2021-06

# Economic Burden of Hyperthyrodism and Associated Factors Among Hyperthyroidism Patients Attending Follow Up, Debretabor Comprehnsive Specialized Hospital, 2021

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COLLEGE OF MEDICINE AND HEALTH SCIENCES SCHOOL OF PUBLIC HEALTH DEPARTMENT OF HEALTH SYSTEM MANAGEMENT AND HEALTH ECONOMICS

# ECONOMIC BURDEN OF HYPERTHYRODISM AND ASSOCIATED FACTORS AMONG HYPERTHYROIDISM PATIENTS ATTENDING FOLLOW UP, DEBRETABOR COMPREHNSIVE SPECIALIZED HOSPITAL, 2021

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ATHESIS SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH, DEPARTMENT OF HEALTH SYSTEM MANAGMENTAND HEALTH ECONOMICS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN HEALTH SYSTEM AND PROJECT MANAGEMENT.

Jun, 2021

BAHIRDAR, ETHIOPIA

BAHIRDAR UNIVERSITY

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| Full tittle of research | ECONOMIC BURDEN OF HYPERTHYROIDISM PATIENTS AND ASSOCIATED FACTORS AMONG HYPERTHYROIDISM PATIENTATTENDING FOLLOW UP DEBRETABOR COMPREHNSIVE SPECIALIZED HOSPITAL, 2021 |

## Acknowledgement

First of all, I would like to thank Bahirdar University for giving this chance to do research on economic burden of hyperthyroidism and associated factor among patient attending follow up at DCSH. Next, I would like to thanks my Advisors Getasew Taddese MPH & Assistance professor in health economics and Gebeyehu Tsega MPH &Assistant professor in health system management and health Economics who provides invaluable support and Guide throughout the research proposal development.

## Acronyms

| | |
|---|---|
| APHI | Amhara Public Health Institute |
| CHE | Catastrophic Health Expenditure |
| COI | Cost of Illness |
| DCSH | Debretabor Comprehensive Specialized Hospital |
| HCE | Health Care Expenditure |
| OOP | Out of Pocket |
| NHA | National Health Account |
| PTU | Propyl Theo Uracil |
| SPSS | Statistical Package for Social Sciences |
| T4 | Thyroxin |
| TSH | Thyroid Stimulating Hormone |
| WHO | World Health Organization |
| SD | Standard Deviation |

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## Abstract

**Introduction**: Hyperthyroidism is a medical condition of excess thyroid hormone in the blood that affects the work of thyroid gland. In addition to the health effect, it affects individuals, households, and healthcare systems financially. Globally billions of dollars cots for hyperthyroidism .A health care cost causes financial hardship hinder the household to spend on basic items and may push in to poverty. In Ethiopia, there are studies conducted on the prevalence of hyperthyroidism but its economic burden was not well studied. Hence needs this study.

**Objectives-** This study aimed to assess the economic burden and associated factors of Hyperthyroidism patients at Debre Tabor comprehensive specialized hospital, 2021

**Methods** – Institutional based cross sectional study was conducted on 404 study participants were selected by systematic random sampling method from January 1 to March 30, 2021.Method of costing was prevalence approach with patient perspective. Direct costs estimated with micro costing bottom up approach and indirect costs were estimated with human capital approach method. Then Aggregated Total costs .The 10% threshold level used for catastrophic health expenditure of hyperthyroidism. To measure impoverishment poverty head count & poverty gap index before and after was calculated and World Bank poverty line (1.9 USD per day per person) was used. Data were collected using structured questioners, entered in Epi data V.4.62 exported to SPSS V-20 and Logistic regression analysis were performed at p-value 0.05, 95% CI.

**Results**- The proportion of catastrophic health expenditure and overshoot and Mean positive over shoot at 10% threshold is 95% and 38.9% and 40.9% respectively. Prepayment head count of impovershment is 71.3% and the post payment head count is 90.2. The prepayment and post payment poverty gap is 44% and 56 % and the pre and post payment poverty gap index is 49% and 62 % respectively. Hyperthyroidism patients who has low level in education were 1.396 times more likely to spend for hyperthyroidism health care expenditure (AOR =1.396, 95% CI: 1.014-1.921) and AOR =2.266, 95% CI: 1.660-3.092) respectively than whose education is diploma and above.

**Conclusion** –Hyperthyroidism imposes high economic burden to the patients and the households. Educational status of patient and house hold leader and family size were main predictors of catastrophic health expenditures.

Key word: Catastrophic Health Expenditure, Impoverishment, Hyperthyroidism

# 1. Introduction

## 1.1 Background

Hyperthyroidism is a medical health condition due to excessive production of thyroid hormone by any causes. Hyperthyroidism causes economic catastrophe by incurring high direct medical, non-medical and indirect medical costs. [1-3]

. CHE is health care expenditure that exceeds above certain threshold level. According to Wagstaff and Van Doorslaer the health expenditure more than 10% or 25% household income /household's expenditure in a specified period of time considered as catastrophic health expenditure. CHE can occur mainly by three reasons these are the available service dependent on OOP, low capacity to pay, while no prepayment mechanism [4].

Financial catastrophic hardship can occur in all nations but common in low income countries of health care is financed by direct payments and reliant on OOP. Protecting the people from financial hardship is basic function of health system and one focus area in Sustainable development goal (SDG) target and Ethiopian Health sector transformation plan II.However Globally more than 150 million individuals and 44 million households are exposed to CHE and 100 million individuals, 25 million households are pushed in to poverty related to OOP for health care . Among households pushed in to poverty more than 90% found in low income countries [5, 6].

Hyperthyroidism can impose the patients to CHE, specifically those who live in low income countries. In low income countrie including Ethiopia, financial hardship due to hyperthyroidism is disastrous especially for poor households. The economic hardship is worsen for house hold which had no prepayment mechanism[7, 8].

Even though ,the Ethiopian government exercises different financial arrangement to protect the people from financial hardship, still the out of pocket (OOP) spending for health care is 31% as per the Ethiopian National Health Account (NHA) 2016/2017 which higher than the global recommended range(20%) [9, 10]. In Ethiopia there is no insufficient evidence literature on economic burden among hyperthyroidism patient. In the study area

## 1.2 Statement of the problem

Hyperthyroidism imposes the most devastating economic impact and costs billions of dollars per year in the world. The burden of hyperthyroidism and other form of thyroid disorders are increasing by 3.3% every year. It is a common thyroid disorder globally and prevalence ranges from 0.05 to 1.3%. In sub Saharan Africa the prevalence of hyperthyroidism in the form of graves diseases is 13.1%. The environmental factor and the dysfunction is also always changing due to differences in diagnostic thresholds, sensitivity of various tests, the populations being selected for study, and changes in the availability of dietary iodine. [11]

More than 300 million patients with thyroid disorders worldwide [12].Hyperthyroidism is major disorder over 110 countries in the world with 1.6 billion people at risk .Most of them found in developing countries of Asia, Latin America and Africa [13].

Hyperthyroidism is ignored in cost-of illness studies and disease management policy priorities in Africa. To date it is not known how much extent the economic burden , patient get catastrophic health expenditure and impoverishment due to health care cost of hyperthyroidism treatment [14] .

In Ethiopia there is no comprehensive study conducted on economic burden of the patients related with hyperthyroidism. In the study area hyperthyroidism is top first among patient attending at outpatient surgical referral clinic and majority (80%) patients had cost related problem .however there is no research evidence on economic burden among hyperthyroid patient in the study area. So to fill this gap it needs this study.

## 1.3. Significance of the Study

This study estimate economic burden attributed by Hyperthyroidism and will serve as basic information for healthcare policy makers, program planners and administrators and researcher. For policy makers it will use the research evidence for policy decisions of the priorities of determinants, for program planners and health care administrators for evidence based resource allocation and supply management. In addition the research study will use to identifying areas of service cause financial hard ship and for further service improvement. This study will also use to the researcher as a reference to do further research .The study will use a health care providers and a patient as well. Health care professionals will be indirectly benefited to appreciation of the system and further service improvement, the patients who are suffering with hyperthyroidism, society and the country at large will be benefited too.

## 2. Literature Review

Globally, more than 800 million people spend at least 10% of their household income for health care service and 100 million become impoverished every year because of direct OOP payment[15] . Thyroid disease due to iodine deficiency cause significant burden contributes to 2.72% of all squeal of disease worldwide. [16] More than a billion of people are living in iodine deficient areas and are at risk of having thyroid disorder especially those living in mountainous regions of south Asia, Latin America and east Africa [17].

The prevalence of Hyperthyroidism range from 0.05 to 1.3 in iodine sufficient part of the world [18] with the majority consisting of subclinical disease that incur high medical costs [19]. In Africa the prevalence of goiter depends on the areas of living ranges from 1%to 90% the cause is still related iodine deficiency.[20] In Ethiopia the prevalence of goiter, hypothyroidism and hyperthyroidism were 46.1%, 0.7% and 1.1 % respectively[21].

### 2.1 Factors Affecting catastrophic health expenditure and impoverishment

#### 2.1.1 Socio economic factors

There are several socio demographic factors include sex, age, size of household, educational status, for determinants of CHE. Study conducted In Georgia shows that Major factors determining the financial catastrophe related to ill health were hospitalization, household members with chronic illness in the house hold [22].

Study conducted in china shows that the rates of being catastrophic were higher among households has a member of elderly, hospitalized, chronic ill and rural than urban. Households having Number of elderly member and children and household belonging to the lowest income quintiles are the most significant variables that increase risk of catastrophic health expenditures .In respect to residence the urban employee with resident insurance schemes had lower rates of catastrophic health expenditure than those enrolled in the new rural corporative scheme [23].

Similar study conducted in India 42% of the households were experienced CHE among those who had a member with chronic illness in household [24] .

Study conducted in Kenya the prevalence of CHE and impoverishment is higher in rural area, with majority of the adults have no education (53.5%)[24].Study conducted in Tshwane, south Africa shows that Being female were higher than male with (Odds Ratio 1.73; Standard Error 0.51) for high risk of developing CHE for health care[25] .

Study conducted in Sudan shows that having a numbers of household's members over 65 years and below 5 years old are the most important factors affecting health expenditures The number of elderly member and children and household belonging to the lowest income quintiles are the most significant variables that increase the risk of incurring catastrophic health tends to reduce its budget share allocated to education, food and other items[26].

### 2.1.2 Socio economic factors

The Direct medical costs in form of OOP payment have a greater burden on low income (poor) families than high income (rich) families. Although the poor people spend less on treatment than other income groups due to lack of access, inability to pay, greater use of public services, the spending on health care is a higher proportion of their income for this reason poor people become pushed into poverty [27]. Poverty status of the household is one of major factor contributing for catastrophic health expenditure [22].Transport costs were contributing to over 50% of total healthcare costs[28].The CHE and impoverishment is higher among the poor income groups[24] in Nigeria the highest proportion of CHE is among the lower income group (23%) which is three times compared to the rich. richest quintile, less than 8% of households experienced CHE .In Uganda households headed by older people, unemployed and presence of households with disabilities were more likely to be affected by CHE[24]

### 2.1.3 Frequency of visit

Study on Vietnam shows that visit frequencies of high-level health facilities was strongly associated with catastrophic expenditure with OR are 1.77 and 1.30 in northern and southern district respectively P values are $< 0.001$) and Significant interaction between health insurance status and use of high-level facilities on catastrophic expenditure occurrence was found in ($OR = 0.68, p < 0.05$) [29].

### 2.1.4 Conceptual frame work

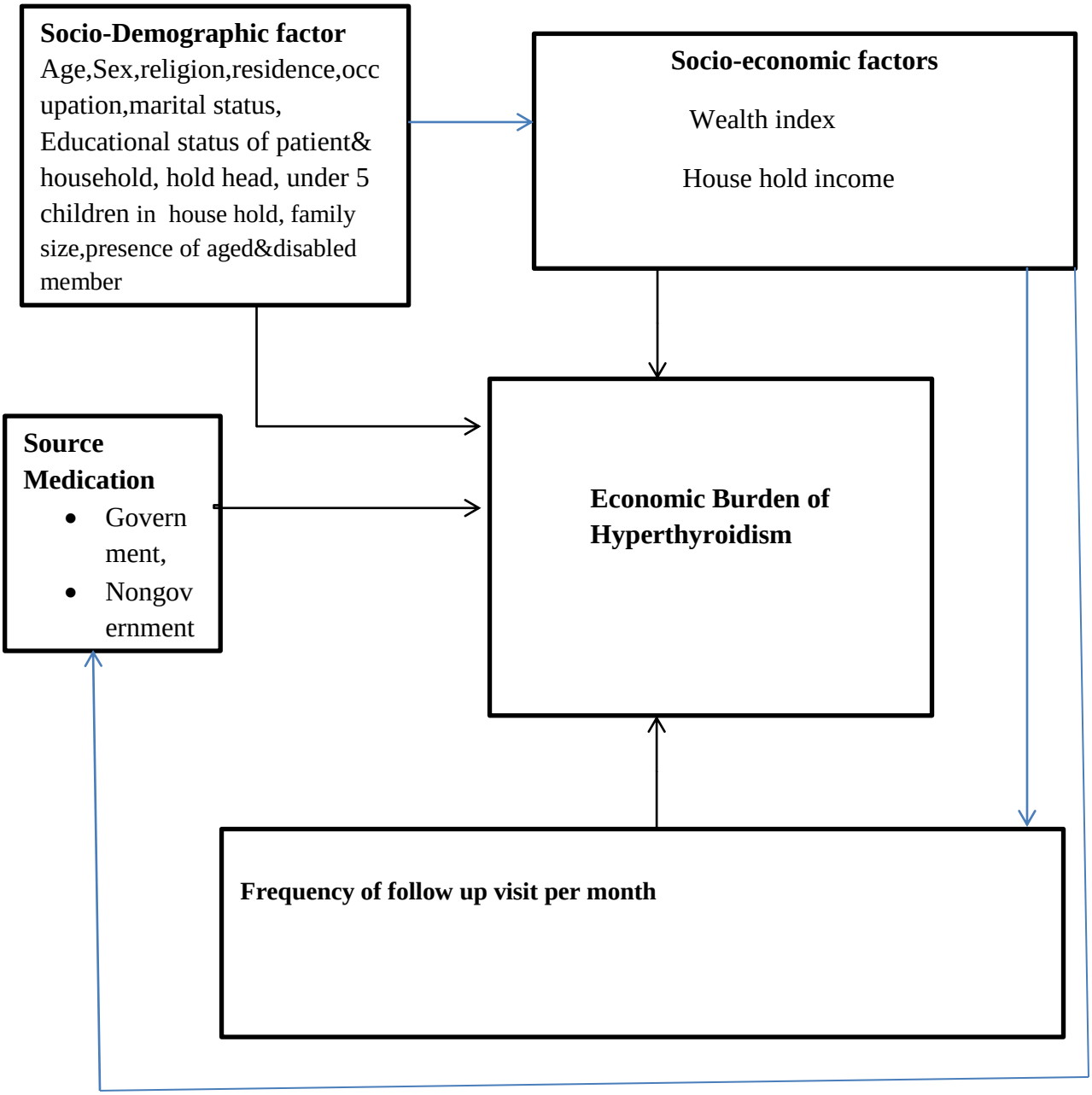


Figure 1 conceptual frame work for economic burden of hyperthyroidism patients on patients[30]

# 4 Objectives

## 4.1 General objective

To determine the Economic burden of hyperthyroidism patients and associated factors among patient attending follow up, DCSH, 2021

## 4.2 Specific objectives

- To determine level of catastrophic expenditure among patients attending follow up in DCSH,2021
- To determine level of impoverishment among patients attending follow up in DCSH ,2021
- To identify factors affecting catastrophic health expenditure
- To identify factors affecting impoverishment due to hyperthyroidism.

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# 5. Methods and Materials

## 5.1. Study design and period

A hospital based cross-sectional study design was conducted from jan1st to March 30, 2021.

## 5.2 Study area

Debretabor comprehensive specialized Hospital is oldest hospital found in the South Gondar administration zone Amhara National Regional State, located 93kms and 666km from Bahirdar and Addis Ababa respectively. It is establish in 1923 E.C by Dr Ogambic, Norwegian missionaries. Currently it is providing services for more than 2.5 million populations in its catchment areas with the total capacity of 225 inpatient beds and used as a hub for six primary hospitals in the zone and serving as a teaching hospital by Debretabor University with 24 senior physicians from various specializations. The Hospital is now emerging as a shining hot spot for advanced medical care and treatment in the North central parts of Ethiopia. Hospital has few diagnostic modalities cholestrole and triglyceride tests, Echocardiography, EEG, CBC and clinical service but hormonal tests, CT scan and MRI are not available. There are treatment options like drug (PTU & propranolole treatmrnt and surgery in the hospital but chemotherapy and radioiodine radiation therapy are not available in the hospital.

## 5.3. Population

### 5.3.1. Source population

All patients who come to follow clinic with thyroid disorders

### 5.3.2. Study population

All selected patients with hyperthyroidism

## 5.4. Eligibility criteria

### 5.4.1. Inclusion criteria

All patients with hyperthyroid for follow up

### 5.4.2. Exclusion criteria

Hyperthyroid patients whose Age 14years and below were excluded in this study

All hypothyroid patients

## 5.5. Study variables

### 5.5.1. Dependent variable

- Catastrophic expenditure for Hyperthyroidism
- Impoverishment level/status.

### 5.5.2. Independent variables

- Patient socio-demographic characteristics (age, sex, marital status, educational attainment, , place of residence (rural/urban),family size
- Socio economic characteristics house hold income, wealth index status
- Frequency of visit
- Facility ownership(government Vs non government)

## 5.6. Operational definition

**Catastrophic health expenditure-** Total expenditure for hyperthyroidism service which exceeds or equals to 10% or more from the total household expenditure

**Impoverishment** – pushed into poverty—or further into poverty—because of health care expenses.

**Yearly income-**Total income earn in 2013 fiscal year. For those payroll paid to calculate annual income monthly income multiplied by the 12 months. For farmer the crops teff, maize, grain in quintals multiplied by April month /2013 tariff (teff per quintal 3700, maize per quintal 2000, and grain per quintal 3500 ETB and to get the monthly income divide total annual income over 12 months whereas for to monthly income daily labors average daily income multiplied by 30 days and can multiplied by 365 to get annual income.

**Wealth index-**was measured by 23 indicators and grouped in 5 quartiles ($1^{st}$, 2nd, $3^{rd,}$ 4th, 5th) .The first quartile refer the poor and the $5^{th}$ quntile implies the rich.

**Headcount ratio (catastrophe)-**when the proportion of people facing Catastrophic health expenditure due to the disease.

**Poverty gap:** The aggregate of all short falls from the poverty line[31]

**Poverty line**- Individual income less than $ 1.9 a day [32]

**Household consumption expenditures**: The annual payments, both monetary and in kind, for all goods and services, including the monetary value of self-produced goods and services that are consumed.

**Food consumption expenditures** –The annual amount spent on food, including in-kind and self-produced food.

## 5.7. Sample size and sampling method

### 5.7.1. Sample size

The sample size were determined using single proportion population formula since there was no similar study in Ethiopia and with the intention of getting maximum sample size; we assume a 50% of hyperthyroidism patients had experienced a catastrophic expenditure.

$n = \underline{Z (\alpha/2)^2 P (1-P)/} d^2$, Where:

n = desirable Sample size

Z (α/2) = critical value at 95 % level of significance (1.96)

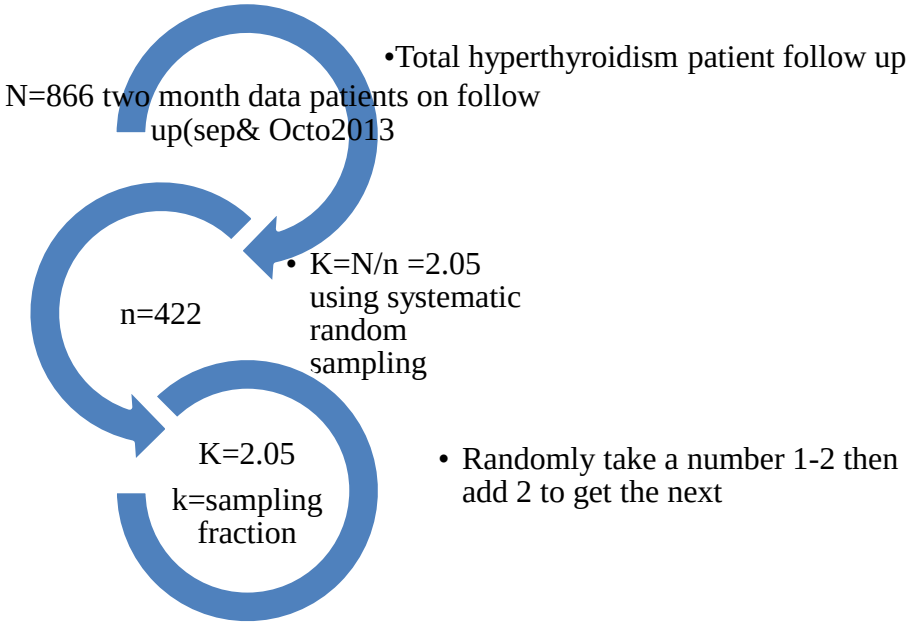
P = proportions of hyperthyroidism patients with catastrophic expenditure (0.5)

d = precision (acceptable marginal error)

$(1.96)^2 x 0.5 (1-0.5) / 0.05^2 = 0.9604/0.0025 = 384$

Adding 10% non-response rate =0.01x384= 38) a total number of 422 participants were estimated

5.7.2. Sampling procedures




## 5.8. Data collection tools and techniques

Data was collected with structured questionnaire, initially it was prepared with English language then translated to local Amharic language .pretest was done and correction made .data were collected by 3 trained BSC nurse professionals from jan1st and March30 through face to face interview using standardized questionnaire adapted from another study and also using observing payment receipt and record when patients finish the service.[31]

The participant were asked direct medical, costs spent for laboratory tests (T3,T4,TSH),drug cost(PTU& propranolol) &non-medical costs including the transport costs of patient and care giver and food cost . The respondents wer also asked the indirect costs mainly the loss of days of patient & attendants/care giver for follow up

## 5.9. Data quality assurance

In order to keep the data quality, the questionnaires first was be prepared in English and then translated to Amharic again in order to check the consistency of the Amharic questionnaire it was translated to English by other person who knows the local language very well.Pre-test was conducted on 10% of sample size based the result of the pretest, confusing, is leading questions that was reviewed, reorganized and rewrite and necessary corrections were made with selected data collectors.

During data collection period daily supervision were undertaken by 1supervisor and by principal investigator. The principal investigator was carefully review the filled questioners, enter data and thoroughly cleaned the data before the commencements of the analysis.

## 5.10. Method of cost estimation

Method used for costing was bottom up (micro costing approach) .A COI study were conducted on the patient perspective both direct and indirect costs were considered. Micro costing approach to measure Direct medical costs for outpatient visit cost, laboratory (T3,T4,TSH), inpatient cost, drug cost (PTU& propranolol) and the direct non-medical cost consists both patient and care giver transportation and food cost. Transportation cost were estimated by multiplying the number of outpatient visits by per visit average transportation cost and the care giver cost can be estimated by multiplying average hospitalization day per daily care giver cost. The cost measured by per capita expenditures, national tariffs, market prices. Human capital approach was used to calculate indirect costs .loss of days of both patient &care giver/attendants for visit, due to the illness, days travel and lost for care multiplied by average earn/wage per day. For those who got payment in the form of payroll the annual income is getting by multiplying monthly income by 12 months and their indirect lost costs were calculated average daily income multiplied by number of lost of days .The annual income were calculated for those farmers the agricultural products teff, garin,cerials in quintal multiplied by current market (April month /2013) value crops teff, maize, grain in quintals multiplied by tariff (teff per quintal 3700, maize per quintal 2000, and grain per quintal 3500 ETB and to get the monthly income divide total annual income over 12 months where as to get daily income divided annual income by 365 days. [33] [34] [35]

## 5.11 Measuring Economic Burden

### 5.11.1. Measuring catastrophic health expenditure of hyperthyroidism

Using Wag staff and Van Doorslaer Approach were used to estimate the health catastrophic expenditure and impoverishment [36]. I used the 10 threshold % level.in the study

### 5.10.2. Measurement of incidence and intensity of catastrophic expenditure

Catastrophic payment head count which mean the percentage of households whose OOP health payments exceed the beyond threshold (10%) in a given time period.

**Head count (**H) = Head count $H = 1/N \sum_{i=1}^{N} = 1Ei$ equals 1, if it is Ti/Xi> Z , zero otherwise. Where N is sample size, Ti expenditure for hyperthyroidism and Xi referes total house hold expenditure, z threshold value (10%

**Catastrophic payment overshoo**ts average degree of payment more than threshold (z). Oi=Ei/(Ti/Xi)-z So $O = 1/N \sum_{i=1}^{N} = Oi$ [37]. In this study the threshold is 10% for HCE **[4]**

The **mean positive overshot** is average percentage of OOP health payments that beyond the threshold of 10% of HCE or 40% of non-food expenditures across households that exceed the threshold MPO=O/H **(3)**

**Measurement impoverishment** –the Wag staff and Van Doorslaer method used to measure the poverty level based on house hold expenditure OOP for health care.

Poverty head count refers to the proportion of people live below the poverty line

Poverty head count $H_{pov}^{pre} = 1/N \sum_{i=1}^{N} = prei$

**Poverty gap** -Impoverishment at population level can be measured by pre and post payment head count and by measuring poverty gap. Indicates mean income of the poor fall below the poverty line (below $1.9) aday or the amount expenditure needed to push household below the poverty line.. The prepayment payment head count is the percentage of individuals whose consumption per adult equivalent is less than the estimated poverty line ($1.9) for 2020 after estimating before spending OOP health payments over the entire population but post prepayment payment head count one is after spending is given by $\frac{G_{pov=}^{pre}1}{N \sum_{i=1}^{N}=1Gi} pre = gpre$

**Normalized poverty Gap** -it is an important index of poverty gap indicates ratio of poverty gap and poverty line Denoted by $NG_{pov}^{pre} = G_{pov}^{pre}/PL$ [38-40]

## 5.10. 3 Data analysis procedure

Both direct and indirect costs for each cost categorical item list in ETB using Excel. In addition, data entry and analysis was done using SPSS v-20. Then, the entered data were edit, cleaned and analyzed. Binary logistic regression analysis was made to obtain odds ratio and the confidence interval of statistical associated variables. All variables with P<0.25 in the bivariate analysis and one which were fit in Hosmer and Lemeshow Test goodness fit model were included in the final model/multivariate analysis, accepting P ≤0.25 as the inclusion level for the independent variables. Finally, the magnitudes of association between different variables in relation to the outcome variable were measure by odds ratio with 95% confidence interval.

## 5.11. Ethical considerations

Letter of support from Bahirdar university and ethical clearance was obtain from Amhara public health institute (APHI) then APHI write official letter to Debretabor comprehensive specialized Hospital then the hospital allows and directs to Bahirdar university Bahirdar university Bahirdar university Bahirdar university Bahirdar university Bahirdar university Bahirdar university Bahirdar university Bahirdar university Bahirdar university Bahirdar university service delivery points/area, i.e. outpatient follow up referral clinic . Moreover, consent was obtained from the entire study sample after providing brief information about the objectives and the aim of the research. In addition, all study samples were informed about the participation to this study relies on their will no one can enforced them to participate to the study.

Finally, confidentialities of the information gathered were assured to the interviewee via avoiding the name and address of the interviewee in the questionnaire

# 6. Results

## 6.1. Results

### 6.1.1 Socio demographic characteristics of Respondents

Four hundred four participants were interviewed with 95.7%response rate. The mean ages of participants were 37.8 with SD ±12 years; age ranges from 17 to 66 years and 37.6 % were in 15-30 years age category. Majority of respondents 85.6 % were females. About 58.9% of respondents were married and 27.2 percent not married 13.9% were widowed/divorced .Among respondents 59.4 % of them urban where as 40.6 % were rural in residence. About 39.6% of respondents were un employed, 37.9% were government employed 14. % of respondents were merchant and the rest 8.4% of them were a farmer. Most of 94 % of respondents were orthodox in religion, 54% diploma and above where as 34.4 were had no formal education .The Household family size ranges from 1 to 8 and number of children under five years in the family ranges from 0 to 2. The wealth status was categorized in to five quintiles 35% of respondents were in the third quintile, 20.5% in the first quartile and the rest 20.3% lie in fifth quartile.

**Table 1 socio demographic and socio economic characteristics of hyperthyroidism patients at DCSH,2021**

| Variables | | Frequency | Percent |
|---|---|---|---|
| | Female | 346 | 85.6 |
| | Male | 58 | 14.6 |
| Age | 15-30 | 152 | 37.6 |
| | 31-45 | 150 | 37.1 |
| | 46-60 | 102 | 25.2 |
| patient address | Urban | 240 | 59.4 |
| | Rural | 164 | 40.6 |
| Religion | Orthodox | 380 | 94 |
| | Other | 24 | 6 |
| Occupation | Unemployed | 160 | 39.6 |
| | payroll paid | 153 | 37.8 |

| | | | |
|---|---|---|---|
| | Farmer | 34 | 8.4 |
| | Merchant | 57 | 14 |
| Marital status | Single | 110 | 27 |
| | Married | 238 | 58.9 |
| | widowed/divorced | 56 | 13.8 |
| Patient Education status | no formal education | 139 | 34.4 |
| | Primary-secondary | 48 | 12 |
| | diploma and above | 217 | 54 |
| Education status of | no formal education | 125 | 30.9 |
| house hold leader | primary school | 29 | 7 |
| | secondary school | 4 | 0.99 |
| | diploma and above | 246 | 60.8 |
| House hold income | 1-2500 | 71 | 17.5 |
| | 2501-5000 | 122 | 30 |
| | 5001-10000 | 176 | 43.5 |
| | >10000 | 35 | 8.6 |
| Wealth index | 1st Quintile | 83 | 20.5 |
| | 2nd Quintile | 73 | 18 |
| | 3rd Quintile | 142 | 35 |
| | 4th Quintile | 24 | 6 |
| | 5th Quintile | 82 | 20.3 |

### 6.2. Clinical characteristics of Hyperthyroidism and related issues

About 22% of respondents had associated illness and 95 percent of the respondents had stress related with hyperthyroidism and 59.4 % of them had stress concerned with cost of illness. Mean follow up months of hyperthyroidism patients on treatment is 6.8 months. Hundred percent respondents had monthly visit for collect medication and every three months for laboratory tests. About 90% patients get the drug on private clinics

## 6.3. Treatment cost and household expenditure

The house hold monthly income of the respondents ranges from 300 to 15056 ETB and the mean monthly income of household is 5650 with SD 3167 ETB. The mean household expenditure, food expenditure and

health expenditure were 5155 ETB with SD 1734 ETB, 4784 ETB with SD 1748 ETB and 3028 ETB with SD 546 ETB respectively. The mean monthly direct medical cost accounts 2650 ETB with SD 476 ETB .about 91% (2409 ETB) of monthly medical costs accounted for drugs (PTU & propranolol cost) whereas the mean monthly indirect cost includes patient and care giver in come lost obtained from number of lost of days multiplied by average daily income was 378 ETB with SD 252 ETB which accounts 15.7 percent of monthly health expenditure.

**Table 2. Expenditures of hyperthyroidism at Debretabor comprehensive specialized hospital ,2021**

| cost category | N | Mean | Std. Deviation |
|---|---|---|---|
| 1.House hold expenditure(monthly) | | | |
| Household total expenditure (food+ nonfood) | 404 | 5155 | 1734 |
| nonfood monthly expenditure | 404 | 370.65 | 155.07 |
| house hold food cost monthly | 404 | 4784 | 1748 |
| 2.Direct medical cost per month | 404 | 2409 | 445 |
| laboratory cost this visit | 404 | 1220 | 268 |
| PTU& propranolol cost this visit | 404 | 1150 | 291 |
| associated costs monthly | 404 | 38. | 115 |
| 3.Direct non-medical costs | 404 | 240 | 139 |
| Transport cost monthly | 404 | 115.17 | 60.05 |
| food cost(patient care giver/attendants | 404 | 105.20 | 92.69 |
| bed cost | 404 | 20.3 | 4.037 |
| 4.Indirect cost per month | 404 | 378 | 252.8 |
| 5.Total Direct medical payments for hyperthyroidism | 404 | 2409 | 445.32 |
| 6.Total costs(direct +indirect costs) | 404 | 3028 | 546.2 |

**Table 3 catastrophic health expenditure and impoverishment of hyperthyroidism follow up at DCSH, Ethiopia 2021**

| | | catastrophic health expenditure of Hyperthyroidism | |
|---|---|---|---|
| Variables | category | No | Yes |
| sex of the participants | Female | 15 | 331 |
| | Male | 5 | 53 |
| Age | 15-30 | 12 | 140 |
| | 31-45 | 2 | 148 |
| | 46-60 | 5 | 91 |
| | >60 | 1 | 5 |
| patient address | Urban | 4 | 236 |
| | Rural | 16 | 148 |
| Marital status | Single | 9 | 101 |
| | Married | 7 | 231 |
| | widowed/divorced | 4 | 52 |
| Religion | Orthodox | 20 | 360 |
| | Other | 0 | 24 |
| Occupation | Unemployed | 11 | 149 |
| | payroll paid | 3 | 150 |
| | Farmer | 1 | 33 |
| | Merchant | 5 | 52 |
| Education status of patients | no formal education | 7 | 132 |
| | primary school | 3 | 25 |
| | secondary school | 0 | 20 |
| | diploma and above | 10 | 207 |
| Educational status of house hold leader | no formal education | 12 | 113 |
| | primary school | 0 | 29 |
| | secondary school | 0 | 4 |

| | | | |
|---|---|---|---|
| | diploma and above | 8 | 238 |
| Size of family | 1-3 | 4 | 110 |
| | 3-5 | 10 | 165 |
| | >5 | 6 | 109 |
| House hold income | 1-2500 | 5 | 66 |
| | 2501-5000 | 9 | 113 |
| | 5001-10000 | 6 | 170 |
| | >10000 | 0 | 35 |
| Wealth index | 1st quartile | 5 | 78 |
| | 2nd Quartile | 3 | 70 |
| | 3rd Quartile | 2 | 140 |
| | 4th quartile | 4 | 20 |
| | 5th quartile | 6 | 76 |

## 6.5. Catastrophic health expenditure and impoverishment

The proportion of catastrophic health expenditure among hyperthyroidism patients using 10% of threshold was (95%).The catastrophic head count incidence and overshoot intensity of catastrophic health expenditure of hyperthyroidism treatment is 95% and 38.9 % respectively. The prepayment poverty headcount was 71.3% after paying for hyperthyroidism treatment; the post payment poverty gap is 61.9 % and percent change poverty gap is 13 USD). The proportion of impoverishment among respondents is 71.3% of which majority 61% were females. The proportion of impoverishment among respondent were 71.3% of which majority 61% were females. More than 50% of respondents among impoverish age range 15-50 years ,66% were orthodox in religion ,66% urban in residence ,25.4% had no formal education .

**Table 4 Catastrophic health expenditure of Hyperthyroidism**

| | Catastrophic health expenditure | | | |
|---|---|---|---|---|
| | share of total expenditure | | | |
| | 10% | 20% | 30% | 40% |
| catastrophic headcount% | 95 | 95 | 85 | 67.1 |
| catastrophic overshot% | 38.9 | 28. 9 | 18.9 | 10.7 |
| mean positive overshoot gap% | 40.9 | 30.4 | 22 | 16 |

**Table 5 Impoverishment statuses among hyperthyroid patient follow up at DCSH, Ethiopia 2021**

| Variable | | Impoverishment | | |
|---|---|---|---|---|
| | | No | Yes | Percent |
| sex of the participants | Female | 99 | 247 | 61 |
| | Male | 17 | 41 | 10 |
| Age | 15-30 | 53 | 99 | 25 |
| | 31-45 | 32 | 118 | 29 |
| | 46-60 | 27 | 69 | 17 |
| | >60 | 4 | 2 | 0.004 |
| Marital status | Single | 44 | 66 | 16 |
| | Married | 56 | 182 | 45 |
| | widowed/divorced | 16 | 40 | 10 |
| Religion | Orthodox | 112 | 268 | 66 |
| | Other | 4 | 20 | 5 |
| patient address | Urban | 63 | 177 | 44 |
| | Rural | 53 | 111 | 27 |
| Under five children | No | 42 | 81 | 20 |
| | Yes | 74 | 207 | 51 |
| Size of family category | 1-3 | 36 | 78 | 19 |
| | 3-5 | 42 | 133 | 33 |
| | >5 | 38 | 77 | 19 |
| Educational status of patient | no formal education | 42 | 97 | 24 |
| | primary school | 7 | 21 | 5 |

| | | | | |
|---|---|---|---|---|
| | secondary school | 6 | 14 | 3 |
| | diploma and above | 61 | 156 | 38 |
| Wealth index | 1st quartile | 29 | 54 | 13 |
| | 2nd Quartile | 19 | 54 | 13 |
| | 3rd Quartile | 32 | 110 | 27 |
| | 4th quartile | 6 | 18 | 4 |
| | 5th quartile | 32 | 50 | 12 |
| Household income | 1-2500 | 20 | 51 | 13 |
| | 2501-5000 | 40 | 82 | 20 |
| | 5001-10000 | 43 | 133 | 33 |
| | >10000 | 35 | 0 | 0 |

**Table 6 Average monthly poverty headcount and gap before and after paying for of hyper thyroid treatment 2021**

| Poverty head count | | Impoverishment status | | |
|---|---|---|---|---|
| Prepayment headcount | 71.3% | | | |
| Postpayment headcount | 90.2% | Average Prepayment poverty gap | 2000 ETB (48USD) | 44.% |
| Change (%) | 18.9% | Average Post payment poverty gap | 2550 | ETB (62 USD) 56% |
| | | Post –pre Change (%) | 550 | ETB (13 USD) 27.5% |
| | | Prepayment poverty gap index | 49% | |
| | | Post payment poverty gap index | 62% | |

Current currency 1USD=41 ETB

## 6.4. Factor associated with catastrophic health expenditure and Impovershment

Educational status of a patient and the household leader and family size were predictors of catastrophic expenditure of hyperthyroidism where as sex, age, place of residence, the presence of under five children, marital status, and income level not an independent predictor for

hyperthyroidism.Hyperthyroidism patient whose family size less than three were 2.7 (AOR=2.7, 95% CI: 0.7-0.99) more likely to have catastrophic health expenditure compared to house hold having greater than five members. Hyperthyroidism patient who has no formal education were AOR =1.396, 95% CI: 1.014-1.921) were more likely to have catastrophic health expenditure than those patients whose education is diploma and above where as educational status and age of were apredictor for impovershment.

**Table 7 Logistic regression results on factors of catastrophic expenditure among hyperthyroid patients in DTCSH, Ethiopia, 2021**

| Variable | Category | CHE | | COR(95%CI) | AOR(95%CI) |
|---|---|---|---|---|---|
| | | Yes | No | | |
| Sex | Female | 331 | 15 | 1 | 1 |
| | Male | 53 | 5 | 0.56 (0.28-1.1) | 0.9(0.3-2.6) |
| Address | Rural | 148 | 16 | 7.64(4.6-12.5) | 0.76(0.29-1.93) |
| | Urban | 236 | 4 | 1 | 1 |
| Age | 15-30 | 140 | 12 | 1 | 1 |
| | 31-45 | 148 | 2 | 5.67(1.0-32.0) | 0.5(0.05-3.9) |
| | 41-60 | 91 | 5 | 1.9(0.3-10.0) | 0.6(0.09-4.20 |
| | >60 | 5 | 1 | 12.5(2.1-72.0) | 0.6(0.9-3.9) |
| Marital status | Single | 101 | 9 | 5.1(2.4-11.0) | 2.8(0.5-15) |
| | Married | 231 | 7 | 1.6(0.9-3.0) | 1.2(0.3-4.6) |
| | Widowed /divorced | 52 | 4 | 1 | 1 |
| Patient educational status | No formal education | 132 | 7 | 0.05(0.029-0.096) | 0.5(0.17-1.3) |
| | Primary | 25 | 3 | 0.1(0.29-0.96) | 0.3(0.08-1.06) |
| | Secondary | 16 | 4 | 0.3(0.2-0.9) | 0.5(0.096-0.29) |
| | Diploma and above | 207 | 10 | 1 | 1 |
| Family size | 1-3 | 110 | 4 | 5.3(2.5-11.0) | 0.598 (.367-.974) |
| | 3-5 | 165 | 10 | 0.9(0.5-1.4) | 1.5(0.6-0.820 |
| | >5 | 109 | 6 | 1 | 1 |
| Wealth Index | 1st quartile | 78 | 5 | 17.5(8.1-38.10 | 1.7(0.58-5.30 |
| | 2nd quartile | 70 | 3 | 126.2(28.1-563.0) | 13.8(2.5-78) |
| | 3rd quartile | 140 | 2 | 26.1(12.6-54.4) | 4.5(1.6-12.6) |
| | 4th quartile | 20 | 4 | 1.8(0.8-4.8) | 1.5(0.5-4.8) |
| | 5th quartile | 76 | 6 | 1 | 1 |

**Table 8 Impoverishment statuses among hyperthyroid patient follow up at DCSH, Ethiopia 2021**

| Variables | | Frequency | | COR(95%CI) | AOR(95%CI) |
|---|---|---|---|---|---|
| | | Yes | No | | |
| Address | Rural | 111 | 53 | 1 | 1 |
| | Urban | 177 | 63 | 0.186(0.8-2) | .094(0.9-2.336) |
| Age | 15-30 | 53 | 99 | 0.135(0.66-21) | .062(0.917-.37) |
| | 31-45 | 32 | 118 | 0.25(1.2-42.0) | .036(1.130-40.0) |
| | 41-60 | 27 | 69 | 0.68(0.8-29.0) | 0.084(0.809-28.0) |
| | >60 | 4 | 2 | 1 | 1 |
| Marital status | Single | 44 | 66 | 0.15(0.3-1.2) | 0.093(0.17-1.1) |
| | Married | 56 | 182 | 0.43(0.6-2.49) | 0.856(0.5-2) |
| | Widowed /divorced | 16 | 40 | 1 | 1 |
| Educational status of patient | No formal education | 97 | 42 | 0.6(0.5-1.4) | 0.089(0.032-0.248) |
| | Primary | 21 | 7 | 0.73(0.4-2.9) | |
| | Secondary | 14 | 6 | 0.8(0.3-2.4) | 0.3(0.096-0.99) |
| | Diploma and above | 156 | 61 | 1 | 1 |
| Family size | 1-3 | 36 | 78 | 0.81(0.9-1.86) | |
| | 3-5 | 42 | 133 | 0.9(0.9-2.6) | |
| | >5 | 38 | 77 | 1 | 1 |

## 7. Discussions

The main aim of this study is to determine the economic burden of hyperthyroidism among patient attending follow up at Debre tabor comprehensive Specialized Hospital. In this study the average monthly health care expenditure due to hyperthyroidism is 3028 ETB with SD ±546 and monthly house hold expenditure is 5155 with SD ± 1734 ETB and house hold monthly income is 5650 with SD 3167 ETB. The average monthly direct and indirect costs in this study accounts 2409 ETB and 378 ETB respectively. This implies more than 42% OOP spend for health care which is higher than Ethiopian national health account OOP spending for health. The discrepancy may the price due to the investigation and treatment cost didn't consider in national health account. The disease entity need high direct costs. The other reason is due to heterogeneity of costs in private and public facilities. The direct cost of illness due to hyperthyroidism comprises 90 % total health care costs of which 90% of direct medical costs were for cost of anti-hyperthyroidism drugs (PTU & Propranolol).This result finding is higher than study conducted in Germany, the discrepancy is due to price restricted on drug cost tariff on PTU& propranolol [41]

The direct cost of illness in terms of age and sex, this study shows that majority of 75 % incurred for treatment at age of 15-45 followed by 1.3% at age 46-60 years. This result implies that great share of costs in economically active age groups and majority 87% females were incurred in this highest proportion of direct medical costs lined with study conducted in Korea[42].The similarity may the hyperthyroidism affects more active age group age groups and females has high arisk of getting hyperthyroidism as aresult it leads incurring health care costs.

Among catastrophic patients majority 81.9% were females. The catastrophic health expenditure in terms of level of education of the patient 37% of catastrophic patients had no formal education and about 50% patients were had diploma and above. The proportion of patients exposed to catastrophic health expenditure in terms of wealth index 27% of the respondents were in the 3$^{rd}$ quartile and 13% in the first quartile and 13% in the second quartile. In this study finding the proportion of catastrophic health expenditure 10% threshold level is 95%. This finding is higher than recommended wag staff doorslaer. It is also explain increase in the incidence of CHE due to increased reliance on OOP spending on hyperthyroidism [43]

The proportion of impoverishment in terms of age and gender , 29% were age range 31-45 followed by 25% age range between 15-30 years and insignificant number above 60 years. The proportion of impoverishment In terms of gender 61% were females and the rest 10 % were males. Proportion of impoverishment in regarding to level of education 24% had no formal education where as insignificant number in primary, secondary education 3% and 5% respectively. This result implies that economic burden more affects the active age group ranges from 15-45 and female in gender .This result lined with study conducted in Korea on related thyroid disease [42] .the simillarity may the most affected age group by the diseases.

The catastrophic health expenditure of hyperthyroidism is 95% which is higher compared to other study conducted in India on chronic illness and higher than 2010 Global incidence of catastrophic health expenditure (11.7%). The major source of health expense were saving/salary (66%) and 43.8% from family /relative support, 7.2% were used credit, 7.4 changing their children school public to private school. And 2.5% use ekub/edir and 100% all laboratory investigation is done out of hospital ,on private clinics [44, 45]

In this study 10 and 40 percent threshold the catastrophic head count is 95%,and 67.1%, catastrophic overshoot 38.9 % and 10.7, mean positive over shoot 40.9 % and 16 % respectively. The post payment head count is 90.2% and the percent change from pre-payment head count is 18.9 % and considering impoverishment status poverty gap is higher after payment for health care for hyperthyroidism .In this study post payment poverty gap is 62% which means the average short fall of population below the poverty line after payment. and the mean of poverty gap is 13 USD (550 ETB).This result is higher which is higher than study conducted in in Ethiopia on other chronic non communicable disease the discrepancy may be difference in disease condition that needs higher cost for inadequate set up for hormonal tests, high drug costs.[46]

In this study the Hyperthyroidism patient whose family size is less than were AOR=40%, 95% CI: 0.598 (.367-.974) less likely to have CHE compared to greater than 5 member

This is result is contradict study conducted in Nigeria and Bangladesh on incidence of catastrophic health expenditure in which having large household size were associated with a lower incidence of CHE .Household members more than one earning results a higher total household income and

expenditure ,the difference may house hold member increase the health expenditure by increasing direct and indirect costs over house hold total expenditure[47, 48]

## 8. Limitation of the study

- Limitation on Income information especially for daily labors, students
- Recall bias on post payment for hyperthyroidism.

## 9. Conclusions

This study shows hyperthyroidism exposes to high economic burden to patients and households. The catastrophic health expense is associated with educational status of patient and family size and impovershment is associated with patient age and educational status.

## 10. Recommendations

### To policy makers

- Design risk pooling mechanism &subsidy the service for hyperthyroid treatment

### To Regional health bureau

To revise service fee especially for hyperthyroid treatment

To narrow hertogenoncity price for private clinics

### To the researcher

Further explore the challenge related of hyperthyroidism treatment using qualitative research

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## Annex I English Version questionnaire

Bahir Dar University, college of medicine and health science, school of public health, department of Health System Management and Health Economics

Participant information sheet

Economic Burden of thyroid disease and associated factor among patients attending follow up at Debretabor Comphrensive specialized Hospital, North West Ethiopia

Hello, my name is_____. Now i am here to collect data for the research purpose, which is conducted to complete a thesis for second degree of public health in Health System management and Project Management at Bahir Dar University. This study aims to assess the Economic burden attributed thyroid disease and associated factors among patients attending follow up at Debretabor Comphrensive specialized Hospital, North West Ethiopia, 2020

You have been participated because you are service user of DCSH and you will be able to provide information for questionnaires.

Participation in this study is voluntary, you have the right to refuse or with draw from the study at any time for any reason. However, your honest answers to these questions are important since it provides relevant information to policy makers & program planners to design policies and evidence based decision making.

**Benefit and risk:** no harm is imposed to you except the time you commit for interview but some of the question may look too personal but it is helpful for the study. Your participation in this research may not give you direct benefit but supportive information may improve the health care system. The information you provide is confidential and it will be used only for study purpose and it will not be disclosed to anyone

If you have any concerns (something that is not clear) you can contact the principal investigator, at any time. Tel: +2519-18-19-2117

Email: mulukind23@gmail.com

Informed consent form

Economic Burden of thyroid disease and associated factor among patients attending follow up at Debretabor Comprehensive specialized Hospital, North West Ethiopia

I randomly selected to participate for this study. I acknowledge that the purpose of this study is to assess the Economic burden of thyroid disease and associated factors among patients attending follow up at Debretabor Comprehensive Specialized Hospital. I agree to participate by understanding that there is no harm in my participation. Therefore I am willing to participate in this study.

1=Questioner code_____

1= Do you agree to be part of the study?? 1. Agree ☐

2. Disagree ☐

Signature ……..

Thank you very much to be part of the study.

| **Part I: Socio-demographic characteristics** | | |
|---|---|---|
| S/N | Questions | Responses |
| 101 | Age | ……Years |
| 102 | Sex | 1. Female<br>2. Male |
| 103 | Residence | 1. Urban<br>2. Rural |
| 104 | Marital status | 1. Single<br>2. Married<br>3. Widowed<br>4. Divorced |
| 105 | Occupation | 1. Governmental employee<br>2. Merchant<br>3. Farmer<br>4. House wife<br>5. Other specify… |
| 106 | Educational status? | 1. No formal education<br>2. Primary level<br>3. Secondary level<br>4. College diploma<br>5. Degree and above |
| 107 | What is your religion | 1. Orthodox 2.Muslim 3.Protestant 4.Catholic 5.other specify---------- |
| 108 | Wealth index | |
| 108.1 | Does this household own any livestock, herds, other farm animals, or poultry? | 1. Yes<br>2. No……skip to 107.3 |
| 108.2 | How many of the following animals does this household own?<br>If none, record '00'.<br>If 95 or more, record '95'.<br>If unknown, record '98'.<br>1. Milk cows, oxen or bulls?<br>2. Other cattle? | 1. Milk cows, oxen or bulls?<br>2. Other cattle?<br>3. Hoarse/Mules/Donkey?<br>4. Goats<br>5. Sheep<br>6. Chickens and |

| | | |
|---|---|---|
| | 3. Horse, Mules, or Donkey?<br>4. Goats<br>5. Sheep<br>6. Chickens and other poultry<br>7. Beehives | other poultry _____<br>7. Beehives |
| 108.3 | Does any member of this household own any agricultural land? | 1. Yes<br>2. No …….skip to 107.5 |
| 108.4 | How many hectares of agricultural land do members of this household own?<br><br>If 95 or more, circle '95' don't known, circle '98' | Hectares……<br>95 or more hectares……. 95<br>don't known……..98 |
| 108.5 | Does your household have<br>1. Electricity?<br>2. A Radio?<br>3. A Television?<br>4. A Non mobile telephone?<br>5. A Computer?<br>6. A Refrigerator?<br>7. A Table?<br>8. A chair?<br>9. A Bed with cotton/sponge/spring matters?<br>10. An electrical mitad?<br>11. A kerosene/pressure lamp? | Yes No<br>1. Electricity 1 2<br>2. A Radio 1 2<br>3. A Television 1 2<br>4. A Non mobile Telephone 1 2<br>5. A Computer 1 2<br>6. A Refrigerator 1 2<br>7. A Table 1 2<br>8. A chair 1 2<br>9. A Bed with cotton/ sponge/spring matters 1 2<br>10. An electrical mitad 1 2<br>11. A kerosene/pressure lamp 1 2 |
| 108.6 | Does any member of this household own?<br>1. A Watch?<br>2. A Mobile phone?<br>3. A bicycle?<br>4. A Motorcycle?<br>5. A Animal draw cart?<br>6. A Car/Truck?<br>7. A Boat with a motor?<br>8. A Bajaje? | Yes No<br>1. A Watch 1 2<br>2. A Mobile phone 1 2<br>3. A bicycle 1 2<br>4. A Motorcycle 1 2<br>5. A Animal draw cart 1 2<br>6. A Car/Truck 1 2<br>7. A Boat with a motor 1 2<br>8. A Bajaje 1 2 |
| 108.7 | Does any member of this household have a bank account? | 1. Yes<br>2. No |

| | | |
|---|---|---|
| | | |

| **Part 2: Socioeconomic Information Individual Situation and Income** | | |
|---|---|---|
| S/N | Questions | Responses |
| 109 | What is the household composition? | 1. Total household size----------<br>2. Children (<5years old) _____<br>3. (>65years old) |
| 110 | Who is the primary income earner in the household? Circle most appropriate | 1. Patient 5.Son/daughter<br>2. Wife/mother<br>3. Husband/father<br>4. Extended family |
| 111 | What is the highest level of education of...? The patient?<br>112 Primary income earners?<br>113. Head of household?<br>114. Spouse of head of household? If more than one spouse, choose highest level of education | 1. Not attended/illiterate 2. Primary 3.Secondary 4.graduate/certificate 5.other<br>1. Not attended/illiterate 2. Primary 3.Secondary 4.graduate/certificate 5.other<br>1. Not attended/illiterate 2. Primary 3.Secondary 4.graduate/certificate 5.other<br>1. Not attended/illiterate 2. Primary 3.Secondary 4.graduate/certificate 5.other |

| | | |
|---|---|---|
| 115 | Are you currently formally employed? | 1. Yes 2.No<br>1.formal work (go to 118) 5.School, university<br>2., informal work (go to 118) 6.Housework (go to 118)<br>3. On sick leave (go to 116) 7. Combination (specify<br>---<br>4. Retired go to 116 8. Other (specify) (specify) |
| 116 | Is the reason for Not Working related to the thyroid illness? | 1. Yes 2. No |
| 117 | If Yes: When was the last time you were working? (mm/yy) | / |
| 118 | How are you usually paid? | 1. cash 2. in kind 3. cash and in kind 4. not paid<br>5. bank transferred salary 6. other |
| 119 | What was your estimated personal take home earning per month BEFORE the Thyroid illness? (includes welfare, disability, or other social support | ----------ETB |
| 120 | If answer to 119 differs from 118 Is the change related to the Thyroid illness | 1. Yes 2. No |
| 121 | Have you ever stopped working/going to school/doing housework due to Thyroid illness? If No, go to 120.<br>If YES: for how long? | 1. Yes 2. No<br>---------- |

| | | |
|---|---|---|
| 122 | Does someone stay home specifically to take care of you if no go to 122<br>If YES: for how long?<br>Did they quit their income-earning job to stay home and care for you? | 1. Yes 2. No<br><br>1. Yes 2. No |
| 123 | How regularly did you work before you became ill with Thyroid illness ? | 1. Throughout the year 2. Seasonal/part of the year<br>3. Day labor 4. Other |
| 124 | Did you have to change jobs when you became ill with Thyroid illness? | 1. Yes 2. No |

| | | |
|---|---|---|
| 125 | What is your main occupation? Tick all that applies, cross-check with question 113 | 1. Sales/Service 2. Agriculture 3. Household<br>4. Production/construction<br>5. Combination (specify) ----------<br>6.Other (specify)---------- |
| 126 | How many hours did you work on average per day BEFORE you became ill with thyroid disease? | ----------hours |
| 127 | How many hours do you work on average NOW per day? | ----------hours |
| 128 | If answer to 127 differs from answer to 126: Is the change related to the Thyroid illness? | 1. Yes 2. No |
| 129 | If answer to 125 differs from answer | 1. daughter 2. son 3. spouse 4. friend 5. nobody |

| | | |
|---|---|---|
| | to 124Is someone doing the work that you used to do?<br>Is someone doing the work that you used to do? | 6. other family---------- |
| 130 | Do you have children of or below 5 years? If no go to | 1. Yes 2. No |
| 131 | If yes ,Do all of your children of school age attend school regularly?<br>) If NO: Why not? Circle most appropriate | 1. Yes 2. No<br>Needs to help around the house 2. No money for school fees 3. Also sick 4. Has to work to earn income<br>5. Other (specify): |

| | | |
|---|---|---|
| 132 | If you employed someone to do the housework for your household, how much would you have to pay him/her per day? | 1.While you are sick<br>2.While you are healthy |
| 133 | Are you financially independent? | 1. Yes 2. No |
| 134 | Has the Thyroid illness affected your social or private life in any way? | 1. No 2. Divorce 3. Loss of Job 4. Dropped out of school 5. Separated from spouse/partner<br>6. Disruption of sexual life 7. Sick child<br>8. Other (specify): |
| 135 | If Yes: Has this resulted in a financial burden? | 1. Yes 2. No |
| **Part 3 Household Income and Spending** | | |
| 136 | On average in the last 7 days,<br>how much does your<br>House hold spend for food and food items; (staple foods, fruits and vegetables...) | _____ETB/Week |

| | | |
|---|---|---|
| | | |
| 137 | In the last 30 days, what was household expense for | Total_____/Month<br>1.Housing and utilities (Rent, electricity, heating, water, telephone…) _____<br>2. Transportation<br>3. For clothes<br>4. Household health care cost<br>5. Recreation and entertainment<br>6. Other goods and services? (specify) _____ |
| 138 | In the last 12 months, how much did your household spend on; | 1Education fees and supplies _____<br>2Durable goods (televisions, phones, furniture, vehicles...)<br>3Rituals, gifts or ceremonies (funerals, birthdays, wedding)<br>4Health-related items<br>5.Other goods and services (property, land ,livestock, |
| 139 | Overall, what was your household's overall Expenditure? | ----------ETB/1month<br>---------- ETB/12 months |
| 140 | How much is the patient's current monthly In come? | ----------ETB/1month |
| 141 | How much is the patient's current monthly In come? If not | ----------ETB/1month |
| 142 | How much is the household total monthly In come? | ----------ETB/1month<br>---------- ETB/12 months |
| **Medical information of the patient** | | |

| | | |
|---|---|---|
| 143 | Which type of thyroid disease was you diagnosed | |
| 144 | When was your case confirmed? | |
| 145 | Which did you receive so far? | |
| 146 | Did you ever visit private health facilities before? | 1Yes 2No |
| **Outpatient department (OPD) care expenditure** | | |
| 147 | Over the last 12 months (total visit), how many | how many _____times |
| 148 | During this month of outpatient visit, how much ETB did you spent for the following services? | 1. Consultation cost_____<br>2. Investigation/imaging cost<br>3. Medicines cost_____<br>4. Transportation cost<br>5. Patient income lost<br>6. Care giver income lost_____<br>7. Food & other related costs _____ |
| 149 | How much was the total OPD expenditure for your Thyroid illness in the last 12 months? | _____ETB/12 months |
| **Hospitalization** | | |
| 150 | Have you been hospitalized before or during your Thyroid treatment if no go to | 1. Yes 2. No |
| 151 | If yes | how many days ---------- |

| | | |
|---|---|---|
| 152 | How much did you pay in the hospital during your entire stay? | 1. Hospital administration fees: ----------<br>2. Hospital bed cost----------<br>3. Food (not provided by hospital):<br>Transport (return<br>4. Medication cost<br>5. surgery------<br>6. Investigation/imaging cost----------<br>7. Patient income lost<br>8. Care giver income lost<br>9. Food & other related costs<br>10. Others:<br>Total----------in ETB |
| 153 | During this month of outpatient visit, how much<br>ETB did you spent for the following services? | 1. Transportation cost<br>2. Medicines cost_____<br>3. Patient income lost<br>4. Care giver income lost_____<br>5. Care giver income lost_____<br>6. Food & other related costs _____ |
| 154 | How much was the total OPD expenditure for your<br>Thyroid disease in the last 12 months? | _____ETB/12 months |
| 155 | How much was the total inpatient admission cost | _____ETB /12 months |

| | | |
|---|---|---|
| 156 | If YES: How many days did he/she stay with you (sleep there)?<br>Were there any extra costs for your relative/friend for staying at the hospital?<br>Accommodation (hospital or other):<br>Food: ----------<br>Transport: ----------<br>Other---------- | ----------days<br>1. Yes 2. No Total Costs: |
| 157 | How much does your friend/family normally earn per day? | 1. ----------ETB<br>2. Doesn't earn |
| 158 | Did any other family/friend visit you while in hospital? If no go to<br>If yes, how many people visited you?<br>how many times did they visit you?<br>Accommodation per person:<br>Food per person:<br>Transport per person<br>Other:<br>How long were the visits including traveling time? | 1. Yes 2. No<br>Persons<br>Times<br>Total number of visits:<br>Total Cost per person:<br>----------hours |
| **Other illness** | | |
| 159 | Do you have any chronic illness for which you are receiving treatment? If yes: which? ---------- | 1. Yes 2. No |
| 160 | Are there any additional costs for you because of this other illness besides the costs that you have already mentioned? | 1. Yes 2. No |
| 161 | During the last 12 months, how much did you | _____ETB/12 months |

| | | |
|---|---|---|
| | spend for traditional healing/treatment practice? if no skip the next | |
| 162 | If YES: How much are these | additional costs on average per month?<br>Tests: Drugs: Transport: Food:<br>Other ----------<br>Total---------- |
| 163 | How much did you spend on healthcare on average per month BEFORE the Thyroid illness? | ----------ETB |
| 164 | How much do you spend on healthcare on average per month NOW? | ----------ETB |
| | **Insurance** | |
| 165 | Do you have any kind of private or government health/medical insurance scheme? | 1. Yes 2. No |
| 166 | If your answer for YES: What type? | 1. reimbursement scheme 2. monthly medical allowance 3. donor<br>4. family/community fund 5. Western scheme (contract) 6. Other (specify |
| | **Coping Costs** | |
| 167 | Because of the disease imposed<br>Financial difficulty to the HH, which measures have you ever taken? (E.g.; you spent 28,000 rroid illness Dx & Tx)<br>Multiple answers possible | 1. Current income of any household members _____<br>2. Savings _____<br>3. Ask relatives, Religious and NGOs organizations _____<br>4. Borrow from financial institutions (Banks, micro finance schemes)? _____<br>lender |

| | | |
|---|---|---|
| | | 5. Payment or reimbursement from a health insurance plan (including private health schemes)? _____<br>6. Cut down on food and other HH consumption<br>7. 7Sold items (land, property, livestock, jewelry) _____<br>8. Withdraw Children from school _____<br>9. Reduce Medical visits/treatment _____<br>10. Equb/Idir _____<br>11. Others, (specify) _____ |
| | **Part 4 Transport cost** | |
| 168 | How often do you travel to the health facility / hospital for picking up your Thyroid illness follow up drugs | ----------Times / month |
| 169 | How long does it take you to get there (one way | ____ hours walking _____ hours with transport<br>_____ other |
| 170 | How long does one of these visits take on average, including time on the road and waiting time (total turnaround time) | ----------hours |
| 171 | From your home to the facility, how much does it cost if you take transport? (both ways) | ----------ETB |

Interview time taken: _____ Interview time ended: ----------

Thank you very much again for your time and answers!!!

በባህር ዳር ዩኒቨርሲቲ ህክምናና ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና ትምህርት ቤት፤ የጤና ስርዓት አስተዳደር እና የጤና ምጣኔ ትምህርት ክፍል

## የተሳታፊዎች መረጃ መስጫ

ጤና ይስጥልኝ፡ ስሜ ----------ይባላል። በባህር ዳር ዩኒቨርሲቲ ህክምናና ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና ትምህርት ቤት፤ የጤና ስርዓት አስተዳደር እና የጤና ምጣኔ ትምህርት ክፍል ተማሪ የሆኑት ሙሉቀን ክንዴነህ የሁለተኛ ዲግሪ የመመረቂያ ፅሁፍን ለማጠናቀቅ ይረዳ ዘንድ መረጃ እንድሰበስብላቸው (እንዳስተባብርላቸው) ወክለውኝ ነው።የዚህ ጥናት አላማ በደብረ ታቦር አጠቃላይ ስፔሻላይዝድ ሆስፒታል ከእንቅርት ዕጢ ህመም አንዱ የሆነውን ( **hyperthyroidism)** ህክምና የሚከታተሉ ታካሚዎች አሉታዊ የጤና ሽፋን ወጪእና ተያያዥ ጉዳዮችን ለመለየት ነዉ። እርሰዎ እዚህ ጥናት የሚሳተፉት በደብረ-ታቦር አጠቃላይ ስፔሻላይዝድ ሆስፒታል የተከታታይ ህክምና ታካሚ ሆነው ስለተገኙ እና ለዚህ መጠይቅ መረጃ ይሰጡናል ብለን ስላሰብን ነዉ።

በዚህ ጥናት የሚሳተፉት ባጋጣሚ የተመረጡ ታካሚዎች ሲሆኑ በጥናቱ ላይ የሚሳተፉት በፈቃደኝነት ነዉ። ስለሆነም በጥናቱ ያለመሳተፍ መብትዎ የተጠበቀ ነዉ እንደዚሁም በማንኛውም ጊዜ ለማቋረጥና መልስ ሊሰጡባቸው የማይፈሉጉባቸዉ ጥያቄዎች ካሉ አለመመለስ ይችላሉ። ሆኖም ግን የሚሰጡት እውነተኛ መልስ ለፖሊሲ አውጪዎች ና ለጤና እቅድ ባለሙያዎች በመረጃ ላይ የተመሰረተ ፖሊሲ ለመንደፍ ናውሳኔ ለመስጠት ስለሚያገለግል የጤና ስርአቱን ለማሻሻል ትልቅ ጠቀሜታ እንዳለው ላረጋግጥልዎት እወዳለሁ።

**ጥቅምና ጉዳት፡** በዚህ ጥናት በመሳተፍዎ ለመጠይቁ ከሚያቃጥሉት ሰዓት ዉጭ ምንም አይነት ጉዳት የሌለዉ ሲሆን ነገር ግን አንዳንድ ጥያቄዎች ከግላዊ አመለካከት ጋር የተያያዙ ቢሆኑም ለጥናቱ ግን በጣም ጠቃሚ ናቸዉ። በዚህ ጥናት በመሳተፍዎ በቀጥታ ምንም አይነት ጥቅም ባያገኙም የሚሰጡን መረጃ የጤና አገልግሎት ስርዓቱን ለማሻሻል ያግዛል።የሚሰጡት መረጃ በሚስጥረነት የሚያዝ ሲሆን ከዚህ ጥናት አላማ ዉጭ ለማንኛዉም ወገን አይሰጥም። በመረጃ መስጫዉ ላይ ተሳታፊዎችን ለመለየት ስምም ሆነ አድራሻ ተመዝግቦ አይያዝም። በመጠይቁ ዙሪያ ማንኛዉም አይነት ጥያቄ ካለዎ ከዚህ በታች ባለዉ ስልክ ቁጥር በመደወል የጥናቱን ሀላፊ ማግኘት ይችላሉ።

ስልክ ቁጥር +2519-18-19-21-17

**<u>የስምምነት መግለጫ</u>**

እኔ በዚህ ጥናት ባጋጣሚ የተመረጥሁ መሆኑንና የዚህ ጥናት አላማ በደብረ ታቦር አጠቃላይ ስፔሻላይዝድ ሆስፒታል የእንቅርት ዕጢ( **hyperthyroidism)** ህክምና የሚከታተሉ ታካሚዎች አሉታዊ የጤና ሽፋን ወጪእና ተያያዥ ጉዳዮች ምን እንደሚመስሉ ለማወቅ የሚጠና መሆኑን የተረዳሁ ሲሆን በዚህ ጥናት በመሳተፌ እኔ ላይ ምንም አይነት ጉዳት የማያደርስ መሆኑን በመረዳቴ በዚህ ጥናት ለመሳተፍ የተስማማሁ መሆኑን በፊርማየ አረጋግጣለሁ፡

የመጠይቅ መለያ ቁጥር----------

በዚህ ጥናት ላይ ለመሳተፍ ፍቃደኛነዎት አዎ ☐

አይደለሁም ☐

ፊርማ----------

## ክፍል አንድ ማህበራዊ ኢኮኖሚያዊ እና አጠቃላይ የግለሰብ መረጃ

| ተ.ቁ | ጥያቄ | አማራጭ | እለፍ |
|---|---|---|---|
| 101 | ጾታ | 1. ወንድ 2. ሴት | |
| 102 | ዕድሜ | | |
| 103 | ሀይማኖት | 1. ኦርቶዶክስ ተዋህዶ 2. ሙስሊም 3. ካቶሊክ 4. ፕሮቴስታንት 5. ሌላ ካለ ይገለፅ | |
| 104 | ብሄር | 1. አማራ 2. ኦሮሞ 3. ትግራይ 4. ሌላ ካለ ይገለፅ | |
| 105 | የጋብቻ ሁኔታ | 1. ያላገባ 2. ያገባ/አብሮ የሚኖሩ 3. ተለያይተዉ የሚኖሩ | |
| 106 | የትምህርት ሁኔታ | 1. ማንበብና መጻፍ የማይችል 2. ማንበብና መጻፍ የሚችል 3. ከ1ኛ-8ኛ ክፍል 4. ከ9ኛ-12ኛ ክፍል 5. ዲፕሎማና ከዚያ በሊይ | |
| 107 | ዋና ስራዎ ምንድን ነዉ? | 1. ስራ የሌለዉ 2. የመንግስት ተቀጣሪ 3. መንግስታዊ ያልሆነ ተቀጣሪ | |
| 108 | ቤት ውስጥ ያለዎት ኃላፊነት? | 1. አባት 2. እናት 3. ሌጅ | |
| 109 | በቤተሰብዎ ዉስጥ የሚገኙ | | |
| 110 | ከ5 ዓመት በታች ያሉ ህፃናት | | |
| 111 | ትልቁ የቤተሰብ አባል እድሜ | | |
| 112 | የእርስዎ አማካኝ ወርሃዊ ገቢ | | |
| 113 | የቤተሰቡ አማካኝ ወርሃዊ ገቢ | | |

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| 114 | የቤተሰቡ አጠቃላይ አመታዊ ገቢ ስንት ነዉ? | ቤተሰብን የሚያስተዳድር ገቢ በዋናነት ምንጩ ከማን ነው?<br>1. ታካሚ | |
| | **የትምህርት ደረጃ**<br>የገቢ ምንጭ በመሆን | 1.ያልተማረ/ች 2.አንደኛ ደረጃ 3.ሁለተኛደረጃ<br>4.የተመረቀ/ች/ሰርተፊኬት 5.ሌላ ካለ ይገለፅ | |
| | የቤተሰቡ መሪ? | 1.ያልተማረ/ች 2.አንደኛ ደረጃ 3.ሁለተኛደረጃ | |
| 115 | ቤተሰቡ የእርሻ ቦታ አላችሁ | 1.አወ ፡ ምን ያክል ሄክታር/ቃዳ/ጥማድ---------- | |
| 116 | ቤተሰቡ ከሚከተሉት ሰብሎች የምታገኙት አመታዊ ገቢ አለ | 1.ጤፍ 1.አወ (በኩንታል_____0.የለም<br>2.በቆሎ 1.አወ (በኩንታል_____0.የለም<br>3.ጫት 1.አወ (በኪ.ግ_____0.የለም<br>4.ጥራጥሬ1.አወ (በኩንታል_____0.የለም | |
| 117 | የቤተሰቡ ዋና የገቢ ምንጭ | 1.ቋሚ ስራ 2. የግብርና ዉጤት | |
| 118 | ቤተሰቡ ከሚከተሉት አንስሳት የትኞቹ ይኖሩታል | 1. የወተት ላም፣በሬ 1.አለን፣ስንት ናቸው_____0. የለንም<br>2. ፍየል 1.አለን፣ስንት ናቸው _____0. የለንም | |
| 119 | ከሚከተሉት ውስጥ ቤተሰቡ ምን አለው | 1. ራዲዎ/ቴፕ 1. አወ 0. የለም<br>2. ቴሌቪዥን 1. አወ 0. የለም | |
| 120 | የቤታችሁ ጣራ የተሰራው | 1.ከሳር 2.ከቆርቆሮ 99. ሌላ ካለ ይገለፅ | |
| 121 | የቤታችሁ ግድግዳ ምንድን ነው | 1. እንጨት እና ጭቃ 2.ብሎኬት<br>99. ሌላ ካለ ይገለፅ | |
| 122 | ቤታችሁ ስንት የአልጋ ክፍሎች | | |
| 123 | የእንስሳት ማደሪያ የተለየ ክፍል | 1.አወ 0.የለም | |
| 124 | ኩሽና ቤት አላችሁ | 1.አወ 0.የለም | |
| 125 | ኤሌክትሪክ መብራት አላችሁ | 1.አወ 0.የለም | |
| 126 | ምግብ ለማብሰል | 1.እንጨት 2.ከሰል 3 ባዮጋዝ 4.ናፍጣ | |
| 127 | የምትኖሩበት ቤት የራሳችሁ | 1. አወ 0. አይደለም | |
| 128 | ምን አይነት ሽንት ቤት ነው | 1. የለንም 2.ባህላዊ 3.ቪአይፒ 99. ሌላ ካለ | |
| 129 | የምትጠቀሙት ምን አይነት | 1. ወንዝ 2. ምንጭ 3.ጉድድ 4.ቧንቧ | |

ክፍል ሁለት: የእንቅርት ህመም ዓይነትና የግለሰቦች ድርሻ

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| 201 | ለምን ያህል ጊዜ ነዉ የ እንቅርት ህመም(hyperthyroidism) ክትትል ያደረጉት? | _____ዓመት | |
| 202 | ምን አይነትየ እንቅርት ህመም ነዉ ያለብዎት? | | |
| 203 | በአማካኝ በወር ስንት ጊዜ ለ ክትትል ይመጣሉ? | 1 በወር----ጊዜ 99. | |
| 204 | በአማካኝ አንድ ከትትል ምን ያክል ይጨርስብሃል | | |
| 205 | ለክትትል ሲመጡ ሀኪሙን ለማገኘት በአማካይ ምን ያህል ጊዜ/ሰዓት ይጠብቃሉ ? | _____ሰዓት | |
| 206 | ባለፈው አንድ አመት ሌላ ተዛማጅ ህመም አሞዎት ያዉቃል፣ምን | | |
| 207 | አሞዎት ከነበር ለህክምና ምን ያህል ወጭ አስወጠዎት | _____ብር | |
| 208 | የእንቅርት ህመምዎ (hyperthyroidism) እንዳይባባስ የሚወስዱት ወይም የሚሰሩት የመከላከያ ተግባር አለ? | 1. አዎ | መልሶ 2 ከሆነ ወደ ጥያቄ |
| 209 | ከላይ ለቀረበው ጥያቄ መሌሶ አዎ ከሆነ፣ ምን ዓይነት ተግባር ነው የሚያከናውኑት?ለዚህስ ምን ያህል ወጪ በወር | 1. አመጋገብ ማስተካከል _ብር<br>2. የአካል ብቃት እንቅስቃሴ | |
| 210 | የእንቅርት ህመምዎ ((hyperthyroidism) ጋር በተያያዘ ሀሳብ/ጫና/ጭንቀት አለብዎት? | 1. አዎ<br>2 የለብኝም | መልሶ 2 ከሆነ ወደ ጥያቄ<br>301 ይሂዱ |
| 211 | የእንቅርት ህመሞ (hyperthyroidism) ጋር በተያያዘ ምንድነው ጭንቀቶዎት ስሜቶዎን የሚጎዳው/የሚነካው፣ የሚያሳስቦት ነገር ምንጭ?(ከአንድ በላይ መልስ ይቻላል) | 1. የበሽታው ህመም 2. የህክምና ወጪ | |
| 212 | ከላይ ለቀረበዉ ጥያቄ መሌስዎ አዎ ከሆነ ምን ያህሌ ነዉ ጫናው? | 1. በጣም ከፍተኛ 4. መጠነኛ | |

**ክፍል ሶስት: የእንቅርት (hyperthyroidism) ህክምና ወጪ**

| ተ.ቁ | ጥያቄ | አማራጭ | እለፍ |
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| 301 | በየምን ያህል ጊዜ ነው መድሀኒት እና ላቦራቶሪ ምርመራ የሚወስዱት? | 1. _____የህክምና መድሃኒት<br>2._____ምርመራ/ላ ቦራቶሪቴስት | |

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| 302 | ምን ዓይነት ህክምና ነው የሚወስዱት፤ የአንድ ጊዜ ህክምና ወጪዎት ምን ያህል ነው፣ ለምን ያህል ጊዜ ነው የሚጠቀሙት? | 1.የላቦራቶሪ ምርመራ __ብር___ጊዜ<br>2.ፒቲዩ_____ብር___ጊዜ<br>3 ፕሮፕራኖሎል__ብር___ጊዜ<br>4.በአፍ የሚወሰድ መድሃኒት_____ብር_ጊዜ | **ቀዶ ጥገና አገልግሎት ካገኙ**<br>ኦፕሬሽን----------<br>ለአልጋ---------- |
| 303 | አብዛኛውን ጊዜ የ እንቅርት ህክምና (hyperthyroidism) አገልግልቶችን የሚያገኙት ከየት | 1. ከመንግስት ጤና ተቋም 2. ከግሌ ጤና ተቋም | |
| 304 | ባለፉት ስድስት ወራት ለክትትል ጤና ተቋም በሚመላለሱበት ወቅት ለምግብና ለመስተንግዶ ነገሮች | 1. አዎ<br>2. የለም | መልሶ 2 ከሆነ ወደ ጥያቄ 306 |
| 305 | መልሶ አዎ ከሆነ እርሶና አብሮት የነበረው ሰው በአማካይ በአንድ ደርሶ መልስ ጉብኝት ምግብ ምን ያህል | _____ብር | |
| 306 | በአማካኝ በአንድ ክትትል ለአልጋ/ማርፊያ እርሰወ እና አብሮት የነበረው ሰው ምን ያክል ወጭ ታዎታላችሁ | | |
| 307 | የ እንቅርት ህክምና((hyperthyroidism) ዋና የገንዘብ ምንጭዎት ከየት ነዉ?(ከአንድ በላይ መልስ ይቻላል) | 1. ነፃ ህክምና 2. ኢንሹራንስ<br>3. ከግል ኪስ ወጪ 4. ከቤተሰብ/ከዳደኞች | |

**ክፍል አራት: ለህክምና የዋሉ ቀናት**

| ተ.ቁ | ጥያቄ | አማራጭ | እለፍ |
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| 401 | ባለፉት ስድስት ወራት ከ እንቅርት ህመሙ ጋር በተያያዘ ት/ቤት ወይም ስራ የቀሩበት ቀናት | 1. አዎ 2. የለም | መልሶ 2 ከሆነ ወደ ጥያቄ 403 ይሂዱ |
| 402 | በጥያቄ ቁጥር 401 መልሶ አዎ ከሆነ በአጠቃላይ ባለፉት ስድስት ወራት ምን ያህል ቀን ከት/ቤት | 1._____ቀናት ከት/ቤት<br>2._____ቀናት ከስራ | |
| 403 | ባለፉት ስድስት ወራት እርስዎ ለክትትል ወደ ጤና ተቋም ሲመጡ ምን ያህሌ ቀናትን ተጠቀሙ? | _____ቀን | |

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| 404 | ባለፉት ስድስት ወራት ከእርሶ ጋር ጤና ተቋም የሚመጡ ሰዎች ወይም አስታማሚዎች ነበርዎት? | 1. አዎ<br>2. የለም | መልሶ 2 ከሆነ ወደ ጥያቄ 407 ይሂዱ |
| 405 | መልሶ አዎ ከሆነ ከእርሶ ጋር ጤና ተቋም የሚመጡ ሰዎች ወይም አስታማሚዎች ቁጥራቸዉ | _____ | |
| 406 | መልሶ አዎ ከሆነ ከእርሶ ጋር ጤና ተቋም የሚመጡ ሰዎች ወይም አስታማሚዎች ምን ያህል | _____ቀን | |
| 407 | የአስታማሚዉ ስራ እና አማካኝ ወራዊ ገቢ ስንት ይሆናል | 1.<br>ስራ_____ | |
| 408 | ባለፉት ስድስት ወራት ቤት ውስጥ | 1. አዎ 2. የለም | መልሶ 2 ከሆነ ወደ |
| 409 | መልሶ አዎ ከሆነ ባለፉት ስድስት ወራት ምን | _____ቀን | |
| 410 | ባለፉት ስድስት ወራት ቤት ውስጥ ተኝተው/ከአቅም በላይ ሆኖቦዎት ድጋፍና | 1. አዎ<br>2. የለም | መልሶ 2 ከሆነ ወደ ጥያቄ 411 ይሂዱ |
| 411 | ስንት አስታማሚዎች እንክብካቤ አደረጉለዎት | _____ | |
| 412 | በጥያቄ ቁጥር 407 መልሶ አዎ ከሆነ ለምን ያህል ቀን እንክብካቤ ተደረገለዎት? | _____ቀን | |
| 413 | የአስታማሚዉ ስራ እና አማካኝ ወራዊ ገቢ ስንት ይሆናል | 1. ስራ<br>---<br>2.አማካኝ ወራዊ ገቢ---------- | |

**ክፍል አምስት: የመጓጓዣ ወጪ**

| ተ.ቁ | ጥያቄ | አማራጭ | እለፍ |
|---|---|---|---|
| 501 | ክትትል ወደ ሚያደርጉበት የጤና ተቋም ሲሄዱ ምን አይነት የመጓጓዣ ዘዴ ይጠቀማለ? | 1. እግር<br>2.በመኪና | |
| 502 | ክትትል ወደሚያደርጉበት የጤና ተቋም ለመድረስ በአማካይ ምን ያህል ጊዜ ይፈጅብዎታል ርቀቱስ ምን ያህል ኪ.ሜ ነው? | 1. _____ደቂቃ<br>2. _____ኪ.ሜ | |
| 503 | ባለፉት ስድስት ወራት ለክትትሌ ምን ያህል የደርሶ መሌስ ጉዞ አደረጉ? | | |
| 504 | የአንድ ጉዞ ደርሶ መልስ የመጓጓዣ ወጪዎት ምን ያህል ነው? | _____ብር | |
| 505 | ለክትትል ሲመጡ ከእርሶ ጋር ወደ ጤና ተቋም የሚመጣ ሰው አለ? | 1. አዎ<br>2.የለም | መልሶ 2 ከሆነ ወደ ጥያቄ 507 ይሂዱ |
| 506 | የእርሶ ድጋፍ ሰጪ ሰው ደርሶ መልስ የመጓጓዣ ወጪው ስንት ነው? | ----------ብር | |
| 507 | ላለፉት ስድስት ወራት ለድንገተኛ ህክምና የመጓጓዣ አገሌግልት ተጠቅመው ነበር ? | 1.አዎ 2. የለም | መልሶ 2 ከሆነ ወደ ጥያቄ 601 ይሂዱ |
| 508 | መልሶ አዎ ከሆነ ላለፉት ስድስት ወራት ምን ያህሌልጊዜ ድንገተኛ ህክምና አደረጉ፤ የአንድ ጊዜ የጉዞ አማካይ ወጪዎ | 1.___-_____ጊዜ<br>2_____ የአንድ ጉዞ | |

ክፍል ስድስት : ህመሙ ያስከተለውን ፋይናንስ ቀውስ ለመቋቋም የተወሰደ(Coping mechanism Costs)

| ተ.ቁ | ጥያቄ | መልስ | |
|---|---|---|---|
| 601 | የእንቅርት (hyperthyroidism) ህክምናን ለመከታተል ወጪውን ከየት አገኙ? የመጣውን የፋይናንስ አሉታዊ ተፅእኖስ ቤተሰቡ የትኛውን መፍትሄ ተጠቅመዋል; | 1.ከራሰ ገንዘብ (ከደሞዝ, ከቁጠባ)<br>2.ገንዘብ ተበድሬ/ከብድር<br>3.ንብረቴን ሸጬ ነው<br>4. ከቤተሰብ/ከጓደኛ /ርዳታ | |
| 602 | ተበድረው ከሆነ ስንት ብር ተበደሩ | _____ብር | |
| 603 | ከማንስ ተበድረው ታከሙ | 1. ከቤተሰብ 2. ከጎረቤት/ከጓደኛ<br>3. ከግል ባንክ | |
| 604 | የእንቅርትህከምና ወጪን ለመሸፈን የተሸጡ የንብረት አይነቶች ካሉ ለምሳሌ | 1. የቤት ዕቃ 2. ወርቅ<br>3. ተሸከርካሪ /መኪና | |

# Declaration form

Declaration

I, the under signed, declared that this is my original work, has never been presented in this or any other University, and that all the resources and materials used for the research, have been fully acknowledged.

Principal investigator
Name: Muluken Kindeneh (BSC in Public Health)
Signature: _____
Date: _____

**Advisor(s)**

1. Name:- Getasew Taddese (MPH & Assistant Professor in Health economics)

   Signature: _____

   Date:_____

2. Name:- Gebeyehu Tsega (MPH & Assistant Professor in Health system Management & Health economics)

   Signature: _____

   Date:_____