕድር 2. ዕቁብ 3. ሌላ ካለ ይገለጽ ……	
306	ማህበራዊ ጤና መድህን ዋስትና ጠቃሚ ነዉ በሚለዉ ሀሳብ ይስማማሉ	1. በደንብ እስማማለሁ 2. እስማማለሁ 3. ሀሳብ የለኝም 4. አልስማማም 5. በጭራሽ አልስማማም	
307	ማህበራዊ ጤና መድህን ዋስትና ግዴታ መሆን አለበት በሚለዉ ሀሳብ ይስማማሉ	1. በደንብ እስማማለሁ 2. እስማማለሁ 3. ሀሳብ የለኝም 4. አልስማማም 5. በጭራሽ አልስማማም	

308	ማህበራዊ ጤና መዲህን ዋስትና የጤና አገልግሎት ጥራት ይጨምራል በሚለዉ ሀሳብ ይስማማሉ	1. በደንብ እስማማለሁ 2. እስማማለሁ 3. ሀሳብ የለኝም 4. አልስማማም 5. በጭራሽ አልስማማም	
309	ማህበራዊ ጤና መዲህን ዋስትና በነጻ ያለ መዋጮ መሰጠት አለበት በሚለዉ ሀሳብ ይስማማሉ	1. በደንብ እስማማለሁ 2. እስማማለሁ 3. ሀሳብ የለኝም 4. አልስማማም 5. በጭራሽ አልስማማም	

ክፍል-4:

ተ.ቁ	ዝርዝር	መልስ	ማለፍ
401	ማህበራዊ ጤና መድህን ዋስትና ለመግባት ያስባሉ	1. አዎን 2. አላስብም	መልስዎ 2 ከሆነ ወደ ጥያቄ 406 ይለፉ
402	አዎን ከሆነ መልስዎ #401, ለማህበራዊ ጤና መድህን ዋስትና መክፈል ይፈልጋሉ	1. አዎን 2. አልፈልግም	መልስዎ 2 ከሆነ ወደ ጥያቄ 406 ይለፉ
403	አዎን ከሆነ መልስዎ #402, ከወራዊ ደመወዝዎ መቁረጥ የሚፈልጉትን መጠን ይምረጡ	1. ከወራዊ ደመወዜ 3% 2. ከወራዊ ደመወዜ 5% 3. ከወራዊ ደመወዜ 7% 4. ከወራዊ ደመወዜ 9% 5. ከወራዊ ደመወዜ 10%	
404	ከፍተኛ መቁረጥ የሚፈልጉት የደመወዝዎን ስንት % ነዉ	----------	
405	በየትኛዉ አማራጭ መክፈል ይፈልጋሉ	1. ከወራዊ ደመወዜ የሚቆረጥ 2. በዓመት አንዴ	
406	የማይፈልጉበት ምክንያትዎ ምንድን ነዉ	1. በሙስና ምክንያት በመንግስት አስተዳደር ያለማመን 2. መዋጨዉን መክፈል ያለ መቻል 3. የአገልግሎት ጠራት ስጋት 4. የጤና ሽፋኑ አነስተኛ መሆን 5. ስለ ለማህበራዊ ጤና መዲህን ዋስትና መረጃ ያለመኖር 6. ሌላ ካለ ይገለጽ	

ክፍል-5:

ተ.ቁ	ዝርዝር	መልስ	ማለፍ
501	ወራዊ ደመወዝዎ ስንት ነዉ	_____ብር	
502	የቤተሰብዎ ብዛት ስንት ነዉ	_____	
503	ከ8 ዓመት በታች የሆኑት ስንት ናቸው	_____	
504	ከእርስዎ ሌላ ወራዊ ገቢ ያለዉ የቤተሰብ አባል አለዎት	1. አዎን 2. የለኝም	መልስዎ 2 ከሆነ ወደ ጥያቄ 505 ይለፉ
505	አዎን ከሆነ መልስዎ #503, ምን ያህል ነዉ ገቢዉ?	_____	
506	ከደመወዝዎ ዉጪ ሌላ የገቢ ምንጭ አለዎት	1. አዎን 2. የለኝም	
507	አዎን ከሆነ መልስዎ #5, በወር ምን ያህል ነዉ ገቢዉ?	_____	

Annex -4: Declaration

I, the undersigned, declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health in Health Economics and has not been presented in anywhere. In addition, all resource used have been acknowledged.

Name: Bahiru Mulatu

Signature: _____

Place of submission: College of Health Sciences, School of Public Health, Addis Ababa University.

Date of Submission: _____

This thesis work has been submitted for examination with my approval as university advisor(s).

Advisors

Name: Anagaw Derseh(PhD)

Signature: _____

Date