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Financial Hardship of Healthcare and Associated factors Among Households in Debretabor Town, Amhara, Northwest Ethiopia, 2022

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BAHIR DAR UNIVERSITY
COLLEGE OF MEDICINE AND HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF HEALTH SYSTEMS MANAGEMENT AND HEALTH
ECONOMICS

FINANCIAL HARDSHIP OF HEALTHCARE AND ASSOCIATED FACTORS
AMONG HOUSEHOLDS IN DEBRETABOR TOWN, AMHARA, NORTHWEST
ETHIOPIA, 2022

BY: YAWKAL TSEGA (BSC/PH)

RESEARCH THESIS TO BE SUBMITTED TO DEPARTMENT OF HEALTH
SYSTEMS MANAGEMENT AND HEALTH ECONOMICS SCHOOL OF PUBLIC
HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCES IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF
PUBLIC HEALTH IN HEALTH SYSTEM AND PROJECT MANAGEMENT.

AUGUST, 2022
BAHIRDAR, ETHIOPIA

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THESIS TO BE SUBMITTED TO DEPARTMENT OF HEALTH SYSTEMS
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OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH
IN HEALTH SYSTEM AND PROJECT MANAGEMENT

AUGUST, 2022
BAHIRDAR, ETHIOPIA

Declaration

This is to certify that the thesis entitled “*Financial Hardship of Healthcare and Associated Factors Among Households in Debretabor Town*”, submitted to Department of Health Systems and Health Economics, College of Medicine and Health Sciences, Bahir Dar University, in partial fulfillment of the requirements for the degree of Master of Public Health in Health System and Project Management, is a record of original work carried out by me and has never been submitted to this or any other institution to get any other degree or certificates. The support and assistance I have received during this thesis work were properly acknowledged.

Yawkal Tsega

August /2022

Name of the candidate

Date

Place

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Approval of Thesis for Final Defense

I hereby certify that I have supervised, read, and evaluated this thesis titled “*Financial Hardship of Healthcare and Associated Factors among Households in Debretabor Town*”, by Yawkal Tsega, prepared under my supervision. I recommend the thesis work to be submitted for final thesis defense.

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Approval of thesis for defense result

We hereby certify that we have examined this dissertation/thesis entitled “*Financial hardship of healthcare and associated factors among households in debretabor town*” by *Yawkal Tsega*. We recommend that _____ is approved for the degree of “Masters of public health in health system and project management”

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Abstract

Background: Financial hardship of healthcare is defined as difficulty of obtaining affordable care, including having to delay or forgo healthcare because of its cost. Financial protection, a global (e.g. Sustainable Development Goals) and a national (e.g. Health Sector Transformational plan II) priority area, is achieved when there are no financial barriers to access essential health services. However, financial hardship of healthcare has not been well studied in Ethiopia in general and in Debretabor town in particular.

Objective: This study aimed to assess financial hardship of healthcare and associated factors among households in Debretabor town.

Methods: Community based cross sectional study was conducted, from May 24/2022 to June 17/2022, on 423 households (selected through computer generated simple random sampling method) in Debretabor town. Financial hardship was measured through catastrophic (using 10% threshold level) and impoverishing (using \$1.90 poverty line) health expenditures. Patient perspective bottom up and prevalence based costing approach were used. Indirect cost was estimated through human capital approach (absenteeism from work). Data were entered into EpiData version 3.1 and exported to SPSS version 25 for analysis. Bivariable and multivariable logistic regression were used. The ethical clearance was obtained from Institutional Review Board of College of Medicine and Health Science and informed verbal consent was obtained from each participant.

Results: A response rate of the study participants was 95%. The mean household annual healthcare expenditure was Ethiopian birr 12050.64. About 37.1% (95%CI: 32, 42%) of the households encountered catastrophic health expenditure with a 10% threshold level and 10.4% of households were impoverished with \$1.90 a day extreme poverty line because of their health expenditure. Age of household head (AOR: 4.21, CI: 1.23, 14.45), health insurance (AOR: 2.19, CI: 1.04, 4.62), chronic health conditions (AOR: 7.20, CI: 3.64, 14.26), traditional healthcare seeking (AOR: 2.63, CI: 1.37, 5.05) and social support (AOR: 2.77, CI: 1.25, 6.17) were found to be statistically significant factors for catastrophic health expenditure.

Conclusion and recommendations: The study showed that significant number of households did not yet protected from financial risk of healthcare. The financial hardship of healthcare is stronger among the less privileged populations: the non-insured, the chronically ill, the elder and socially unsupported. Therefore, financial risk protection strategies, such as intensification of enrolling to health insurance and social support, should be strengthened by the concerned bodies.

Key words: Financial hardship, Healthcare, Debretabor, 2022

Abbreviations

AOR	Adjusted Odds Ratio
CHE	Catastrophic Health Expenditure
COR	Crude Odds Ratio
DM	Diabetic Mellitus
FH	Financial Hardships
HCE	Household Consumption and Expenditure
HH	Household
HSTP II	Health Sector Transformation Plan Two
IHE	Impoverishing Health Expenditure
LMICs	Low and Middle Income Countries
OOP	Out of Pocket
PCA	Principal Component Analysis
SDG	Sustainable Development Goal
SMD	Severe Mental Disorder
SNNP	South Nations Nationalities and Peoples
SSA	Sub Saharan Africa
UHC	Universal Health Coverage
USA	United States of America
WB	World Bank
WHO	World Health Organization
WM	Welfare Monitoring

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1. Introduction

1.1. Background

Financial hardship of healthcare defined as difficulty of obtaining affordable healthcare, including having to delay or forgo essential healthcare services(1). Universal health coverage (UHC), one target of Sustainable Development Goals (SDGs), ensures that all people receive quality essential health services they need without exposing them to financial hardship. Financial Risk Protection (FRP) is at the core of universal health coverage and it is one priority area in Ethiopian health sector as indicated in Health Sector Transformational Plan two (HSTP II). It is achieved when there are no financial barriers(mainly due to direct out of pocket health expenditure) to access essential health services (2-4).

Out of pocket (OOP) health spending is defined as any spending incurred by a household when any member uses a healthcare, including promotive, preventive, curative, rehabilitative and palliative care. In order to access the health care, the household incurs different types of costs such as direct medical costs, direct non-medical costs, indirect cost and intangible costs. These costs impose financial hardship to the households, and it is most worst in low income countries like Ethiopia(2, 3).

Financial hardship is measured through Catastrophic Health Expenditure (CHE) and Impoverishing Health Expenditure (IHE). These metrics are the standards that used to monitor and track Sustainable Development Goal indicator 3.8.2 (SDG indicator 3.8.2) across United Nations (UN) member states. CHE is considered when healthcare spending exceeds a certain threshold (varied from 10% to 40%) of household expenditure or income. From these thresholds, 10%(the lower threshold level) and 25%(the higher threshold level) were used in a joint report of World Bank(WB) and World Health Organization(WHO), a report in every 2 years, for monitoring and tracking SDG indicator 3.8.2. Whereas, IHE is considered when households' health expenditure is making the households below a given poverty line (in this study World Bank \$1.9 a day extreme poverty line) or further impoverish to extreme poverty(2, 3, 5).

OOP health expenditures leave households exposed to the risk of financial catastrophe and impoverishment whenever they entail significant dissaving or the sale of key household assets. Even small healthcare expenditures on health can be financially terrible for poor households. Similarly, large health care expenditures can also lead to financial catastrophe and impoverishment for rich households too(5).

1.2. Statement of the problem

Globally, according to the 2019 universal health coverage monitoring report, the incidence of financial hardship of healthcare increased steadily between 2000 and 2015. For example, incidence of CHE increased by 3.6% annually, from 571 million in 2000 to 927 million in 2015 with 10% threshold level. In the same period, it is increased by 5.3% annually, from 100 million people to 200 million people with a threshold level of 25%. Likewise, as per the latest universal health coverage (2021) monitoring report, the incidence of catastrophic health expenditure has increased from 12.7% in 2015 to 13.2% in 2017 at 10% threshold level. CHE, as measured by SDG indicator 3.8.2, will continue to rise to the year 2030 if the national share of out-of-pocket health spending continues at its current rate(2, 3).

Furthermore, OOP healthcare costs lead more people falling into poverty. About 89.7 million individuals (1.2% of global population) were forced into extreme poverty (below \$1.90 a day poverty line) and 98.8 million (1.4% of global population) were pushed below \$3.20 a day poverty line and 183.2 million were pushed into poverty defined in relative terms (below 60% of median daily per capita consumption or income in their country). At all of these poverty levels, lower and middle-income countries (LMICs) had the highest number and proportion of the world population with impoverishment due to OOP health spending (2, 3).

An OOP health spending is often funded by a household's income (including remittances, savings, or loans). Because such spending only results in service delivery if the individual pays, it contributes to socioeconomic disparities in access to essential healthcare services. Likewise, OOP health spending is directly proportional to the severity of the underlying health condition (ill individuals spend more) and is exclusively dependent on the households' ability to pay; it can be a source of financial hardship. Households seeking care face barriers to access essential health services related to financial hardships. Due to this scenario people may delayed or forgone essential health services(3, 6, 7).

In the majority of LMICs, low health care resources and a lack of protection from catastrophic healthcare costs have led to an over-reliance on OOP health spending. Households who are dependent on OOP healthcare payment and who are unable to cope with the economic implications of illness are frequently encountered CHE and pushed into poverty. Households in this scenario incur more financial obligations and lack the resources to meet other basic requirements such as food and education(8).

Moreover, in low-income countries, OOP health expenditures accounts for more than half of overall spending and more than one third in middle-income countries. According to World Health Organization (WHO), OOP payments push millions of households into absolute poverty each year, and many of them are at risk of catastrophic health expenditure since their OOP healthcare expenses are equivalent to or exceed 40% of their income or expenditure. Many families forego services because of the direct and indirect health expenditures exceed their financial means. Because of the loss of income caused by disease, poor households become increasingly poorer, and overall quality of life suffers even more(9).

Catastrophic health payments are concentrated among the poor, including African countries. Inequities in access exist in Sub-Saharan African (SSA) countries as a result of income disparities and the level of OOP health expenditure within the country. The percentage of households suffering by catastrophic health care expenses has been proven to differ significantly among countries(10).

Since financial hardship of health care is a main challenge and a priority area of the health sector, Ethiopian healthcare financing reform has been implemented since 1998. For example, various financial hardship protection measures like fee waiver system, exempted services(e.g. maternal health services) and community based health insurance have been implemented in Ethiopia(11). However, OOP health expenditures continue to be a considerable financial burden of households so far. For example, as per the latest national health account, the seventh Ethiopian Health Account (NHA), OOP health spending amounted to 31% of the total health expenditure, which is unacceptably high and it is higher than that of the global recommended target, 20%(12, 13). As a result, households often obliged to borrow money, sell their assets, reduce consumption of other basic needs to spend on healthcare expenditure and may forgone the healthcare services(14, 15).

Evidence, on the magnitude of financial hardship of healthcare and its determinant factors at household level, is critical to ensure effective, equitable and affordable access to quality health services that will achieve the motto of “leave no one behind” as stated in SDG 3.8.2 and HSTP II. However little is known about financial hardship of healthcare, and it has not been well studied in Ethiopia in general and in Debretabor town in particular. Therefore, the aim of this study was to assess the financial hardship of healthcare and its associated factors among households in Debretabor town, south Gondar Zone, Ethiopia.

1.3. Significance of the study

The result of this study will inform health policymakers, health planners, health care providers and researchers (academicians) through providing them, evidence to design evidence based policy and interventions on safeguarding households from financial hardship of healthcare.

For instance, the research findings will benefit Debretabor community by informing them to use various coping mechanisms, like enrolling to community based health insurance, to protect themselves from financial hardship of their healthcare expenditure.

Moreover, this research finding will be used for researchers as a baseline data to further investigate about financial hardship of health care.

Furthermore, the findings will give insight to the health professionals to use efficient and effective healthcare service strategies to protect their clients from financial hardship of healthcare expenditure.

2. Literature review

2.1. Financial hardship of healthcare

The two successive recent (2019 and 2021) global monitoring for financial protection reports using SDG indicator 3.8.2 stated that the incidence of catastrophic health expenditure (CHE) and impoverishing health expenditure (IHE) were unacceptably high in terms of percentage and number of people(2, 3).

The 2019 report revealed that, the incidence of catastrophic health spending was increasing continuously from 9.4% (570.5 million people) in 2000 to 12.7 % (926.6 million people) in 2015(at 10% threshold level) and from 1.7 % (105.9 million) to 2.9 % (208, 7 million) at the same period using 25% threshold level. Likewise, the most recent report on global financial protection on health explained that the incidence of catastrophic healthcare expenditure increased continuously between 2000 and 2017. More recently, between 2015 and 2017 it rose from 12.7% of the world population spending more than 10% of their household income on health expenditure (940 million) to 13.2% (996 million)(2, 3).

Similarly; the population spending more than 25% of its household budget on health expenditure also increased from 270 million people to 290 million in the same period. Moreover, reports also revealed that most of the people who have had CHE , with 10 % threshold level, were in Asia (70%–76%), about 45% of them were found in lower-income countries and about 41%–43% of people were found in upper middle-income countries(2, 3, 5).

These global reports and some other literature also stated that impoverishing health expenditure has decreased from 2% (123.9 million) in 2000 to 1.2% (89.7 million) in 2015 at \$1.90 a day poverty line and slightly decreased from 1.5% (93 million) to 1.4% (98 million) at higher poverty line (\$3.20) within similar period of time. Likewise, the more recent report (2021) showed that the number of people incurring impoverishing health spending were decreased substantially and continuously at global levels, from 19% in 2000 to 6.7% in 2017, based on the extreme poverty line (\$1.90)(2, 3, 13).

Various studies conducted in different African, including Sub Saharan Africa (SSA), countries stated that the incidences of CHE, at 10%, and IHE, at \$1.90 a day poverty line, were ranged from 6.8% to 23% and from 0.8% to 4%, respectively. For instance, in Sub Saharan Africa, the average incidence of catastrophic health expenditure (CHE) was 23% at 10% threshold level and 17% at 40% threshold level(10).

Similarly, a study conducted in Uganda showed that 14.2% of the households faced catastrophic health expenditure (at 10% threshold level) and 4% of the households were impoverished (at \$1.90 a day poverty line). Likewise, the studies conducted in Kenya and Nigeria showed that 11.7% and 16.4% households faced catastrophic health expenditures and 4% and 0.8% households were experienced impoverishing health expenditure, respectively (5, 16-19).

Another study Conducted in Zambia showed that 11% of Zambian households faced hardship financing on health. Hardship financing on health was measured if “a household have reported that it sold assets or borrowed money, asked a relative or friend to pay, experienced catastrophic level of OOPs, and did not seek care in avoidance of unaffordable health care payment(20-22).

The study conducted in Ethiopia at national and household level estimated that the incidence of both catastrophic(2.1% at 10% threshold level) and impoverishing(0.9% using ETB 7184 per adult per year as Ethiopia’s national poverty line at that time) health expenditures using data from the 2015/16 Ethiopian household consumption and expenditure (HCE) and welfare monitoring (WM) surveys. This study stated significant number of households was facing financial hardship in Ethiopia, particularly in Afar, Benshangul-Gumuz, Oromia, Amhara and SNNP regions. For instance, this study stated that CHE rates were high in the regions of Afar (5.8%) and Benshangul-Gumuz (4.0%). Similarly, IHE rates were high in Afar (5.0%), Oromia(1.1%) and Benshangul Gumuz (0.9%)(23).

Another studies conducted in Ethiopia focusing on specific diseases stated that the mean annual cost of HIV and TB was \$70 and \$115, respectively. Furthermore, another study conducted on economic burden of Diabetic Mellitus (DM) showed that 59.6% of diabetic patients incurred catastrophic diabetic care expenditure at 40% threshold level of non-food expenditure and 5% of the patients faced impoverishment attributable to diabetic healthcare expenditure. Another study conducted in southern Ethiopia on financial risk of seeking maternal and neonatal healthcare uncovered that 46% and 74% of the households were encountered CHE estimated at 10% and 40% threshold levels respectively and 92% of the households were pushed further into extreme poverty attributable to maternal and neonatal healthcare expenditure(13, 24, 25).

2.2. Factors affecting financial hardship of healthcare

2.2.1. Socio-demographic and socioeconomic factors

Economics status of the country is a factor for financial hardship of healthcare. For instance, people living in low and middle income pay a larger share of health expenditure because they lack access to

health insurance. In Latin America, families pay between 40% and 60% of medical expenses from their own pockets(26).

According to a study conducted in China the need for and use of healthcare, demographics, type of benefit package and type of provider payment method were the determinants of CHE and IHE. Having a large family and at least one young member appeared to be protective factors(27, 28).

In Latvia, HHs headed by an unemployed person, female and a person with a lower level of education is far more likely to encounter CHE(21). Households with the lowest income and more elderly people faces a financial burden of about 6 to 8 times high and had a significantly higher rate of catastrophic expenditure and impoverishment(29-32).

A study done in Nigeria on determinants of impoverishment due to healthcare expenditure, there is a statistically significant association between impoverishment and variables such as having a member above 65 years, having more than 5 members in the household, household socio-economic status, geo-political zone, gender of household heads, education of household heads and location(33).

A study conducted in Ethiopia identified that the factors such as socioeconomic and demographic factors (i.e., age, household wealth/income, family size, place of residence, marital status, and occupation); environmental factors (i.e., distance to health facility, and type of health facility visited); and having health insurance were statistically significant factors with financial hardship of healthcare(24, 34).

2.2.2. Health and health related factors

Various studies conducted in different corner of the globe stated that having history of hospitalization, presence of disabled household member and presence of a family member with chronic illnesses were perceived significant factors of financial hardship such as CHE and IHE(35-38).

Furthermore, healthcare service utilization, the number of illness episodes, drug consumption, household with pregnant women, perceived health status, having communicable diseases like tuberculosis, type of illness, seeking dental care and rehabilitation services and seeking healthcare from traditional healers were found to be positive predictors of financial hardships of healthcare such as CHE and IHE(38, 39).

2.2.3. Coping strategies of financial hardship of healthcare

The studies conducted in Ethiopia, Addis Ababa, and Iran stated that households saving, financial support from relatives, friends and religious, social capital, selling of assets and enrolling in health insurance were found to be the major strategies to cope up the financial hardship of healthcare(40, 41).

3. Conceptual framework

The conceptual framework below depicts the relationship between outcome (financial hardship of healthcare) and explanatory variables which was developed based on various literature reviews.

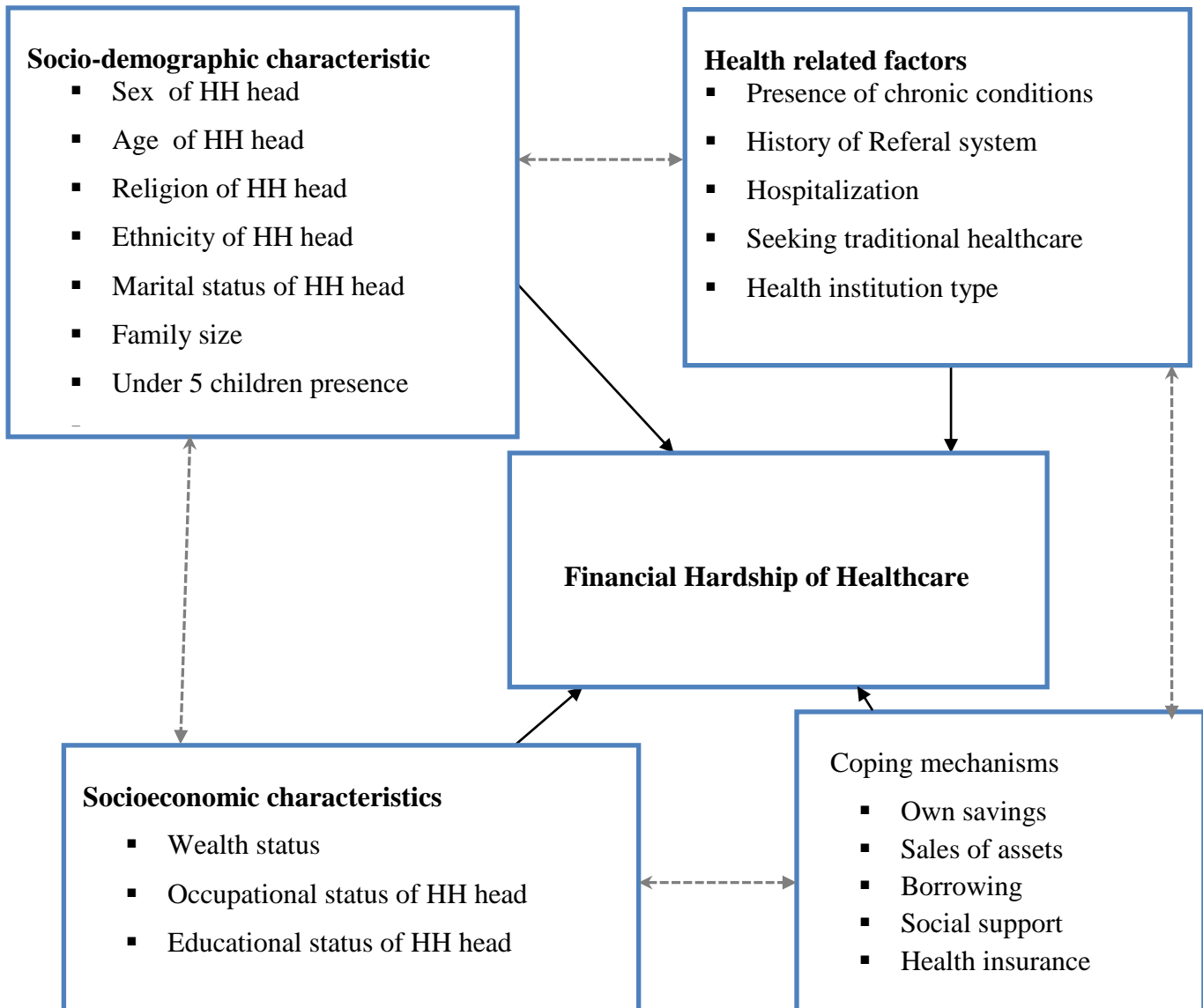


Figure 1: Diagrammatic depiction of financial hardship of healthcare and associated factors adapted from various literatures, Debretabor, 2022.

4. Objectives

4.1. General objective

The general objective of this study was to assess financial hardships of healthcare and associated factors among households in Debretabor town, Amhara, Northwest Ethiopia, 2022.

4.2. Specific objectives

- ✓ To estimate the proportion of households with catastrophic health expenditure in Debretabor town, Northwest Ethiopia.
- ✓ To determine the proportion of impoverishing health expenditure among households in Debretabor town, Northwest Ethiopia.
- ✓ To identify factors associated with catastrophic health expenditure of households in Debretabor town, Northwest Ethiopia.

5. Methods and materials

5.1. Study design and period

Community based cross-sectional study design was conducted to assess financial hardship of healthcare and associated factors among households in Debretabor town from May 24/2022 to June 17/2022.

5.2. Study area and setting

The study was conducted in Debretabor town, Amhara regional state of Ethiopia. Debretabor town is the capital of South Gondar zone and has six kebeles with 19,624 households. The town has 84,382 populations of which 19,898 are in reproductive age group and 10,868 are children from age 6 to 59 months. The town is located at 108.6 kilo meters east of capital of Amhara state, Bahir Dar city. The town has one public hospital namely Debre Tabor comprehensive specialized hospital and three health centers namely Leul Alemayehu, Tabor and Debretabor health centers(42).

5.3. Source and study population

5.3.1. Source population

All households in Debretabor town were the source populations.

5.3.2. Study population

All households in Debretabor town were the study populations.

5.3.3. Sampling unit

The sampling unit of the study was households

5.3.4. Study unit

The study unit of this study was household heads

5.4. Eligibility criteria

5.4.1. Inclusion criteria

All households lived in Debretabor town for 6 months and above were included in the study.

5.4.2. Exclusion criteria

Household heads unable to respond due to different reasons were excluded from the study.

5.5. Study variables

5.5.1. Dependent variable

- ✓ Financial hardship of healthcare(CHE)

5.5.2. Independent variables

- ✓ Socio demographic factors (sex of household head, age of household head, religion of household head, ethnicity, marital status of household head and family size)
- ✓ Socioeconomic factors (wealth status, presence of under five children, educational status, and occupational status)
- ✓ Health related variables (presence of chronic health conditions, history of referral, traditional healthcare seeking, health institution type, hospitalization)
- ✓ Coping strategies (insurance status, selling household assets, own saving, borrowing and main source of fund for health cost from social support)

5.6. Operational and term definition

Household: A person or group of persons, whether or not they are related, who normally live together in the same housing unit or group of housing units, and who have common cooking arrangements(43).

Head of household: The person who economically supports or manages the household, or for reasons of age or respect, is considered as the head of the members of the household or otherwise declares him/herself as the head of a household(43).

Adult equivalent: All members of the household with adjusted calorie need requirement on the basis of age and sex(43).

Catastrophic health expenditure (CHE): Spending greater than 10% of household's reported total expenditure for healthcare service(2, 3).

Poverty line (PL): WB poverty line (\$1.90 a day extreme poverty line)was used in this study(2, 3).

Healthcare expenditure: The total household expenditure for healthcare, which included direct medical, direct non-medical and indirect costs(2).

Impoverishing health expenditure (IHE): When households pushed below \$1.90 a day extreme poverty line because of their healthcare expenditure, it was considered as IHE(2).

Poverty gap (poverty gap index): How far households are from the poverty line (measures intensity of poverty)(44).

Wealth index: The composite measure of cumulative living standard of the household. It was measured by 35 different variables(13, 45).

Income: in this study is an estimated monthly income of the household generated by all members of the household.

Chronic health condition: is a human health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time(e.g. DM, HTN, heart disease, HIV/AIDS) (46). The term chronic was used when the course of the disease lasts for more than three months in this study.

Health insurance: in this study means community based health insurance(CBHI)(47).

5.7. Healthcare cost measurement

5.7.1. Types of costs and their costing methods

There are two methods of costing approaches such as the prevalence and incidence approaches. The prevalence method is the commonest costing approach in studies and was used in this study(48, 49).

We estimated the direct medical and nonmedical costs, and indirect costs. Since, intangible costs are difficult to measure, we did not measure the intangible costs. The direct medical costs included costs of registration cards, medications, imaging diagnostic tests, laboratory and bed incurred 12 months back the study conducted and direct non-medical costs include cost of transportation, cafeteria and lodging while seeking healthcare service both for the patient and the caregiver (50-52). Bottom up (micro) costing approach was used based on average cost of health care services to estimate the direct costs of healthcare services (53, 54).

Moreover, annual average expenditure on healthcare for each household was estimated by summing up all self-reported healthcare expenditures from May 2021 to May 24/2022. Similarly, all the expenditures for transportation, cafeteria and lodging was summed up based on the self-reported number of household members having history of illness and amount of money they incurred.

Data on indirect costs covered in this study included lost days (absenteeism), premature death and early retirements due to healthcare expenditure both for the patient and caregiver as per human capital approach.

For payroll paid workers and merchants, monetary value of lost days was calculated by multiplying number of lost days with reported personal daily income (monthly income divided by 30). For non-payroll paid HHs, their estimated reported annual household income from several sources was used.

5.7.2. Measurement of catastrophic and impoverishing health expenditure

Wagstaff and van Doorslaer approach was used to measure CHE and IHE. This approach considers catastrophic health expenditure when the proportion of household's health expenditure as a share of total household expenditure/income or nonfood expenditure exceeded a specific threshold level. The choice regarding the threshold to use in determining catastrophic health expenditure is arbitrary and has typically varied from 10% to 40%(55).

To calculate the catastrophic head count which is the percentage of households incurring catastrophic expenditures, we defined T_{HE} as total annual health expenditures for household i , T_E total annual expenditure for household i , and F_E for food expenditures for household i .

A household was considered to have catastrophic health expenditure if T_{HE}/T_E surpassed a specified threshold, Z (in our case 10% threshold level was used).

The catastrophic headcount (Hc) is the given by:-

$$Hc = \frac{1}{N} \sum_{i=1}^N E_i \dots\dots\dots (1)$$

Where N is the sample size and E_i is an indicator which is equals 1 if $T_{HE}/T_E > z$ and zero otherwise.

The headcount does not reflect the intensity of CHE, the amount by which households exceed the threshold level. Therefore, we used the catastrophic expenditure overshoot which captures the average degree by which health expenditures (as a proportion of total expenditure or non-food expenditure) exceed the threshold z . The overall overshoot (O) is given by:-

$$O = \frac{1}{N} \sum_{i=1}^N O_i \dots\dots\dots (2)$$

Where $O_i = E_i ((T_{HE}/T_E) - z)$ and $O_i = 0$ if $(T_{HE}/T_E) \leq z$, and 0 otherwise.

The incidence (headcount) and the intensity (overshoot) of catastrophic expenditures are related through the mean positive overshoot (MPO) which captures the intensity of occurrence of catastrophic expenditures defined as overshoot divided by headcount:

$$MPO = \frac{O}{H} ; O = H * MPO \dots \dots \dots (3)$$

Wagstaff and van Doorslaer also describe methods to adjust poverty measures on the basis of household expenditure net of OOP spending on health care(55). The three measures of poverty include;

1). Poverty head count, which is the proportion of households living below the poverty line (\$1.9 a day extreme poverty line);

$$H_{pov}^{pre} = \frac{1}{N} \sum_{i=1}^N P_i^{pre} = \mu P_{pre} \dots \dots \dots (4)$$

Where H_{pov}^{pre} is poverty headcount before health payment, X_i is daily expenditure per adult equivalent and $P_i^{pre} = 1$ if $X_i < PL$ and zero otherwise.

2). Poverty gap, referring to the aggregate of all short falls from the poverty line;

$$G_{pov}^{pre} = \frac{1}{N} \sum_{i=1}^N g_i^{pre} = \mu g_{pre} \dots \dots \dots (5)$$

Where G_{pov}^{pre} is prepayment poverty gap, $g_i^{pre} = PL - X_i$ if $PL > X_i$ and zero otherwise.

3). Normalized poverty gap (NG_{pov}^{pre}) or poverty gap index is obtained by dividing the poverty gap by the poverty line.

$$NG_{pov}^{pre} = \frac{G_{pov}^{pre}}{PL} \dots \dots \dots (6)$$

Calculating the three measures requires setting a poverty line and assessing the extent to which health care payments push households below the poverty line. The World Bank poverty line 1.9 US dollar per person per day was converted to ETB based on average exchange rate (1USD= ETB 53) of September 2021 to August 2022 was used to estimate poverty levels before and after healthcare expenditure. Replacing all the pre-payment superscripts, ‘pre’ by the superscript ‘post’ gives the analogous post-payment poverty measurement.

The measures of poverty impact (PI^H) of health expenditure are then simply defined as the difference between the pre-payment and post-payment measures, i.e.

$$PI^H = H_{pov}^{post} - H_{pov}^{pre} \dots\dots\dots(7)$$

5.8. Sample size determination and sampling methods

5.8.1. Sample size determination

Single population proportion formula was used to estimate the sample size, by taking the proportion 50% of CHE at 10% threshold level with confidence level of 95% and degree of precision 5% and non-response rate of 10% is considered and then the total sample size was;

$$n = \frac{Z (\alpha/2)^2 * P (1-q)}{d^2}$$

Where P= 50%

d= 0.05 (degree of precision) and Z $\alpha/2$ at 95% confidence level = 1.96

By taking the above values, the sample size was

$$n = \frac{(1.96)^2 * (0.5) (1-0.5)}{(0.05)^2} = 384; 384 * 10\% \text{NRR} + 384 = 423$$

Table 1: Sample size calculation for the third objective among households in Debretabor, 2022

Variables	% unexposed	Ratio	AOR	Assumptions		Sample size
				CI	Power	
Wealth status	59.35	1:1	2.715	95	80	252
Educational status	55.36	1:1	0.310	95	80	162
Occupation	68.83	1:1	0.453	95	80	234

The calculated sample sizes for the factors from literature review were lower than the sample size for the first objective. Therefore, we have taken the sample size for the first objective, which was 423, in this study.

5.8.2. Sampling method and procedures

Computer generated simple random sampling method was used. The list of eligible households was obtained from urban health extension professionals and used as a sampling frame. Households were listed and coded (from 1 to 19,624). Then, households were selected using OpenEpi application computer generated simple random sampling method (Figure 2).

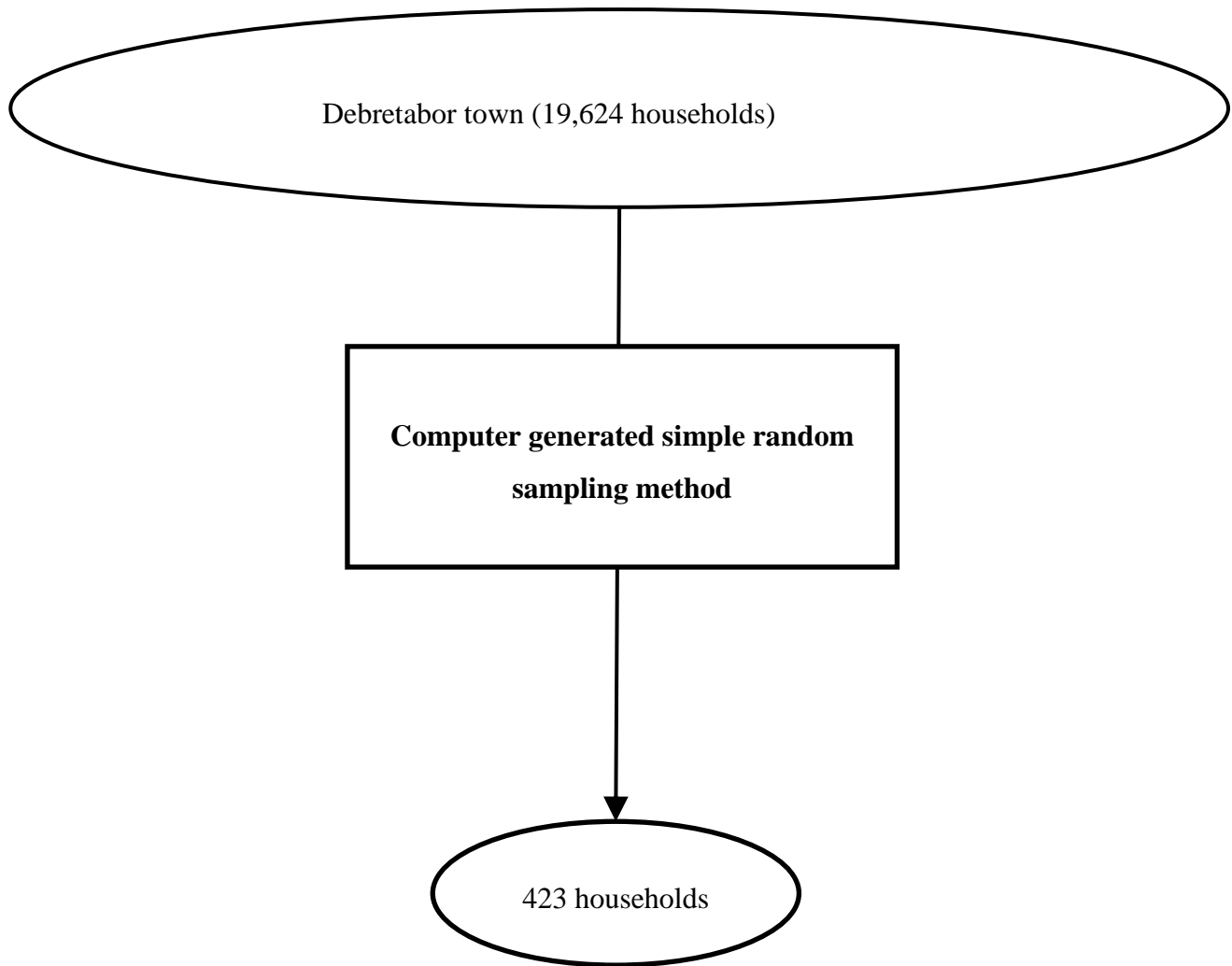


Figure 2: Diagrammatic depiction of sampling procedure for the study of financial hardship of healthcare and associated factors among households in Debretabor town, 2022

5.9. Survey instruments and data collection procedures

Structured questionnaire was used. The questionnaire was developed after reviewing various literatures. The survey instrument included categories aim to collect data on sociodemographic and socioeconomic characteristics, health profile and related characteristics of households, total expenditures of the household, total health expenditures and coping mechanisms of catastrophic health expenditure. A pretested and interviewer administered questionnaire was used. Two data collectors who have bachelor of degree (public health graduates) and one supervisor (MPH) were employed. Total annual (from May 2021 to May 24/2022) health care and other household expenditures were collected from the head of each selected household. Each healthcare, food and non-food expenditures were summed up and total annual health expenditure, total annual food expenditure, total annual nonfood expenditure and total annual household expenditure, which used as a denominator to calculate catastrophic health expenditure, were determined. Furthermore, the wealth index assessing variables were adapted from Ethiopian DHS 2019 for urban area. About 35 questions assessing sanitation facility, drinking water source, housing condition and ownership of durable assets were asked to the household head.

5.10. Data management and analysis

The collected data were checked for completeness. Then, data were coded, organized and entered into EpiData version 3.1 and exported to SPSS version 25 for analysis. Descriptive statistical analysis (frequencies and percent), bivariable and multivariable logistic regressions were conducted. In bivariable logistic regression, variables having P-value of <0.2 with 95% confidence interval were eligible to multivariable logistic regression. The overall goodness fit of binary logistic regression model was checked by Hosmer and Lemeshow test (p-value was ~ 0.38). Assumptions of binary logistic regression such as multicollinearity and outliers were checked for the model. Adjusted Odds Ratio (AOR) with 95% confidence intervals was estimated to assess the strength of the association, and a p-value of < 0.05 was used to declare statistically significant factors.

Wealth index was constructed using principal component analysis by SPSS. Wealth index construction question scores was derived using principal component analysis in that; 35 wealth status assessing variables from sanitation, housing condition, water source and household durable assets was computed. Variables having frequency of greater than 95% and less than 5% were excluded. In principal component analysis output of correlation matrix, values less than 0.1 and greater than 0.9 were removed from the analysis. After all, 12 variables were used to construct wealth index. The first component of the composite variables was used to estimate wealth status of households and ranked in ascending order.

5.11. Data quality assurance

The structured questionnaires were prepared in English first and translated to Amharic for better understanding with respondents. Two data collectors with educational level of bachelor of degree (public health graduates) and one supervisor (MPH) were employed. Three days training was given for data collectors on the overall picture of questionnaires, how to collect the data and how to approach the respondents. Before actual data collection, pretesting on 5% of the sample size was done at Woreta town. Close supervision of data collectors was done and data were checked for its completeness on daily basis. Once data entered and exported, cleaning, coding, recoding and assumption checking were conducted.

5.12. Ethical consideration

Ethical clearance was obtained from Institutional Review Board of College of Medicine and Health Sciences, Bahir Dar University. Prior to data collection, informed verbal consent was obtained from each study participants. The respondents were given full right to withdraw from the interview whenever they feel uncomfortable. Furthermore, confidentiality was kept by excluding name of the respondents from data collection tool and instead we used unique identification number as a code.

4.13. Dissemination of results

The result of this study will be submitted to Health Systems Management and Health Economics Department, School of Public Health and College of Medicine and Health Science, Bahir Dar University. Moreover the result will be disseminated through submission of technical brief and abstract to south Gondar zone health department and Debre tabor town administration health office. In addition, the output of this research will be published on peer reviewed reputable journal.

6. Results

6.1. Sociodemographic and socioeconomic factors

Four hundred two (402) household heads were interviewed, making a response rate of 95%. From which, 69.4% (279) of the households were led by male, the mean and standard deviation of age of household heads were 44.1 ± 14.91 with minimum and maximum value of 20 and 100 respectively. About 40% (161) of the household heads were found to be the age category of 31-45. About 99.5% (400) and 90% (362) of the household heads were Amhara and Orthodox Christian, respectively. From the participants, 10.7% (43) were cannot read and write and 69.2% (278) of them were married. About 75.6% of the households had family size of less than or equal to 4. Regarding wealth status of the households, 19.9%, 20.1%, 19.9%, 21.4%, and 18.7% of the households were fall in first, second, third, fourth and fifth quintiles respectively (Table 1).

Table 2: Sociodemographic and socioeconomic characteristics of households for the study of financial hardship of healthcare and associated factors among households in Debretabor town, 2022

Variables	Category	Frequency	Percent (%)
Sex of household head	Male	279	69.4
	Female	123	30.6
Age of household head	≤ 30	92	22.9
	31-45	161	40.0
	46-60	90	22.4
	> 60	59	14.7
Religion of household head	Orthodox	362	90.0
	Others ¹	40	10.0
Marital status of household head	Married	278	69.2
	Unmarried ²	124	30.8
Educational status of household head	No education	43	10.7
	Read and write only	31	7.7
	primary(1-8)	52	12.9
	secondary(9-12)	66	16.4
	College and above	210	52.2

Variables	Categories	Frequencies	Percent
Employer of household head	Self employed	195	48.5
	Government employed	188	46.8
	Private sectors ³	19	4.7
Family size	<=4	304	75.6
	>4	98	24.4
Presence of U5 Children	Yes	125	31.1
	No	277	68.9
Wealth status	Quintile 1	80	19.9
	Quintile 2	81	20.1
	Quintile 3	80	19.9
	Quintile 4	86	21.4
	Quintile 5	75	18.7

¹Muslim and Adventist, ²divorced, separated and widowed, ³cleaning workers, guards and waiters

6.2. Households' annual expenditure

The mean annual household expenditure (food expenditure: ETB47791.34 and Nonfood: ETB42033.35) was ETB89824.69 with standard deviation of 45826.33. However, the mean households' annual health care expenditure was ETB12050.64 with the standard deviation of 25299.87 (Table 2).

Table 3: Annual total expenditure of households for the study of financial hardship of healthcare and associated factors among households in Debretabor town, 2022

HH Annual expenditure(n=402)	Mean (ETB)	Std. Dev	Median	IQR*
Total household expenditure	89824.69	45826.33	80548.00	44513.00
Household food expenditure	47791.34	21061.86	43800.00	28020.00
Nonfood household expenditure	42033.35	31141.96	33695.00	12720.00
Annual direct medical cost	5036.97	10824.95	1096.00	4662.50
Registration card	174.02	492.46	50.00	200.00
Medications	2874.71	500.00	5980.98	3000.00
Imaging diagnostic test	876.19	2434.26	0.00	425.00
Laboratory	812.24	200.00	2832.53	800.00
Bed	299.81	2360.39	2832.53	0.00
Annual direct nonmedical cost	865.10	3494.16	100.00	400.00
Transport	318.36	837.16	100.00	300.00
Cafeteria	481.69	3026.45	0.00	0.00
Lodging	65.05	345.10	0.00	0.00
Indirect health cost(lost days)	5622.10	13035.50	1996.50	5479.50
Total Health expenditure	12050.64	25299.87	4120.50	12253.25

NB: All monetary values were explained in Ethiopian birr, n is sample size and Std. Dev is Standard deviation. * Interquartile Range, HH is Household

6.3. Health and health related characteristics

One or more household members sought modern healthcare in 83.8 % (337) of the households and from these, about 6.2% (27) of the sick members have had referral history. The percentage of households which have at least one chronic health condition was 32.3% and 21.9% of the households sought healthcare from traditional healers (Table 3).

Table 4: Health and health related characteristics of households for the study of financial hardship of healthcare and associated factors among households in Debretabor town, 2022

Variables	Category	Frequency	Percent (%)
Modern healthcare seek	Yes	337	83.8
	No	65	16.2
Health institution type(n=337)	Public	228	56.7
	Private	109	27.1
Admission history(n=337)	Yes	35	8.7
	No	302	75.1
Referral history(n=337)	Yes	27	6.7
	No	310	77.1
Chronic health conditions	Yes	130	32.3
	No	272	67.7
Traditional healthcare seek(n=402)	Yes	88	21.9
	No	314	78.1

6.4. Financial hardship of healthcare

About 37.1% (149), 11.2 % (45) and 15.9 % (64) of the households encountered catastrophic health expenditure at 10% and 25% threshold of total household expenditure and 40% nonfood threshold level respectively. Moreover, 10.4% (42) of the households were pushed below extreme poverty line (\$1.90 a day extreme poverty line) because of their healthcare expenditure. From participants with history of referral (27), 26(96.35%) of them experienced catastrophic health expenditure which attributes 17.45% of households with catastrophic health expenditure. About ETB 9527.21 and ETB11848.68 were needed to bring the poor households to poverty line before and after healthcare expenditure, respectively. An additional ETB 2321.47 was needed to bring the impoverished households to poverty level after expending for healthcare services (Table 4).

Table 5: Financial hardship of healthcare among households for the study of financial hardship of healthcare and associated factors among households in Debretabor town, 2022

		Thresholds		
Variables	Measurements	10%	25%	40% nonfood threshold
Catastrophic health expenditure	Catastrophic headcount (%)	37.10	11.20	15.90
	Catastrophic overshoot	20.05	7.32	12.51
	Mean positive gap (%)	54.04	65.36	78.68
Measurements		Prepayment	Post payment	Discrepancy
Impoverishing health expenditure	Poverty headcount (%)	70.4	80.8	10.4
	Poverty gap	9527.21	11848.68	2321.47(24.37%)
	Normalized poverty gap	94.33	117.31	22.98

6.5. Coping mechanisms of healthcare expenditure

Among the households, 99% used own savings as a source of fund for healthcare cost. Moreover, 3.7% and 5.5% used selling household asset and borrowing as a coping mechanism for their health expenditure. About 22.6% of the households were enrolled for health Insurance (Table 4).

Table 6: Households coping mechanism for healthcare cost for the study of financial hardship of healthcare and associated factors among households in Debretabor town, 2022

	Category	Frequency	Percent (%)
Insurance status	Insured	91	22.6
	None insured	311	77.4
Main source of fund for healthcare cost	Own savings	398	99.0
	Social support	79	19.7
	Borrowing	22	5.5
	Selling assets	15	3.7

6.6. Factors associated with catastrophic health expenditure

From bi-variable regression, about 15 variables were candidates ($p < 0.2$) for multivariable logistic regression: These were sex of household head, age of household head, religion of household head, educational status of household head, occupation of household head, presence of under 5 children (U5C), family size, insurance status, hospitalization, health institution type, presence of chronic health conditions and seeking healthcare from traditional healers. Finally, from multi-variable logistic regression, age of household head, occupation of household head, insurance status, having social support, having chronic health conditions, sought healthcare from traditional healers were found to be statistically significant (at $p < 0.05$) factors of CHE.

For instance, households with head of age in the interval between 31 and 45 years old were 2.50 times more likely (AOR : 2.50, CI: 0.1.07, 5.82) to encounter catastrophic health expenditure than that of the households with head in the age less than or equal to 30. Moreover, odds of facing CHE among households with a household head of age 60 and above was 4.21 (AOR: 4.21, CI: 1.23, 14.45) as compared to that of the households with a head whose age 30 and lower. Furthermore, the odds of catastrophic health expenditure among non-insured households was 2.19 (AOR: 2.19, CI: (1.04, 4.62) as compared to that of the insured households.

Additionally, households having members with at least one chronic health conditions like diabetic mellitus and Hypertension were 7.20 times (AOR: 7.20, CI: 3.64, 14.26) more likely to experience catastrophic health expenditure as compared to that of households not having members with chronic health conditions. Likewise, households whose a member seek healthcare from traditional healers were 2.63 times (AOR: 2.63, CI: 1.37, 5.05) more exposed to catastrophic health expenditure as compared to that of the households with no members seek healthcare from traditional healers.

Households which had no social support were 2.77 times (AOR: 2.77, CI: 1.25, 6.17) more likely to face catastrophic health expenditure compared with households having social support (Table 6).

Table 7: Multivariable regression for the study of financial hardship of healthcare and associated factors among households in Debretabor town, 2022

		CHE			
Variables	Category	No	Yes	COR(95%CI)	AOR(95%CI)
Sex of HH head	Male	167	112	1	1
	Female	86	37	0.642(0.408, 1.010)	0.79(0.40, 1.56)
Age of Household head	<=30	75	17	1	1
	31-45	107	54	2.226(1.198, 4.238)	2.50(1.07, 5.82)*
	46-60	49	41	3.691(1.888, 7.216)	1.884(0.725, 4.90)
	>60	22	37	7.42(3.321, 15.636)	4.21(1.23, 14.45)*
Religion	Orthodox	224	138	1	1
	Others	29	11	0.616(0.298, 1.292)	0.50(0.182, 1.40)
Educational status of HH head	No education	24	19	1	1
	Read & write only	20	11	0.695(0.269, 1.797)	0.62(0.16, 2.32)
	Primary	37	15	0.512(0.219, 1.198)	0.44(0.13, 1.53)
	Secondary	44	22	0.632(0.287, 1.392)	0.76(0.22, 2.63)
	College and above	128	82	0.809(0.417, 1.570)	0.79(0.20, 3.10)
Employer of HH head	Self employed	135	60	1	1
	Gov't employed	108	80	1.667(1.096, 2.536)	0.81(0.31, 2.10)
	Private sectors	10	9	2.025(0.783, 5.239)	6.34(1.77, 22.80)*
Presence of U5C	No	163	114	1	1
	Yes	90	35	0.556(0.352, 0.879)	0.79(0.41, 1.53)
Family size	<=4	199	105	1	1
	>4	54	44	0.648(0.0.408, 1.03)	0.88(0.44, 1.76)
Wealth status	Quintile 1	56	24	0.608(0.313, 1.181)	0.64(0.23, 1.76)
	Quintile 2	60	21	0.497(0.252, 0.978)	0.64(0.24, 1.69)
	Quintile 3	52	28	0.764(0.399, 1.464)	0.96(0.40, 2.31)
	Quintile 4	41	45	1.558(0.834, 2.910)	1.13(0.49, 2.59)
	Quintile 5	44	31	1	1

Variables	Categories	CHE		COR(95%CI)	AOR(95%CI)
Insurance status	Insured	66	25	1	1
	None insured	187	124	1.751(1.048, 2.925)	2.19(1.04, 4.62)*
Chronic health conditions	Yes	36	94	10.302(6.344, 16.73)	7.20(3.64, 14.26)*
	No	217	55	1	1
Institution type	Public	127	101	1	1
	Private	61	48	0.989(0.625, 1.367)	1.48(0.79, 2.76)
Admission history	Yes	9	26	4.204(1.904, 9.282)	2.57(0.917, 7.21)
	No	179	123	1	1
Traditional healthcare seek	Yes	42	46	2.244(1.388, 3.626)	2.63(1.37, 5.05)*
	No	211	103	1	1
Social Support	Yes	27	52	1	1
	No	226	97	4.487(2.662, 7.565)	2.77(1.25, 6.17)*
Borrowing	Yes	27	52	6.388(2.305, 3.626)	2.72(0.72, 10.26)
	No	226	97	1	1

*means significant at $p < 0.05$; HH: Household Head

7. Discussion

This study aimed to assess financial hardship of health care in terms of the incidence of catastrophic health expenditure (CHE) and impoverishing health expenditure (IHE), including the associated factors of CHE, among households in Debretabor town. The incidence of CHE was 37.1 % (CI: 32, 42%) and the proportion of impoverished households due to health expenditure was 10.4%. This study implies that the financial hardship of health care is stronger among the less privileged populations: the non-insured, the chronically ill, the elder, traditional healthcare user, private sector employees and socially unsupported. Moreover, avoiding impoverished households due to health expenditure can reduce more than one tenth of poor households.

The incidence of CHE in the current study was higher than the national incidence of catastrophic health expenditure which was 2.1% in previous study conducted in Ethiopia, in 2020 using 2015/16 Ethiopian household consumption expenditure (HCE) and welfare monitoring (WM) survey(23). Specifically, the incidence of CHE in the current study also higher than the findings of the same study, using 2015/16 survey, with the incidence of catastrophic expenditure in Amhara (1.3%), Oromia (2.7%), Benshangul Gumz (4%) and Afar (5.8%) regions(23). The possible reason might be the difference in the scope of the study setting and our study included indirect medical costs (lost days due to the illness) which were not considered in the previous study. The other probable reason might be due to the fact that the previous study used secondary data (from 2015/16 HCE and WM survey) and current escalation of healthcare cost due to COVID-19 pandemic and the conflict.

Moreover, the incidence of catastrophic health expenditure in this study was higher compared with the studies conducted on CHE and impoverishment in households of persons with depression in 2019 and CHE for households of people with severe mental health disorder (SMD) in 2015 in rural Ethiopia which stated the incidence of CHE, 24% and 20.3% using 10% threshold level, respectively(15). The probable reason of this discrepancy might be due to the fact that the current study used latest primary data whereas the previous studies conducted since 2015 and current escalation of healthcare cost due to COVID-19 pandemic and the conflict.

However, the incidence of catastrophic health expenditure in the current study was lower by half than that of the findings of the study conducted on economic burden of diabetic mellitus healthcare at Bahir Dar public hospitals in 2020 with the incidence of catastrophic health expenditure of 74.3% using the same, 10%, threshold level (13).

The possible explanation for this difference might be due to the fact that the current study included insured households and non-ill household members, which may lower the incidence of the catastrophic health expenditure, that were not included in the previous study. The other possible reason might be the current study is conducted on households regardless of the diseases status of the members, whereas the previous study was conducted on diabetic patients, that indicates those households with the presence of household member with chronic conditions (e.g. DM) are prone to CHE.

In the same way, the incidence of catastrophic health expenditure in this study was lower than the findings of the study conducted on financial risk of seeking maternal and neonatal healthcare in southern Ethiopia in 2020 (incidence of CHE: 46% at 10% threshold level of total household expenditure)(24). The potential reason of this different might be due to the fact that the pervious study used prospective cohort study unlike the current study, used cross-sectional study. The other possible reason might be mothers and neonates need more healthcare services in nature, than other parts of the community.

The incidence of CHE in this study was higher compared with study conducted at household level in African countries like Kenya, Uganda, Morocco and South Africa which stated the incidence of CHE(using 10% threshold level) 10.7%, 14.2%, 1.77% and 5% respectively (9, 16, 18, 56). The possible reason behind the difference might be due to the difference in the scope and context of the study, sociodemographic and socioeconomic characteristics, and use of secondary data from respective national representative surveys and current escalation of healthcare cost due to COVID-19 pandemic and the conflict.

The incidence of CHE in our study was also higher than the global monitoring for financial risk protection reports of 2019 and 2021 with incidences of CHE 12.7% and 13% respectively (2, 3). The probable reason behind the difference might be due to the differences on the scope and context of the studies and the global reports mainly relied on the national report which is secondary data.

Moreover, the percentage of the poverty impact of healthcare expenditure in the current study (IHE: 10.4%) was higher than that of similar studies, conducted on households, in national context, in Ethiopia in 2020 with IHE of 0.9%, and conducted on diabetic mellitus patients in Bahirdar city public hospitals with IHE of 5%, conducted on financial risk of seeking maternal and neonatal care, in southern Ethiopia, with IHE of 0.3% and conducted on patients with depression in Ethiopian rural households with IHE of 5.8%. The probable reasons behind this deference might be due to the fact that the current study included all household members standardized with adult equivalent size in in terms of sex and age whereas the previous studies conducted on specific diseases. Moreover, the cost of life in the present time is more costly than the previous and this might impose the difference.

In addition, the IHE in this study was higher than that of the studies conducted in various African countries like Kenya, Uganda, Morocco and South Africa with IHE were 2.2%, 2.7%, 1.11% and 5%, respectively. The possible explanation might be due to the fact that the difference in different poverty lines (e.g. Kenya used its national poverty line), sociodemographic and socioeconomic characteristics and the difference strategies used in Ethiopia and other African countries to protect their citizens from financial risk of seeking essential health services.

Furthermore, households led by heads with age 60 years and above were more likely to spend catastrophic expenditure. This was supported by the evidences in the study conducted on catastrophic health expenditure of SMD in rural Ethiopia and in Kenya in 2018(24, 56). Likewise, non-insured households were more vulnerable to catastrophic health expenditure. This implied that health insurance is one way to safeguard households from financial risk of healthcare. This was supported by the study conducted in Kenya in 2018, which revealed that households with one member enrolled for health insurance were protected from catastrophic health expenditure(56).

Additionally, presence of chronic health conditions among household members had strong positive association with catastrophic health expenditure. This implied that chronic health conditions are the main source for financial risk for healthcare expenditure. This finding was supported by the evidences in the study conducted in southern Ethiopia, rural Ethiopia and Kenya (13, 15, 24, 56).

7.1. Limitation of the study

The main limitation of this study was recall bias. Although, measures have been taken like triangulating self-reported health expenditure with the recipients, to reduce recall bias, it is still the limitation of this study.

8. Conclusion and recommendations

8.1. Conclusion

This section will conclude the study by summarizing the key findings in relation to the aims of the study. It will also review the significant factors associated with catastrophic health expenditure.

The study aimed to investigate the level of financial hardship of healthcare and associated factors. The study stated that significant number of households in Debretabor town encountered catastrophic health expenditure. Further findings showed that older age of the household head, households led by heads employed in private sector, being non-insured households, presence of any chronic health conditions among household members, household members seeking healthcare services from traditional healers and being socially unsupported were positively associated factors of catastrophic health expenditure.

Moreover, higher numbers of the households were obliged to be impoverished because of their household health expenditure.

8.2. Recommendations

Based on the key findings, we would like to recommend the following points for the respective concerned bodies

Health policy makers

- ◆ Better to modify strategies to increase household enrollment to health insurance
- ◆ Better to design strategies that enhance social support like Ekub, Edir and charity among households
- ◆ Better to design strategies to aware the community about the traditional health care, including their pros and cons.
- ◆ Better to give high emphasis on financial risk protection of households with elderly members
- ◆ Better to give emphasis on financial risk protection of households with chronic diseases
- ◆ Better to give emphasis private sector employees during designing policy

Health care providers

- ◆ Better to enhance health insurance enrolment of households in Debre tabor town
- ◆ Better to enhance social support among households

Community

- ◆ Being enrolled to health insurance
- ◆ Enhance social support among households
- ◆ Prefer modern health care to protect themselves from financial hardship

Researchers (Academics)

- ◆ Conduct prospective study to estimate the actual costs(to avoid recall bias) and financial hardship of health care

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10. Annexes

Annex 1: Consent form and information sheet

Bahir Dar University

College Of Medicine and Health Sciences

School of Public Health

Department of Health Systems Management and Health Economics

Greetings!

My name is _____ I am here to collect data on the study aims to assess “*financial hardship of healthcare and associated factors among households in Debretabor Town*”. The study is being conducted by Mr. Yawkal Tsega, the postgraduate student, from Bahir Dar University, College of Medicine and Health Sciences. The information collected from your household will help Ethiopia’s policymakers and program managers better to address financial hardships of healthcare in more efficient, effective, and equitable ways. The information collected will be strictly confidential and your name and any other information indicating who you are will not be written. Furthermore, the information given to me will under no circumstances be used for tax purposes. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. I would now like to ask you a series of questions that will take approximately 30 minutes.

Are you voluntary to participate? 1. Yes

2. No

NB: If the respondent is voluntary to participate in the interview, continue to collect the data.

Annex 2: Survey Questionnaire (English version)

Household Code _____ Date of interview _____

Interviewer name _____ signature _____

Checked by _____ signature _____

Part I: demographic and Socio economic characteristics of the household

1. Sex of the household head? 1. Male 2. Female
2. Age of the household head? _____ Years old
3. Religion of the household head? 1. Orthodox 2. Muslim 3. Protestant 4. Others specify.....
4. What is your ethnicity? 1. Amhara 2. Oromo 3. Tigre 4. Others specify.....
5. Marital status of the household head? 1. Single 2. Married 3. Separated 4. Divorced 5. Widowed
6. Educational status of the household head? 1. Can't write and read 2. Read and write only with no formal education 3. Primary (1-8) 4. Secondary (9-12) 5. College/university and above
7. Occupation of the household head? 1. Currently unemployed 2. Self-employed 3. Government employed 4. Working in private sector 5. Others specify.....
8. What is your average monthly income? _____ ETB
9. Number of household members (including the head)? ____, list (not head) them the table below.

Code	R/ship to head	Age	Sex	Religion	Educational status	Occupation	Av. Income/month
M1							
M2							
M3							
M4							
M5							
M6							
M7							
M8							
M9							
M10							
Total							

Part II: Household Wealth index measuring variables

s/n	Questions	Answers	s/n	Questions	Answers
1.	Ownership of the household	1. Private 2. Rent	o	House's main floor material?	1. Natural(soil 2. Concrete 3. Ceramics

2.	Main source of drinking water?	1. Pipe water in dwelling 2. Protected dug well 3. Unprotected dug well 4. Protected spring 5. Others specify.....	23.		4. Others specify.....
3.	Type of latrine?	1. Not at all 2. Traditional pit latrine 3. VIP 4. Pour and flush 5. Others specify.....	24.	House's main roof material?	1. Thatch roof 2. Corrugated iron sheet 3. Other (specify)_____
4.	Type of cooking fuel?	1. Wood 2. Charcoal 3. Biogas 4. Kerosene 5. Electricity	25.	Household main wall material?	1. Wood with Mud 2. Concrete 3. Ceramic 4. Other (specify)_____
Does your household have the following materials			26.	Do you have own land?	1. Yes 2. No
5.	Electricity	1. Yes 2. No	27.	Number of member per bed room	
6.	Radio	1. Yes 2. No	Does the household have the following?		
7.	Television	1. Yes 2. No	28.	Cows/bulls	1. Yes 2. No
8.	Telephone	1. Yes 2. No	29.	Horse/donkey/mules	1. Yes 2. No
9.	Computer	1. Yes 2. No	30.	Camels	1. Yes 2. No
10.	Refrigerator	1. Yes 2. No	31.	Goats	1. Yes 2. No
11.	Table	1. Yes 2. No	32.	Sheep	1. Yes 2. No
12.	Chair	1. Yes 2. No	33.	Chickens	1. Yes 2. No
13.	Bed with mattress	1. Yes 2. No	34.	Beehives	1. Yes 2. No
14.	Electric mitad	1. Yes 2. No	35.	Land area (m ²)	
15.	Watch	1. Yes 2. No			
16.	Mobile phone	1. Yes 2. No			
17.	Bicycle	1. Yes 2. No			
18.	Motorcycle	1. Yes 2. No			
19.	Animal drawn cart	1. Yes 2. No			
20.	Cart or truck	1. Yes 2. No			
21.	Bajaj	1. Yes 2. No			
22.	Bank account	1. Yes 2. No			

Part III: Household health and related characteristics

1. Insurance status of your household? 1. Insured 2. None insured
2. Was any household member/s sought healthcare services the last 12 months? 1. Yes 2. No
3. If yes to Q1, how many members were sought cares? _____, list the table below.

Code	Sex	Where care was sought (write code) 1. Home based	How many times and duration of all	Reason to seek care?	Admission history? 1. Yes	Frequency/all admissions duration?
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		2. Governmental HF, 3. Private HF 4. Traditional	episodes?(write frequency and duration, f/d)		2. No	
...						

4. For the last 12 months, has any member of your household had history of referral for treatment? 1. Yes 2. No

5. If yes to Q4, fill the following table?

Code	Refer to(write place)	Frequency	Reason for referral?	How many days you stay for one referral?	Total referral expense (treatment, transport, lodge and cafeteria)
...					

6. Is any household member having any chronic health conditions? 1. Yes 2. No

7. If yes to Q6, what type of chronic health conditions? More than one choice possible. 1. HTN 2. DM 3. Heart diseases 4. Renal diseases 5. Cancer 6. Others, specify.....

Part IV: Total household healthcare expenditure measurement

I: Direct medical and Non-medical Healthcare costs (both outpatient and inpatient)

S/N	Questions	Possible answers
1.	How much money your household paid for all healthcare services received for the last 12 months?	1. Registration card,birr 2. Medications ,...birr 3. Diagnostic test (x-ray, CT, etc.) .birr. 4. laboratory,...birr 5. Bed,birr

III: Direct and indirect Cost of traditional healthcare (for having history of seeking care from traditional healers)

1. Did any household member seek healthcare service from traditional/religious center? 1. Yes 2. No
2. If yes to Q1, fill the table below

Code	Total direct expenditure		Total lost days		Average monthly income		Total cost
	Care seeker	Caregiver	Care seeker	caregiver	Care seeker	Caregiver	
Total household's traditional/religious healthcare service							

Part V: Household non-health expenditure and consumption

I: Household average monthly food expenditure		
S/N	List of foods and beverages needed per month	Expenditure (ETB)
1.	Oil and fats	
2.	Cereals (maize grains, beans, rice, Misr)	
3.	Livestock/ Poultry products(e.g. Milk and eggs)	
4.	Meat including Doro wot	
5.	Sugar and coffee (tea, coffee)	
6.	Bread(wheat flour) and injera (teff)	
7.	Spices and salt (berbere, kimemakimem,)	
8.	Vegetables and fruits(potato, tomato, banana)	
9.	Alcoholic drinks, Soft drinks and juice	

10.	Meals (hotel , restaurant, cafeteria)	
Total average monthly food expenditure		
II: Monthly household expenditure (nonfood)		
How much did your household spend in last one month on the following?		
1.	Cosmetics	
2.	Soap and detergent	
3.	Hair dressing/barber	
4.	Rent	
5.	Electricity	
6.	Water	
7.	Kerosene/paraffin	
8.	Telephone bills/Airtime	
9.	Transport	
10.	Charcoal	
11.	Fire wood	
12.	Cooking gas	
13.	Salaries including salaries/wages for domestic workers	
14.	Sanitary materials(dipper, modes, towels)	
15.	Others (Specify)	
16.	Total amount	
III: Annual household expenditure (nonfood)		
How much did your household spend in the last one year on the following?		
1.	Education (registration, uniforms, books, tuition, exam fees)	
2.	Maintenance and repairs including car and buildings etc.	
3.	Clothing and footwear	
4.	Social Affairs (Wedding/Funerals...)	

5.	Capital expenditures including cars, plots etc.	
6.	Others (specify)	
7.	Total amount	
Total nonfood expenditure		

Part VI: Coping mechanisms of financial hardship

No	Question	Answer	Skip
1.	What was the main source of fund to cover the household health costs	1. Own 2. Borrowing 3. Selling household assets 4. My family/relatives support 5. Others _____	If 3 skip to 2.
2.	If you borrowed, how much you borrow?	_____birr	
3.	From whom did you borrow?	1. Family 2. Cooperative 3 Neighbors/friends 4. Private	
4.	If you sold your household asset, what kind of asset you have sold?	1. Household item 2. Jewelry 3. Vehicle 4. House 5. Land 6. Others specify.....	

Thank You so much!!!

M6							
M7							
M8							
M9							
M10							
ድምር							

ክፍል 2: የቤት ሀብት ሁኔታ መለኪያ መጠይቆች

ተ/ቁ	ጥያቄ	መልስ	ተ/ቁ	ጥያቄ	መልስ
1.	የቤቱ ባለቤትነት	1. የግል 2. የኪራይ		የቤቱ ወለል የተሰራበት ቁሳቁስ?	1. የተፈጥሮ (አፈር 2. ኮንክሪት 3. ሴራሚክስ 4. ሌሎች ይገልጻሉ.....
2.	የቤቱ ዋና የመጠጥ ውሀ ምንጭ?	1. የቧንቧ ውሃ በቤት ውስጥ 2. የተጠበቀ የጉድጓድ ውሃ 3. ያልተጠበቀ የጉድጓድ ውሃ 4. ጥብቅ ምንጭ 5. ሌላ ካለ.....	23.		
3.	የሽንት ቤቱ አይነት?	1. የለም 2. ባህላዊ መጻዳጃ ቤት 3. ማስተንፈሻ ያለው 4. ውሃ በማፍሰስ እሚሰራ 5. ሌላ ካለ.....	24.	የቤቱ ጣሪያ የተሰራበት ቁሳቁስ??	1. ከሳር 2. ከቆርቆሮ 3. ሌላ ካለ_____
4.	ዋና የምግብ ማብሰያ ዓይነት?	1. እንጨት 2. ከሰል 3. ባዮጋዝ 4. ኬሮሴን 5. ኤሌክትሪክ	25.	የቤቱ ግድግዳ የተሰራበት ቁሳቁስ?	1. ከእንጨትና ከጭቃ 2. ከሲሚንት 3. ከሴራሚክ 4. ሌላ ካለ_____
በቤታችሁ ውስጥ የሚከተሉት ነገሮች አሉ?			26.	የራስህ መሬት አለዎት?	1. አለ 2. የለም

5.	ኤሌክትሪክ	1. አለ 2. የለም	27.	በአንድ መኝታ ክፍል እሚተኙ ሰዎች ብዛት	
6.	ሬዲዮ	1. አለ 2. የለም	በቤታችሁ ውስጥ የሚከተሉት ነገሮች አሉ?		
7.	ቴሌቪዥን	1. አለ 2. የለም	28.	ላም/በሬ	1. አለ 2. የለም
8.	የቤት ስልክ	1. አለ 2. የለም	29.	ፈረስ/በቅሎ/አህያ	1. አለ 2. የለም
9.	ከምፒውተር	1. አለ 2. ለም	30.	ግመል	1. አለ 2. የለም
10.	ፍሪጅ	1. አለ 2. የለም	31.	ፍየል	1. አለ 2. የለም
11.	ጠረጴዛ	1. አለ 2. የለም	32.	በግ	1. አለ 2. የለም
12.	ወንበር	1. አለ 2. የለም	33.	ዶሮ	1. አለ 2. የለም
13.	አልጋና ፍራሽ	1. አለ 2. የለም	34.	የንብ ቀፎ	1. አለ 2. የለም
14.	ኤሌክትሪክ ምጣድ	1. አለ 2. የለም	35.	የመሬት ስፋት(በሜ ²)	
15.	የግድግዳ ሰዓት	1. አለ 2. የለም			
16.	ሞባይል ስልክ	1. አለ 2. የለም			
17.	ብስክሌት	1. አለ 2. የለም			
18.	ሞተር ሳይክል	1. አለ 2. የለም			
19.	የእንሰሳት ጋሪ	1. አለ 2. የለም			
20.	የጭነት መኪና	1. አለ 2. የለም			
21.	ባጃጅ	1. አለ 2. የለም			
22.	የባንክ ሒሳብ ቁጥር	1. አለ 2. የለም			

ክፍል 3: የቤተሰብ ጤና እና ተዛማጅ ሁኔታዎች

- ባለፉት 12 ወራት በቤተሰብ ውስጥ ማንኛውንም የጤና አገልግሎት የተሰጠው ነበር? 1. አዎ 2. አይደለም
- ለጥያቄ ቁጥር 1 አዎ ከሆነ፣ ስንት የቤተሰብ አባላት አግልግሎቱን ተሰጠዋል? ____ ሰንጠረዥን ይሙሉ

ከድ	አገልግሎት ያገኙበት የት ነው (ከዱን ይፃፉ)	ለስንት በሁሉም ድግግሞሽ ቀን ከለከለዎት(ድ/የቀን ብዛት)	ጊዜና ስንት ከስራ	አገልግሎት የፈለጉበት በምን ምክንያት ነው?	ተኝተው ታክመዋል? 1. አዎ 2. አለታከምኩም (ከዱን ይፃፉ)	ተኝተው የታከሙበት ድግግሞሽ/በሁሉም ድግግሞሽ የቆዩበት ቀን ብዛት (ድግግሞሽ/የቀን ብዛት)

...					

3. ከታመሙት የቤተሰብ አባላት ውስጥ ላለፉት 12 ወራት ሪፈር የተላከ አባል አለ? 1. አዎ 2. የለም

4. ለጥያቄ ቁጥር 3 አዎ ከሆነ፣ የሚከተለውን ሠንጠረዥ ይሙሉ?

ከድ	ሪፈር የተባሉበት ቦታ	ድግግሞሽ	ሪፈር የተባሉበት ምክንያት?	በሪፈር ምክንያት ስንት ቀን ከስራ ቀሩ?	አጠቃላይ ል ሪፈር ያወጡት የብር መጠን (ህክምና, ምጓጓዣ, አለጋና ካፍቴሪያ)

5. ለረጅም ጊዜ የቆየ የጤና ችግር ያለበት የቤተሰብ አባል አለ? 1. አዎ 2. አይደለም

6. ለጥያቄ ቁጥር 5 አዎ ከሆነ ምን አይነት በሽታ/ሁኔታ፤ ከአንድ በላይ ምርጫ ይቻላል. 1. የደም ግፊት 2. የስኳር በሽታ 3. የልብ ሕመም 4. የኩላሊት ህመም 5. ካንሰር 6. ሌሎች ካሉ ይግለጹ.....

ክፍል 4: ጠቅላላ የቤተሰብ ጤና አጠባበቅ ወጪ መለኪያ

ሀ: ቀጥተኛ የህክምና እና የህክምና ያልሆኑ የጤና አጠባበቅ ወጪዎች (የተመላላሽ እና የታካሚ)

ተ/ቁ	ጥያቄዎች	መልሶች
3.	የእርስዎ ቤተሰብ ላለፉት 12 ወራት ላገኙት ለሁሉም አይነት የጤና ጥበቃና አገልግሎቶች ምን ያህል ገንዘብ ከፍለዋል?	1. የመመዝገቢያ ካርድ፣ብር 2. መድሃኒቶች ብር 3. ለምስል ምርመራ (ኤክስሬይ.)ብር 4. ለላብራቶሪ..... ብር 5. አልጋ፣ብር
4.	ቤተሰብዎ ለአለፉት 12 ወራት ለትራንስፖርት፣ ለካፍቴሪያ እና ለአልጋ አገልግሎት የአስታማሚነት ወጪዎች ጨምሮ ምን ያህል ገንዘብ ከፍለዋል?	1. ትራንስፖርት፣ብር 2. ካፍቴሪያ፣ብር 3. ማረፊያ፣ብር
ድምር		_____ብር

ለ: ኢ-ቀጥተኛ የጤና አገልግሎት ወጪ

1. ባለፈው አንድ አመት ዘመናዊ የጤና አገልግሎት ያገኘው/ችው የቤተሰብ አባል በህመም/በጤና አገልግሎት ምክንያት በአማካይ ለስንት ቀናት ከስራ/ትምህርት ቀርቷል?

ከድ	የቀናት ብዛት	አማካይ ወራዊ ገቢ ((በብር)	ጠቅላላ ኢ-ቀጥተኛ የጤና ወጪ

...			
ጠቅላላ የቤተሰቡ ኢ-ቀጥተኛ የጤና ወጭ			

2. የጤና አገልግሎት ለማግኘት ጤና ተቋም በሚሄዱበት ወቅት አብሮዎት የሄደ ሰው ነበር? 1. አዎ 2. የለም
3. ለጥያቄ ቁጥር 2 አዎ ከሆነ፣ ስንት ሰዎች ናቸው አብረው የሄዱት?.....የሚከተለውን ሰንጠረዥ ይሙሉ።

ከድ	የቀናት ብዛት	አማካይ ወራዊ ገቢ (ብብር)	ጠቅላላ የተንከባካቢ ኢ-ቀጥተኛ የጤና ወጭ
...			
ጠቅላላ የሁሉም ተንከባካቢ ኢ-ቀጥተኛ የጤና ወጭ			

ሐ: ለባህላዊ የጤና አገልግሎት የሚወጣ ቀጥተኛና ኢ-ቀጥተኛ ወጭ(የባህላዊ ህክምና አገልግሎት ላላቸው ብቻ)

- ባለፈው አንድ አመት ውስጥ ከቤተሰብዎ ውስጥ የባህላዊ/ሀይማኖታዊ የጤና አገልግሎት ያገኘ ነገር? 1. አዎ 2. የለም
- መልሱ አዎ ከሆነ የሚከተለውን ሰንጠረዥ ይሙሉ።

ከድ	ጠቅላላ ቀጥተኛ ወጭ		ጠቅላላ ኢ-ቀጥተኛ ወጭ		አማካይ ወራዊ ገቢ (ቡብር)		ጠቅላላ ወጭ
	ታካሚው	እንክብካቤ ሰጭው	ታካሚው	እንክብካቤ ሰጭው	ታካሚው	እንክብካቤ ሰጭው	
ጠቅላላ የባህላዊ ጤና አገልግሎት ወጭ(ቡብር)							

ክፍል 4: ከጤና ወጭ የሆነ የቤት ወጭ

ሀ: የቤት ወራዊ አማካይ የምግብ ወጭ		
ተ/ቁ	የምግብ ዝርዝር	ወጭ (ቡብር)
1.	ለዘይትና ለቅባት እህሎች	
2.	ለጥራጥሬ	
3.	ለእንሳት ተዋፅኦ(እንቁላል፣ ወተት)	

4.	ስጋ ዶሮ ወጥን ጨምሮ	
5.	ለስኳርና ለቡና	
6.	ለዳቦና ለጤፍ	
7.	ለበርበሬ፣ለጨውና ለቅመማቅመም	
8.	ለአትክልትና ፍራፍሬ	
9.	ለአልኮልና ለለስላሳ መጠጦች	
10.	ውጭ ላይ ለመመገብ(ካፌ፣ ሆቴልና ሬስቶራንት)	
ጠቅላላ ወራዊ የምግብ ወጭ		
ለ: ወራዊ ከምግብ ወጭ የሆኑ ወጭዎች		
ባለፈው አንድ ወር ውስጥ ለሚከተሉት ፍጆታዎች ቤተሰብ ስንት ብር ያወጣል		
1.	ለውበት መጠበቂያ	
2.	ለሳሙናና ዲተርጅንት	
3.	ፀጉርን ለመሰራት(ለመቆረጥ)	
4.	ለቤት ኪራይ	
5.	ለመብራት	
6.	ለውሃ	
7.	ለጋዝ(ኬሮሰን)	
8.	ለስልክ	
9.	ለመጓጓዣ	
10.	ለማገዶ እንጨትና ለከሰል	

11.	ለማብሰያ ጋዝ	
12.	ለሰራተኛ ደመወዝ	
13.	ለፅዳትና ንፅህና መጠበቂያ(ፎጣ፣ ሞዲየስ)	
14.	ሌላ ወጭ ካለ ይገለጹ	
15.	ጠቅላላ ድምር	

ሐ: አመታዊ የቤት ወጭ

ባለፈው አንድ አመት ውስጥ ለሚከተሉት ፍጆታዎች ቤተሰብ ስንት ብር አወጣ?

1.	ለትምህርት (ለመመዘገቢያ, የደንብ ልብስ, መፅሐፍት, የትምህርት ክፍያ)	
2.	ለቤት/ለመኪና ጥገና	
3.	ለልብስና ለጫማ	
4.	ለማህበራዊ ጉዳዮች(ለቀብር፣ ለሰርግ፣)	
5.	ለካፒታል ወጭ	
6.	ሌሎች ካሉ ይገለጹ	
7.	ጠቅላላ ድምር	

አጠቃላይ ከምግብ ውጭ የሆኑ አመታዊ ወጭዎች

ክፍል 4: የቤት ወጭ መቋቋሚያ መንገድ

ተ/ቁ	ጥያቄ	መልስ	ዝላል
1.	የቤት አገልግሎት ወጭዎን ከየት ነው የሚያገኙት?	<ol style="list-style-type: none"> ከራስ ገንዘብ (ከደሞዝ, ከቁጠባ) ገንዘብ ተባብሮ/ከብድር የቤት ንብረትን ሸጭ ነው ከማህበራዊ እርዳታ ሌላ ካለ ይገለጹ..... 	መልስዎ 3 ወይ ተራ ቁጥር 4 ይዘሉ.

2.	ተበድረው ከሆነ ስንት ብር ተበደሩ?	_____ ብር	
3.	ተበድረው ከሆነ ከማነው የተበደሩት?	1. ከቤተሰብ 2. ከግል ድርጅት 3. ከጎረቤት/ከጓደኛ 4. በትብብር የሚደረግ 5. ሌላ ካለ ይግለጹ.....	
4.	የበት ንብረተዎን ሸጠው ከሆነ ምንድን ነው የሸጡት?	1. የቤት ዕቃ 2. ንጣንጥ 3. ተሸከርካሪ /መኪ 4. ቤት 5. መሬት 6. ሌላ ካለ ይግለጹ.....	

በጣም አመሰግናለሁ!

2. ተበድረው ከሆነ ስንት ብር ተበይሩ?	ብር
3. ተበድረው ከሆነ ከማነው የተበይሩት?	1. ከቤተሰብ 2. ከግል ድርጅት 3. ከጎረቤት/ከላይኛ 4. በትብብር የሚደረግ 5. ሌላ ካለ ይግለጹ.....
4. የበት ንብረተዎን ሸጠው ከሆነ ምንድን ነው የሸጡት?	1. የቤት ዕቃ 2. ጌጣጌጥ 3. ተሽከርካሪ/መኪ 4. ቤት 5. መሬት 6. ሌላ ካለ ይግለጹ.....

በጣም አመሰግናለሁ!

Habtamu D.



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