



**Asrat Woldeyes Health Science Campus,
School of Nursing and Midwifery
Department of Nursing**

**Prevalence of Depression and Associated Factors Among Older
People in Debre Berhan Town, North Shoa Zone, Amhara Region,
Ethiopia, 2022**

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Approval Sheet

Approval sheet Signed by the board of examiner Asrat Woldeyes Health
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Prevalence of Depression and Associated Factors Among Older People in
Debre Berhan Town, North Shoa Zone, Amhara Region, Ethiopia, 2022

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Abstract

Background: Depression is one of the most incapacitating conditions in older people. Depression in the elderly population has been identified as a major public health issue, with serious consequences such as decreased quality of life, cognitive decline, and increased suicide rates. However, few population-based studies of depression in older adults have been conducted in developing countries, particularly in Ethiopia.

Objective: This study aimed to assess prevalence of depression and associated factors among older people in Debre Berhan town, North Shoa Zone, Amara Region Ethiopia, 2022.

Method: A Community based cross-sectional study design was conducted from June 10- July 15, 2022. A multi stage sampling technique was employed to recruit a total of 759 study participants and data was collected by using interviewer administered questionnaire. The presence of Depression was determined using Geriatric Depression Scale Item-15 (GDS-15). The data were entered using Epi-data version 4.6 then exported to SPSS version 25. Binary logistic regression analysis was performed, and variables with a P-value less than 0.25 in bivariable analysis were transferred to multivariable analysis. In multivariable, a *P*-value ≤ 0.05 and OR with 95% CI considered for the presence of a statistically significant association.

Result: A total of 744 older people participated with a response rate of 98%. The overall prevalence of depression among older people estimated as 48.9% (95% CI 45.3-52.6); Respondents being cognitive impairment (AOR 2.208 [95% CI: 1.146-4.255]), had poor social support (AOR 7.992 [95% CI: 3.928-16.264]), unable to read and write AOR 3.897 [95% CI: 1.16-13.14]), Chronic disease (AOR: 1.769 [95% CI: 1.050-2.98]), age group ≥ 70 AOR 6.159 [95% CI: 2.991-12.682]) and previous history of depression (AOR: 1.961 [95% CI: 1.086-3.542]) had a significant association with depression.

Conclusion: In this study, the overall prevalence of depression among elderly people was high than previous study. Greater emphasis must be placed on identifying and treating depression, particularly in those over the age of 70, as well as in those with limited social support and suffering from chronic disease.

Key words: Depression, Older people, Cognitive, Social support.

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Abbreviation and Acronyms

ADL	Activities of Daily Living
AOR	Adjusted Odds Ratio
ASSIST	Alcohol, Smoking and Substance Involvement Screening Test
CI	Confidence Interval
CIDI	Composite International Diagnostic Interview
DALYs	Disability-Adjusted Life Years
DSM-5	Diagnostic and Statistical Manual of Mental Disorders-5 th Edition
ETB	Ethiopian Birr
GDS	Geriatric Depression Scale
GPCOG	General Practitioner Assessment of Cognition
HHs	Households
LMICs	Live In Low- And Middle-Income Countries
PHQ	Patient Health Questionnaire
PI	Principal Investigator
SMMSE	Standard Mini-Mental State Examination
SPSS	Statistical Package for Social Science

1. Introduction

1.1 Background

Depression is a primary mental health challenge due to its devastating nature, and it is the disease's second global burden, occurring as a disorder of life with disability (1). Depression is defined by the World Health Organization's 2017 Global Health Estimates as feelings of sorrow, loss of interest or pleasure, guilt feelings, low self-esteem, interrupted sleep or food, lack of energy, and difficulty concentrating (2).

According to the WHO, nearly 15% of elderly people aged 60 and up suffer from mental disorders. Mental disorders in elderly adults account for 6.8% of total disability (3). Depression is a common mental disorder, particularly among the elderly, who are undergoing a constant demographic epidemiological transition around the world(4).

Depression is the single most significant contributor to global disability 7.5% (2, 8). Depression among the elderly is expected to be a major cause of morbidity and mortality in the future (9).

Older age, female sex, low educational level, widowed, living with children, lack of social support, presence of known chronic disease, having more than two chronic diseases are suggested risk factors for depression among older people (9). Physical disability, cognitive impairment, alcohol consumption, cigarette smoking, and a low socioeconomic status are all factors to consider (10)

Medication non-adherence, reduced prognosis of chronic disease, increased healthcare utilization, and decreased quality of life are all significant effects of depression in the elderly. Additionally, impaired social and occupational functioning, it also resulted in suicide (2, 9). Despite the prioritization and implementation of national mental health policies, interventions against mental illness in Ethiopia remain limited (15). Furthermore, evidence of depressive disorders in the elderly is relatively limited when compared to other health services (12,16,17). This gap may contribute to poor or inconsistent mental health care at the community level. As a result, this research was carried out to estimate the prevalence of depression in the older people and to investigate the factors that contribute to it.

1.2 Statement of the problem

A major public health problem is the severe morbidity and death that depression has on older individuals (19). The global magnitude of depression among elderly people was 31.74%(5). In Developed countries it was estimated at 17.05% where as in developing country, 40.78% which is higher in developing countries (5). Depression is a prevalent mental health issue among the elderly. Also, it is under diagnosed in about 50% of cases (5). People with depression have a 40% greater chance of early death than those without depression (7). In 2019, there were 1 billion people aged 60 and up; this number is expected to rise to 1.4 billion by 2030 and 2.1 billion by 2050(5),80% of these people will live in developing countries (2).

Depression is the single most significant contributor to the global disability causing 7.5% of all Disability-Adjusted Life Years (DALYs) (2, 8). Thus, depression among the elderly people is likely to be a significant cause of morbidity and mortality in the future (9).

Consequences of depression among elderly populations are generally extensive. It negatively affects medication adherence, it contributes for negative quality of life, increased alcohol use, impaired social and occupational functioning, reduce the prognosis of the chronic disease, increased health care utilization(2, 9, 16, 20).

According to some research findings depression among elderly is associated with older age, female sex, low educational level, poor economic status, widowed, divorced or separated, living with children, lack of social support, presence of known chronic disease, having more than two chronic disease, physical disability, Alcohol consumption and cigarettes smoking (9, 10, 12-15, 21).

In developed countries, many solutions are tried to tackle the development of depression among elderly people. Such as training for health professionals in providing care for older people, preventing and managing age-associated chronic diseases including mental, neurological and substance use disorders, designing sustainable policies on long-term and palliative care and developing age-friendly services and settings (7). However in Ethiopia, national mental health policy has been launched interventions against the problem are not yet significant (15). Although the effects of depression on the elderly are relatively well studied in developed countries, there have been fewer studies in low and middle-income countries, particularly Ethiopia (12). On other hand, in high income countries multiple numbers of studies have been conducted on the prevalence and risk factors of depression among elderly,

but limited studies conducted in Africa especially in Ethiopia. Up to my knowledge of searching, there is no study done on depression among elderly people in Debre Berhan Town. Therefore, this study was intended to bridge this gap by assessing magnitude and determinant factors of depression among elderly people by including additional factor such as cognitive impairment and having multiple chronic diseases which is not stated in the previous studies in Ethiopia.

1.3 Significant of the study

Depression is among the most prevalent and devastating psychiatric disorder among elderly people is important reasons for non-compliance with medications, as it results in subjective suffering. The effect of untreated Late-life depression includes serious functional impairment, with low quality of life. Additionally, early diagnosis and treatment of depression reduces medical costs and reduce care giver burden.

As per my knowledge of searching, there is no study that assesses magnitude and determinants of depression among elderly people in Debre Berhan Town. Therefore, this study was intended to bridge this gap by assessing magnitude and determinant factors of depression among elderly people in Debre Berhan Town by including additional such as having multiple known chronic diseases which is not stated in the previous studies in Ethiopia.

Therefore, the finding of this study Will increases the awareness of health care providers to critically screen and treat elderly people who develop depression at community and clinical setting. This in turn, might improve the quality of life for elderly people who develop depression. Additionally, the result of this study helps the policy makers in the allocation of resources and development of intervention strategies for depression among elderly population. It will also serve as a base line for other researchers.

2. Literature review

Depression is estimated to affect 322 million people worldwide, accounting for 4.4% of the global population(2).Approximately 80% of those affected by this disorder live in low- and middle-income countries (LMICs)(6).Globally, the average prevalence of depression in the elderly was 31.74%(5), with developing countries having a higher prevalence of 40.78% when compared to developed countries. 17.05%(5).

2.1 Prevalence of Depression

According community based study done in Romania among 601 elderly people by using the 30-item Geriatric Depression Scale,50% of respondents had depression(11).

Community based cross-sectional study done in China, Chongqing and Yehuan , among 925and 945 elderly participants by using the 30-item and GDS-15, prevalence of depression was 23.67% and 18.8% respectively(13, 14).

community based cross-sectional study done in Banglادish, among 350 elderly respondents, prevalence of depression was 36.9%(24).

Other community based study done in Serbia among 3,540 elderly respondents by using Patient Health Questionnaire Depression (PHQ-8),prevalence of depression was 19.2% (25).

A community based study done in Tamilnadu and Northern India among 7200 and 162 elderly people by using Geriatric Depression Scale item 15 (GDS-15),the estimated prevalence of depression was 67.5% and 40.7% of which 33.9% had mild to moderate depression and 6.8% had severe depression respectively (9, 26)

Across-sectional community based study done in Nepal among 303 elderly, prevalence of depression was 66.6%,whereas mild depression was 27.7%(27).

A community based study done in Vietnam among 299 elderly, Self-reported depression among the elderly was 66.9% of which 32.8% mild, 30.4% moderate, and 3.7% severe depression respectively (28).

According to the survey done in Bahrain among 517 elderly participants by using Geriatric Depression Scale item 15,the prevalence of depression was 50% (29).

Based on the survey done in South Africa and Ghana among 7,957 elderly respondents by using World Mental Health Survey version of the Composite International Diagnostic Interview(CIDI),The prevalence of depression was 2.7% and 6.7% respectively(17).

Across-sectional community based study done in Nigeria by using GDS-15, the prevalence of depression was 44.7% (31).

As community based study done in Egypt among 487 elderly people by using GDS-15, The overall prevalence of depression was 44.4% (32).

Other community based cross-sectional study done in Tanzania among 304 elderly participants, by using geriatric depression scale (GDS-15) the prevalence of geriatric depression was 44.4% (33).

In Ethiopia community based cross-sectional study done in Ambo among 800 respondents by using GDS-15 item to assess depression symptoms, the prevalence of depression was 41.8% ,in Womberma District west Gojjam zone by using GDS-15 item ,prevalence of depression was 45%, and community based cross-sectional study done in Dega Damot, West Gojjam Zone among 813 respondents by using GDS-15, the prevalence of depression was 45.9% respectively (12, 16, 21)

2.2. Associated risk factors for Depression among Elderly people

systematic literature review done in Germany, low education, female gender, older age were significantly associated with Depression (10).

A community based study done in China: Chongqing and Yehuan , being unmarried and poor economic status were significantly associated with depression of elderly (13, 14).

A cross sectional community based study done in rural India, old age, female sex, widowed, living with children were associated with depression among older adults (9).

As cross-sectional study done in Nepal Illiteracy was associated with elderly depression (27).

A cross-sectional survey done in Bahrain, lower level of education, low income, Widowed, divorced, or separated from spouse ,unemployment, were associated with elderly depression (29).

Descriptive community based cross-sectional study done in rural Nigeria, older age and lack of education were significantly associated with elderly depression (31).

As community based study done in Dega demote and Womberma District, north-west Gojjam and Ambo Town, female sex, older age divorced, widowed, poor social support, presence of known chronic disease and living with children were significantly associated with elderly depression (12, 16, 21)

2.2.1. Presence of chronic disease factor of depression among elderly people

According to systematic literature review done in Germany, the presence of chronic disease was significantly associated with elderly depression(10).

A community based cross-sectional study done in rural China, Yehuan, having more than two chronic disease was significantly associated with elderly depression(14).

A cross-sectional study based on comprehensive geriatric assessment questionnaire was conducted in Chongqing China among 925 participants aged 60 years chronic diseases were significantly associated with depressive symptoms(13)

According to cross sectional community based study done in rural India having chronic disease diabetic mellitus was associated with elderly depression(9).

As community based study done in Dega demote and Womberma District, north-west Gojjam, presence of known chronic disease was significantly associated with elderly depression (16, 21).

2.2.2 Previous psychiatric problem related factors

Community based cross-sectional study done in Bangladeshi, among 350 elderly respondents, with history of previous personal depression or family depression was significantly associated with depression (24).

A cross-sectional study was conducted in District, Tamil Nadu among participants more than 60 years of age with sample size 184 among these 35 (19%) had the previous history of depression and 3 (1.6%) have family history of depression and 12 (6.5%) had a history of other psychiatric diseases.(34)

2.2.3 Presence of Cognitive impairment associated with elderly depression

According to systematic literature review done in Germany, presence of Cognitive impairment was significantly associated with elderly depression(10).

In a community-based study conducted in China, the presence of cognitive impairment was linked to elderly depression(14).

Based on community based study done in Pakistan, presence of cognitive impairment was associated with elderly depression(35).

According to community based study done in Tanzania, cognitive impairment was associated with elderly depression(33).

In Harer, Ethiopia, a community-based cross-sectional study was conducted. people with cognitive impairment was associated(15).

2.2.4 Psychosocial factors

According to cross sectional community based study done in rural India, lack of family support was significantly associated with elderly depression(9).

Based on community based study done in Tanzania lack of social support was associated with elderly depression(33).

As community based study done in Dega demote and Womberma District, north-west Gojjam, lack of social support was significantly associated with elderly depression(16, 21).

2.2.5 Substance related factors

A cross-sectional study was conducted in District, Tamil Nadu Alcohol consumption, smoking, tobacco were statistically associated with depression among the study participants.(34)

Community based cross sectional study conducted in Harar town, use of Alcohol, Khat and Tobacco was associated with elderly depression(15)

2.3 Conceptual framework

This conceptual frame was constructed after reviewing different pieces of literature for the study of depression (9,10,12,14,21)

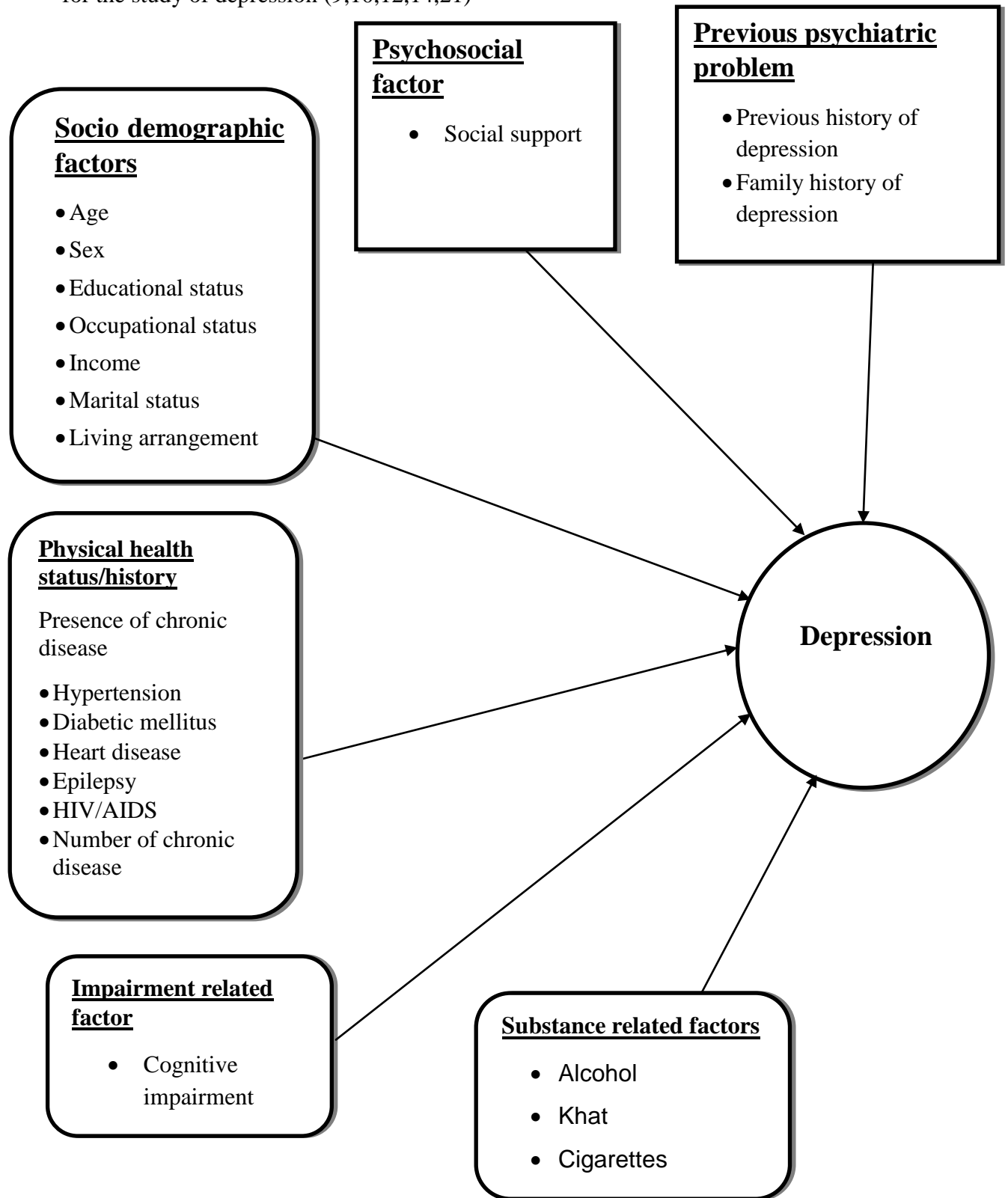


Figure 1: Conceptual frame work for the study depression among older people

3. Objective

3.1. General objective

To assess prevalence of depression and associated factors among older people in Debre Berhan town, North Shoa Zone, Amhara region, Ethiopia, 2022

3.2. Specific objectives:

To determine the magnitude of depression among older people in Debre Berhan town, north Shoa zone, Ethiopia, 2022.

To identify associated factors of depression among older people in Debre Berhan Town, North Shoa Zone, Amhara Region Ethiopia, 2022.

4. Methods

4.1 Study area and period

The study was conducted in Debre Berhan town, which is located in North Shoa Zone, Amhara region. It is located at about 130 Kms from Addis Ababa (the national capital city) and at about 696 kms from Bahir Dar (the regional capital city). With an average elevation of 2750 meters above sea level, and the weather condition of Debre Berhan is classified as Dega. According to woreda health office administrative report, Debre Berhan town has a total population of 107,886 out of this 48,901 were male and 59,245 were females. The total number of elderly peoples in the Town is 8,220 of this 5,118 were females. In the town, there are about 30 health institutions, three hospitals (one private, one comprehensive specialized and one University hospital), 3 health centers, five health posts, 17 drug stores, and 7 private specialty clinics. Also, there is psychiatry service which is given in Debre Berhan comprehensive specialized hospital. The study was conducted from June 10- July 15, 2022.

4.2 . Study design

Community based cross-sectional study design was conducted.

4.3. population

4.3.1 Source of population

All older people age ≥ 60 years that lives in Debre Berhan town

4.3.2. Study population

All older people live in Debre Brehan town of selected Kebeles

4.3.3. Sampling unit

Older people living in selected Kebeles during the study period

4.3.4 Study units

Older people living in selected households of selected Kebeles during the study period

4.4 Eligibility criteria

4.4.1 Inclusion criteria

Individuals aged 60 and above who have lived in the town for at least 6 months and are available during the study period and gave consent to participate in the study.

4.4.2 Exclusion criteria

Older people with serious illnesses and those who are unable to communicate, Hearing impairment and Using antidepressants/mood stabilizers in the first month earlier in the interview.

4.5 Sample size determination

Single population proportion formula was used based on the assumption of 95% confidence interval, 5% margin of error, and taking the prevalence of depression 45% which is a Community based study done in Womberma District which is found in the west Gojjam zone Amhara region Ethiopia(21).

$Z_{\alpha/2}$ = z-value at 95% confidence level, which is 1.96

d = Margin of error, which is 0.05

Using the above assumptions, calculated the minimum sample size required for the first objective using the following formula

$$n = \frac{[Z_{\alpha/2}]^2 * p(1 - p)}{d^2}$$

Where: n = sample size

$Z(\alpha/2)$ = Z score at 95% CI=1.96

$$ni = \frac{[1.96]^2 * 0.45 (1 - 0.45)}{0.05^2}$$

$$ni = \frac{3.84 * 0.45 (0.55)}{0.0025}$$

$$ni = \frac{0.95}{0.0025}$$

$ni = 380$, then by using design effect 2 which is $380 \times 2 = 760$

10% of non-respondent added on total study population ($760 \times 0.1 = 76$) therefore, the initial sample was $760 + 76 = 836$ then number of elderly people in Debre Brehan Town is 8,220 which is obtained from Debre Brehan Worde health office is less than 10,000. So the correction formula was used to get final sample size.

$$nf = \frac{ni}{1 + \left(\frac{ni-1}{N}\right)}$$

$$nf = \frac{836}{1 + \left(\frac{836-1}{8220}\right)}$$

$$nf = \frac{836}{1 + \left(\frac{835}{8220}\right)}$$

$$nf = \frac{836}{1 + (0.1015)}$$

$$nf = \frac{836}{1.1015}$$

$$nf = 759$$

4.6 Sampling procedure

A Multi-stage sampling technique was used to select representative sample. Based on the assumption of 30% representativeness, 4 Kebeles were selected from 9 Kebeles by simple random sampling method. The estimated number of households with elderly people in all kebeles were obtained from Debreberhan town woreda Health Office.

Based on the obtained information, the sample size for each kebele was proportionally allocated. The house hold found in the selected kebele was randomly selected. Then Systematic random sampling technique was used to select representative households. As the sample size is decided to be 759, sampling fraction were $k=N/n = 3520/759 = 4.6=5$, and the first house hold was selected by lottery method, then continued every 5 households. However, in a household with more than one elderly people were present in a household, one of them was chosen through a lottery method.

Debre Brehan Town has nine urban kebeles, with a total of 8,220 HHs with elderly people.

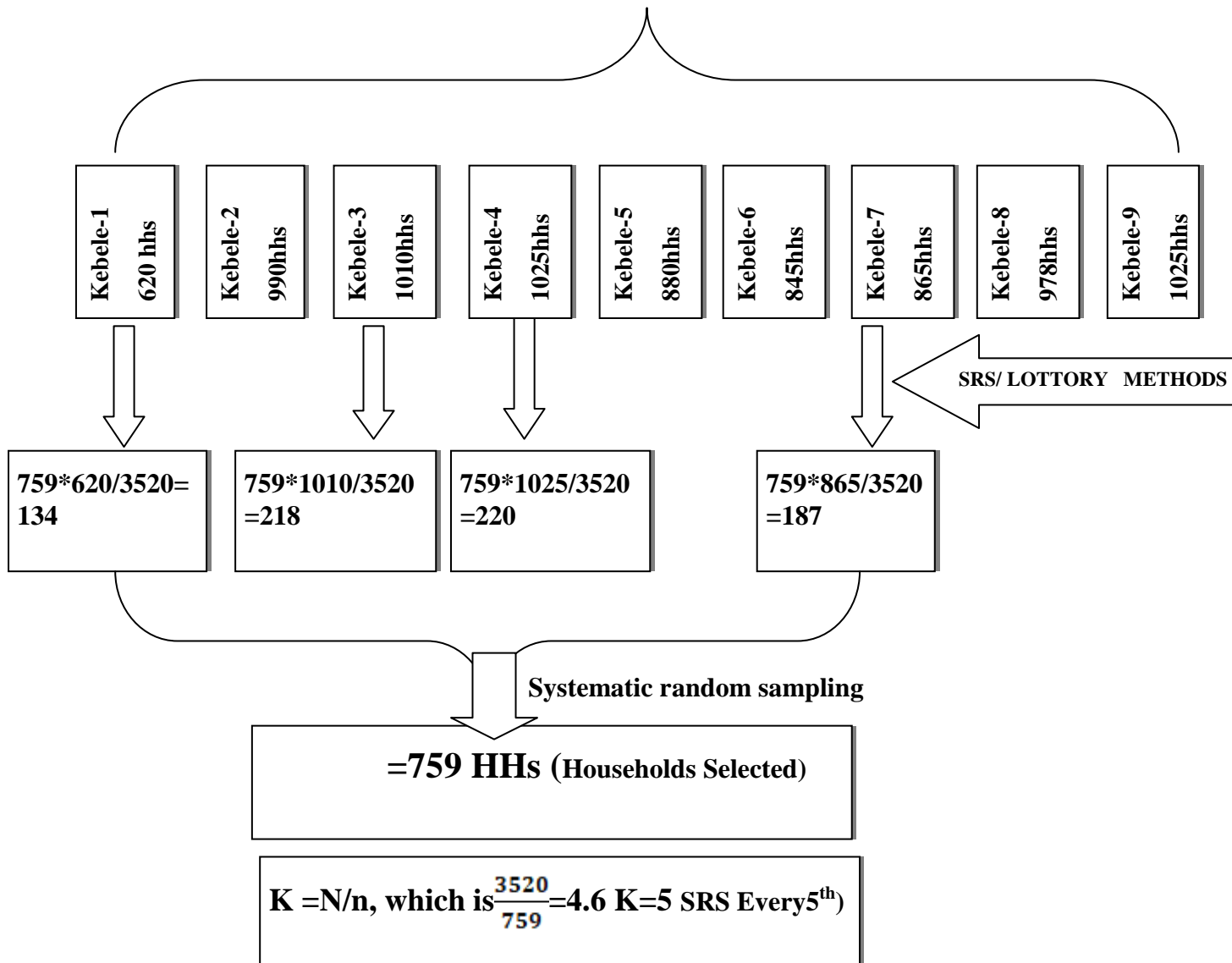


Figure 2: Sampling procedure for the study prevalence of depression and associated factors among older people in Debre Berhan town, North Shoa Zone, Amhara region, Ethiopia, 2022

4.7 Study variables

4.7.1 Dependent variable

Depression (yes/no)

4.7.2 Independent variables

Socio-demographic conditions

- Age
- Sex
- Religion
- Ethnicity
- Income
- Living arrangement
- Educational status
- Occupation
- Marital status

History known of chronic illness

- Hypertension
- Heart disease
- Diabetes mellitus
- Epilepsy, HIV/AIDS
- Number of chronic disease and other

Impairment related factors

- Cognitive impairment

Psychosocial factors

- Social support

Substance related factor

- Alcohol,
- Cigarettes
- Khat

Previous psychiatric problem related factors

- Previous history of depression and
- Family history of depression

4.8. Operational definition

Older age :older persons are those people whose age is 60 years and above(44).

Depression: A Participants with a score of ≥ 5 from the total score of the Geriatric Depression Scale item 15 (GDS-15) were considered to be depressed (40).

Perceived social support: Perceived social support were operationalized as the following by using the Oslo-3 scale and individuals score, 3–8 as Poor social support, Moderate social support if they score 9–11, and Strong social support if they score 12–14 (41).

Current substance use; it is using a substance like Khat, alcohol, cigarette and other illicit substances for a non-medical purpose for the last 3 month (36).

Ever substance use; use of any of the substances at least once in an individual's life time(16), and was assessed by WHO Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST-version3.1 (36).

Cognitive impairment: Cognitive impairment Using the Standardized Mini Mental State Examination (SMMSE) tool, participants with an educational level of \leq grade 8 with scores of ≤ 22 and participants with an educational level of \geq grade 9 with scores of ≤ 24 out of a total of 30 scores had cognitive impairment (45, 46).

The stage of cognitive impairment was classified as a score of 20–24 as mild cognitive impairment, as score of 10–19 as moderate cognitive impairment, and a score of 0–9 as severe cognitive impairment (45, 46).

4.9 Data collection Tool

Semi- Structured pretest questioners were used to collect Socio-demographic characteristics and substance use assessed by using ASSIST (36).

Also clinical conditions that might contribute to depressions such as hypertension, diabetes, Previous history of depression and Family history of depression and heart diseases assessed by yes or no questions.

Depression was assessed by Geriatric Depression Scale item 15 (GDS-15) which used to assess the presence of depression among older people(38).

This tool has been validated and used in low- and middle-income countries including Asia and sub-Saharan Africa (31, 32). It has been also used in Ethiopia by previous studies (12, 21, 16).

Data on cognition impairment was collected by interview using a standard mini mental state examination (SMMSE) form (Folstein test) which involves a related series of questions or commands which was previously used by the study done in Ethiopia (42).

4.10 Data collection Procedures

An interview administered questionnaire was developed based on previous research works.

The questionnaires consist of different parts such as socio demographic characteristics, History of known of chronic illness, Impairment related factors, Psycho-social factors, and Substances related factor and Previous psychiatric problem related factors. The questionnaire was prepared in English and translated in to Amharic, by Amharic speaking linguist then back to English to check for its consistency. Questions were tested for content validity and internal (Reliability). Finally the Amharic version was used for data collection Moreover, internal consistency of the tool was checked by Cronbach alpha test and the statistic indicates 0.78.

Data collectors were trained, four data collectors with nursing diplomas and one BSc nurse supervisor participated on how to interview participants and explain unclear questions and the purpose of the study. Furthermore, they were aware of ethical principles, such as confidentiality, data management, and how to secure respondents' informed consent for participation. During the data collection, regular supportive supervision and discussion with data collectors and supervisors.

4.11 Data quality assurance

The data collection tool was translated into the local language, Amharic, and then translated back to English to ensure consistency and accuracy. For One-day training was given to both the data collectors and supervisors. Following training on the study's, purpose, content, objective of data collection, and interviewing technique, as well as the issue of confidentiality, was explained to data collectors and supervisors although supervisor and principal investigator was supervising data collectors and checks all the filled questionnaires for completion, clarity, and consistency daily. The questionnaire was pre-tested on 5% of the elderly population in Debre Sina Town,

which is not included in the study. A necessary adjustment was made on the result of the pre-test. The collected data was reviewed and checked for completeness before data entry.

4.12 Data processing and analysis

The collected data was first checked manually for completeness, missed values, unlikely responses and then coded and entered using Epi data version 4.6. Then cleaned and analyzed using SPSS version 25. Descriptive statistics were computed to determine frequencies and summary statistics (mean, standard deviation, and percentage) to describe the study population in relation to socio-demographic and other relevant variables. Data were presented using tables, graphs, and figures.

A binary logistic regression analysis was done, and variables with a P value < 0.25 in bivariable analysis were transferred to multivariable analysis. Multiple logistic regressions were done to test the presence of an association between independent variables and dependent variables. A P value ≤ 0.05 was used as a cut point at a 95% confidence interval to declare the presence of a statistically significant association. The odds ratio was used to determine the direction and strength of the association. Hosmer-Lemeshow goodness-of-fit statistics were conducted to determine whether the model adequately describes the data. The statistics indicate a good fit. The significance value is 0.519. Multicollinearity between independent variables was checked on the basis of assumptions such as tolerance (>0.1) and variance inflation factors (VIF) <10 was acceptable.

4.13 Ethical consideration

Ethical clearance and approval was obtained from Ethical Review committee of Asrat Woldeyes Health Science Campus Department of Nursing. Letter of permission was obtained from Debre Brehan Town administration. All study subjects were informed about the purpose of the study, the importance of their participation and Privacy and confidentiality of information given by each respondent was kept properly. All procedures were explained to the study participants. After explaining confidentiality of information Informed consent was obtained from the study participants. Participants were the right to withdraw from the study at any time if they wish

4.14 Dissemination and utilization of results

The research will be summated to Asrat Woldeyes Health Science Campus, School of Nursing and Midwife Department of Nursing then it will be summated to the research directorate of DBU and the result will be disseminated to the stakeholders such as the zonal and regional health offices

5. Result

5.1 Socio-demographic characteristics of respondents

A total of 744 older people participated with a response rate of 98%. The mean age of the participants was 70.1 SD(\pm 6.659) years and 36.8% of participants were married. Most of the participants (80.6%) were Orthodox Christian in religion and 40.5% of women were housewives. Two hundred fifty-four (34.1%) of respondents attended Primary school and 47.0% of the respondents had a monthly household income of greater than 2500 ETB (Table 1)

Table 1: Socio-demographic characteristics of older people in Debre Berhan town, North Shoa Zone, Amhara region, Ethiopia 2022 G.C. (N=744)

Variables		Frequency	Present (%)
Sex	Male	271	36.4
	Female	473	63.6
Age	60-64	136	18.3
	65-69	229	30.8
	70-74	200	26.9
	>75	179	24.1
	Religion	Orthodox	600
	Muslim	120	16.1
	Catholic	11	1.5
	Protestant	13	1.7
Marital status	Married	290	39.0
	Single	14	1.9
	Divorced	165	22.2
	Widowed	275	37.0
Educational status	Unable to read and write	93	12.5
	Able to read and write	223	30.0
	Primary school	254	34.1
	Secondary school	125	16.8
	College and above	49	6.6
Occupational status	Government employer	28	3.8
	Retired	67	9.0
	Merchant	63	8.5
	House wife	301	40.5
	Jobless	285	38.3
Monthly income	<500	53	7.1
	501-1000	35	4.7
	1001-2500	306	41.1
	>2500	350	47.0
Living arrangement	Alone	73	9.8
	living with spouse	382	51.3
	living with children	247	33.2
	Living with relatives	42	5.6

5.2 History known of chronic illness and Substance related characteristics

Among the total of 744 participants five hundred nine (68.4%) of them had chronic disease and 369(46.6%) of the participants have hypertension. Out of the total respondents, 88 (11.8%) were life time tobacco users, 120(16.1%) life time khat users, 120(16.1%) were current alcoholic users (**Table 2**).

Table 2: Respondents history known of chronic illness among depression and associated factors among older people in Debre Berhan town, North Shoa Zone, Amhara region, Ethiopia,2022(n=744)

Variables		Frequency	Percent (%)
Chronic disease	No	235	31.6
	Yes	509	68.4
Hypertension	Hypertension	369	49.6
	Heart disease	22	3.0
	Diabetic mellitus	96	12.9
	Epilepsy	6	.8
	HIV/AIDS	2	.3
	Others	249	33.5
	How many chronic disease	One	322
Two		384	51.6
Three and above		38	5.1
lifetime tobacco users	No	656	88.2
	Yes	88	11.8
lifetime Alcoholic users	No	605	81.3
	Yes	139	18.7
lifetime Khat users	No	624	83.9
	Yes	120	16.1
Current tobacco users	No	677	91.0
	Yes	67	9.0
Current Alcoholic users	No	624	83.9
	Yes	120	16.1
Current Khat users	No	664	89.2
	Yes	80	10.8

Other includes, asthma, arthritis

5.3 Psychosocial Characteristics of the participants

Majority of respondents 295 (39.7%) had poor social support and about 104(14.0) of participants have strong social support (**Figure 3**).

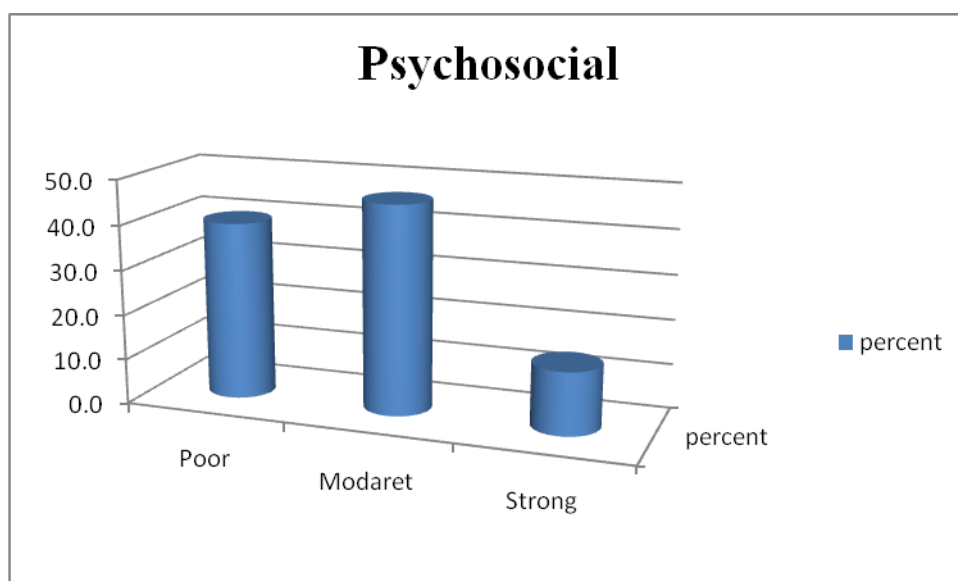


Figure 3: Psychosocial Characteristics of the participant's older people in Debre Berhan, Amhara region, north Shoa zone, central Ethiopia 2022.

5.4 Impairment related and previous psychiatric problem characteristics

Majority of respondents 605(81.3%) had Pervious history of depression and out of participants 85.6% had cognitive impairment, 346(46.5%) of respondents had mild cognitive impairment. (**Table 3**)

Table 3: Frequency distribution of impairment related and previous psychiatric problem related factors, 2022(N=744)

Variables		Frequency	Percent (%)
Cognitive	Normal cognitive	107	14.4
	Cognitive impairment	637	85.6
Pervious history of depression	No	139	18.7
	Yes	605	81.3
Family history of depression	No	712	95.7
	Yes	32	4.3

5.5 Prevalence of depression

Prevalence of depression among elderly people in Debre Berhan town was 48.9% (95% CI 45.3-52.6).

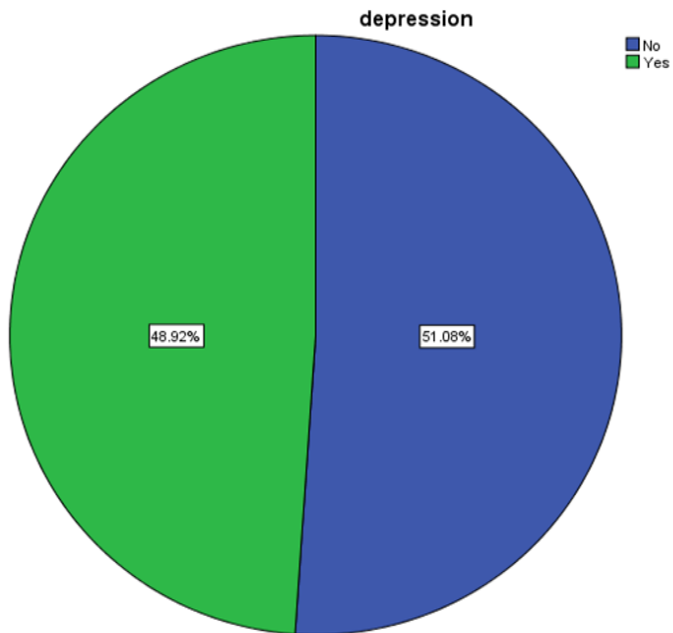


Figure 4: Prevalence of depression among older people in Debre Berhan, Amhara region, north Shoa zone, central Ethiopia 2022

5.6 Factor associated with Depression

In bivariable analysis ten variables were statistically significant which had p value of ≤ 0.25 . In socio-demographic characteristics (sex, age, marital status, educational status, Occupation, living arrangement), in Psychosocial factors (Social support), History Impairment related factors (Cognitive), chronic disease and Previous psychiatric problem related factors (Previous history of depression were candidate variables for Multivariable logistic regression.

In multivariable logistic regression age, chronic disease, education, social support, cognitive and previous history of depression was found to be predictor variables of depression.

In this study, respondents with cognitive impairment were 2.2 times more likely to develop depression (AOR 2.208 [95% CI: 1.146-4.255]) than those with normal cognitive abilities. Those with (AOR 3.897 [95% CI: 1.16-13.14]) who were unable to read and write were 3.8 times more likely to be depressed than those with college and above.

Participants who had poor social support were 7.9 times more likely to develop depression (AOR 7.992 [95 % CI: 3.928-16.264]) than who had strong social support. Respondents over the age of 75 were 6 times more likely to develop depression than those between the ages of 60 and 64 (AOR 6.159[95% CI: 2.991-12.682]). Those who had a Chronic disease were 1.7 times (AOR: 1.769 [95% CI: 1.050-2.98]) were more likely to have depression than those who had no Chronic disease. Participants those with a history of depression were 1.9 times more likely to be depressed (AOR: 1.961 [95% CI: 1.086-3.542]) than those who didn't (**Table 4**).

Table 4: Bivariable and Multivariable Logistic Regression Analysis for depression and associated factors among older people in Debre Berhan town ,North Shoa Zone, Amhara region, Ethiopia, 2022 (N=744)

Variables	categories	Depression		COR(95% CI)	AOR (95% CI)
		Yes	NO		
Sex	Male	148	123	1	1
	Female	232	241	1.25(0.926-1.686) **	1.079(.573-2.034)
Age	60-64	89	47	1	1
	65-69	163	66	0.77(0.487-1.208)	1.17(0.614-2.232)
	70-74	95	105	2.09(1.335-3.280) **	2.18(1.164-4.068) **
	>75	33	146	8.38(4.994-14.054) **	6.16(2.991-12.68) **
Marital status	Married	258	32	1	1
	Single	6	8	10.75(3.506-32.961)	14.44(3.298-63.259)
	Divorced	56	109	15.69(9.627-25.581) **	17.32(8.565-35.030)
	Widowed	60	215	28.89(18.135-46.02) **	26.83(14.033-51.312)
Educational status	Unable to read and write	20	73	9.13(4.129-20.166)	3.89(1.16-13.14) **
	Able to write and read only	101	122	3.02(1.540-5.922) **	2.99(1.21-7.446) **
	Grade 1-8	148	106	1.79(0.92-3.492) **	1.36(0.560-3.293)
	Grade 9-12	76	49	1.61(0.79-3.299)	1.30(0.508-3.352)
Chronic disease	College and above	35	14	1	1
	No	176	59	1	1
Pervious history of depression	Yes	204	305	4.46(3.162-6.29) **	1.77(1.050-2.98) **
	No	338	267	1	1
Occupation	Yes	42	97	2.92(1.968-4.344) **	1.96(1.086-3.542)**
	Government employer	10	18	1	1
	Retired	16	51	1.77(0.681-4.604) **	5.29(1.231-22.787)
	Merchant	47	16	0.19(0.072-0.493) **	1.19(.289-4.884)
	House wife	187	114	0.34(0.151-0.759)	0.89(0.267-3.008)
Living arrangement	Jobless	120	165	0.76(0.341-1.714) **	1.46(0.418-5.094)
	Alone	19	54	2.35(1.053-5.233) **	0.44(0.183-1.059)
	Living with spouse	274	108	0.33(0.170-0.622) **	0.28(0.113-0.715)
	Living with children	68	179	2.18(1.114-4.244)**	0.43(0.1041-0.781)
Cognitive	Living with relatives	19	23	1	1
	Normal cognitive	87	20	1	1
Social support	Cognitive impairment	293	344	5.10(3.066-8.508) **	2.20(1.146-4.255)**
	Poor	79	216	6.44(3.933-10.540) **	7.99(3.928-16.26) **
	Moderate	228	117	1.20(.751-1.944) **	1.07(0.552-2.077) **
	Strong	73	31	1	1

NB **= P-value <0.05

6. Discussion

The prevalence of depression among elderly people in Debre Berhan Town was 48.9% [95% CI: 45.5%-52.8%]. The result was lined with study carried out in Bahrain 50% (29), Romania 50% (11) and Nepal 53.1 % (27). And Dega Damot West Gojjam Zone 45.9%(21). However, it was higher than the studies done in, Serbia 19.2% (25), Bangladesh 36.9% (24), India 40.7% (26), Nigeria 44.7% (31), Tanzania 44.4% (33), and in Ethiopia Ambo 41.8% (12).

The difference is most likely due to comparing the geographical and cross-cultural variation in depression prevalence found in this study with other studies, it was discovered that fundamental differences in the studies, such as study sites, measurement tools, cut off values, and may limit the comparability of such studies. Furthermore, cultural differences may influence responses to specific instruments. For example, the Patient Health Questionnaire (PHQ-8) was used in a study in Serbia to assess the presence of depression (25), and the Patient Health Questionnaire (PHQ-9) was used in a study in Bangladesh (24).

Another possible explanation for the difference is; in developed countries like Serbia, they might have a higher standard of living for their community. Participants in developed countries may have better access to education, information about the causes of depression, and utilization (25). According to research, a lack of education is a consistent risk factor for depression and social isolation (24). Only one hospital in this study area provides outpatient psychiatry services, and no other health facilities in town provide inpatient mental health services. This must be demonstrates the importance of community empowerment through adequate mental health information and the expansion of mental health services in Debre Berhan.

On the other hand, my finding was lower than the study done in Tamilnadu 67.5% (9), Vietnam 66.9% (28). The variation could be attributed to differences in screening tools and cut off points, as well as differences in the study population and study setting. Although that study used the long version GDS 30 whereas used in Tamilnadu and in Vietnam the Zung self-rating depression scale was used to screen depression. The higher rate observed may be explained by the fact that these residents are more likely to have complex health needs and suffer from a number of chronic conditions.

6.1 Associated factors of depression

In this study, respondents with cognitive impairment were 2.2 times more likely to develop depression than those with normal cognitive abilities. This figure is nearly similar to the study conducted in Harer, Ethiopia(15), Pakistan,(35). This may be because of depressive symptoms and cognitive impairment is common in older adults and frequently coexists in a single patient. Executive dysfunction, slower processing speed, and episodic memory deficits characterize the pattern of cognitive impairment associated with depressive symptoms. But this finding was higher than results from Tanzania(33). It could be due to differences in cognitive measurement tools and the study population, which used the General Practitioner Assessment of Cognition (GPCOG).

Participants who could not read and write were 4 times more likely to be depressed than those with college and above. The result was also supported by the study done in Nigeria (31). This suggests that education as a positive effect on depression, and having low education status may lead to a reduced chance to access resources to improve their living condition(11). An educated person can easily read and understand information about enjoyment. In my study, only 6.6% of the participants attended college and above, this indicates the advantage of expanding education to minimize the occurrence of depression.

Respondents over the age of 75 were 6 times more likely to develop depression than those between the ages of 60 and 64. This is nearly similar to the study conducted in Dega demote and Womberma District, north-west Gojjam, (16, 21) Germany (10). It is well known that as people age, they face a variety of issues, including physical, psychological, nutritional and socioeconomic issues. These health problems cause a variety of disabilities, and it has been discovered that approximately one-third of the elderly suffer from psychiatric disorders (15).The dependence on others and loss of self-worth, in addition to economic loss, self-worth all contribute to the suffering of the elderly.

Participants who had poor social support were 7.9 times more likely to develop depression than who had strong social support. This figure is nearly similar to the study conducted in India, (9), and in Tanzania lack of social support was associated with elderly depression(33). Social support tends to alleviate depressive symptoms by

providing emotional relief and acting as a distress buffer(9). Possible ways that perceived social support can buffer stress include preventing an individual from negatively reacting to a stressor by redefining it as not stressful, increasing an individual's ability to proactively and reactively cope with the stressor, and providing supportive solutions for stress.

It was found that those who had a history of depression were 1.9 times more likely to be depressed than those who did not. This supported by studies done in District, Tamil Nadu (1.6%) (34). This is due to the fact that depression can occur as a result of a major depressive episode for an extended period of time as a period of two weeks or more in which at least five symptoms are expressed most of the day nearly every day, including either depressed mood or loss of interest in nearly all activities, weight/appetite disturbance, sleep disturbance, psychomotor agitation/retardation, fatigue, feelings of worthlessness/guilt, decreased concentration/decision-making, and suicidal idea.

In this study found that the likelihood of getting depressed is 1.7 times higher among elderly who have chronic illness than those who had no chronic disease. This is in line with the study done in Womberma (21). Dega Damot (16). and the study done in Harer (15). This could be explained by the fact that physical disease may raise functional impairment levels, which in turn may raise the risk of developing emotional issues and/or depression. The results of this study can be used in a variety of situations. To start, it would help the zone's health sector create more productive plans for the treatment of depression among elders. The results of my study will also act as a baseline for researchers interested in conducting studies at the national level on the prevalence and treatment of depression among Ethiopian elders.

7. Conclusion

In this study the overall prevalence of depression among elderly people was high than a previous study. Unable to read and write, age group ≥ 70 , cognitive impairment, poor social support, chronic disease, and previous history depression are significantly associated with depression. Having better, social support, normal cognitive function, age has positive effect on the depression. Greater emphasis must be placed on identifying and treating depression, particularly in those over the age of 70, as well as in those with limited social support and suffering from chronic disease. The next researcher used a diagnosis tool to estimate the actual prevalence of the problems among older people.

8. Recommendation

Based on the finding the following recommendations are forwarded.

To North Shoa administrative office

According to the study's findings, one of the main issues with public health is depression. Therefore, it is crucial to launch programs for geriatric mental health services. Improve the health of the elderly, especially those who are 60 years and older.

To Debre Berhan health office:

Health workers should receive training in providing care for the elderly as well as in controlling and avoiding chronic illnesses linked to aging.

Designing sustainable policies is crucial in order to concentrate on the long-term care of elderly people with mental illnesses and to enable caregiver's access to information, support, and training.

To the Amhara Region Health Bureau

Create a strong relationship with the zonal health bureau to intervene in the prevention and control of chronic diseases that lead to depression. Provide social support to older people and their caregivers. Promote the implementation of strategies for screening for depression before complications arise. Provide primary mental health care to older people in their communities.

To Debre Birhan Comprehensive Specialized Hospital

Provide depression screening program as part of routine assessment.

Create geriatric wards and outpatient clinics (OPDs) with doctors, psychiatric staff, and social workers to provide healthcare services.

To others researcher

The next researcher used a diagnosis tool to estimate the actual prevalence of the problems among older people.

9. Strength and limitation of the study

9.1. Strength of the study

The study's strength was the use of a relatively adequate sample size as well as standardized and reliable tools, not only for the outcome variables but also for the independent variables

9.2. Limitation of the study

The limitation of this study was that depressive symptoms reported by older adults do not always correspond to a clinical diagnosis of a depressive disorder. As a result, there is a risk of misattributing reports of depressive symptomatology to actual clinical mental ill health, potentially leading to an overestimation of the "true" prevalence of depression in this group. And variables like alcohol use, khat chewing, and other substances are more sensitive issues that might lead to social desirability bias.

Finally, the cross-sectional study design makes it impossible to establish cause and effect relationships.

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11. Annex

11.1 Annex I English version Consent form

Good morning/Good afternoon. My name is _____.this questioner is developed to gather information on prevalence of depression and associated factors among older people in Debre Berhan town, North Shoa Zone, Amhara region, Ethiopia. The information we collect will inform the public on major Depression related problems among older age group. Moreover, it will help the government on evidence based planning and designing of depression care for older age group. The interview usually takes 15-30 minutes.

All of the answers you give was confidential and will not be shared with anyone other than members of our team. You have the right to refuse participation in this study, but we hope you will agree to answer the questions since your views are important.

If we ask you any question you don't want to answer, just let me know and we will go on to the next question or you can stop the interview at any time without any consequences to the services you receive from this or any kebeles or other health facility now or in the future. Do you have any question?

No reward was given to the respondents who consented.

The interview was conducted in a private setting. Your name will not be recorded on the questionnaire.

Code number of participant

Title of the research project:

Prevalence of Depression and its associated factors among old peoples in Debre Brehan Town, Ethiopia

INSTRUCTION: The questionnaire has five parts. It will take about 20 minutes to complete the interview. Please try to respond all questions. Thank you very much for your patience!

Name of the principal investigator: Emebet Leta

Name of the organization

Debre Berhan University, Asrat Woldeyes Health Science Campus

Name of the sponsors: Debre Berhan University

Introduction:

Depression is the most common among old age peoples. This problem leads to disability and impair their quality of life. Moreover it leads to suicide. Therefore to help them the extent of the problem and associated factors needs to be known.

Purpose of the research project:

The purpose of this research is to assess the prevalence of Depression and associated factors among older people in Debre BerhanTown, Ethiopia. The study will be helpful to know the prevalence of depression and associated factors among older peoples to improve services that provided for older people with depression.

Procedure:

We invite you to participate in this project. If you are willing to participate in this project, you need to understand and sign the agreement form. Then after, you will be interviewed by the data collectors. You do not need to tell your name or to give your telephone number to the data collector and all your responses and the results obtained will be kept confidentially by using coding system whereby no one will have access to your response.

Risk/Discomfort:

By participating in this research project, you may feel that it has some discomfort especially on wasting time about 20 minutes. We hope you will participate in the study for the sake of the benefit of the research result. There is no risk in participating in this research project.

Benefits:

If you participate in this research project, there may not be direct benefit to you but your participation is likely help us to meet the research objective. Ultimately, this will help us to improve quality of services provided to older people with depression in this country.

Incentives:

You will not be provided any incentives or payment to take part in this project. But if you have Depression you will be treated by psychiatric health professionals at Debre Berhan comprehensive specialized Hospital.

Confidentiality:

The information collected for this research project will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but code number assigned to it. It will not be revealed to anyone except the principal investigator and it will be kept locked.

Right to refuse or withdraw:

You have full right to refuse from participating in this research. You can choose not to respond to some or all questions if you do not want to give your response. You have also full right to withdraw from this study at any time you wish without losing any of your right.

Person to contact:

This research project will be reviewed and approved by the ethical committee of Debre Berhan University. If you have any question you can contact any of the following individuals and you may ask any time you want.

1. Emebet Leta: Debre Berhan University

Mob, No: +251-943 39 36 91, E-mail: emebetleta1221@gmail.com

2. NigusAlemnew Debre Berhan University

Email: Nigusalemnew2014@gmail.com Mob, No: +251910211536

Blen Nigussie Debre Berhan University

Addressee Mob No. +251993818808

Informed consent form

Are you voluntary to participate in the study? 1. Yes 2. No

I hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating voluntarily in the research project. I understand that I am at autonomy to withdraw from the project at any time.

Signature of participant

Date

Name and signature of data collector_____

Date_____

Name and signature of supervisor_____ Date_____

11.2 Annex II English version questioners

Part one:-Socio-demographic data/ interview identification questionnaires

Please circle a response for each item

s.no	Questions	Choice of answer
101	What is your age	_____
102	Sex	<ol style="list-style-type: none"> 1. Male 2. Female
103	What is your ethnicity?	<ol style="list-style-type: none"> 1. Amhara 2. Oromo 3. Tigre 4. Guragie 5. Other-----
104	What is your Religion?	<ol style="list-style-type: none"> 1. orthodox 2. Muslim 3. catholic 4. protestant 5. other-----
105	What is your Marital status?	<ol style="list-style-type: none"> 1. married 2. single 3. divorced 4. Widowed
106	Educational status	<ol style="list-style-type: none"> 1. unable to read and write 2. able to write and read only 3. grade 1-8 4. grade 9-12 5. College and above

107	What is your occupation?	<ol style="list-style-type: none"> 1. Jobless 2. Government employer 3. Merchant 4. Retired 5. House wife 6. Others
108	How much your Average Monthly income in birr?	_____
109	Living arrangement	<ol style="list-style-type: none"> 1. Alone 2. living with spouse 3. living with children 4. living with relative

part two:- clinical health related variables

SR.NO	Questions	Choice of Answer
201	Do you have known chronic disease?	<ol style="list-style-type: none"> 1. Yes 2. No
202	If your answer is yes for the above question, which disease do you have?	<ol style="list-style-type: none"> 1. Hypertension 2. Heart disease 3. Diabetic mellitus 4. Epilepsy 5. HIV/AIDS 6. Other
203	How much chronic disease do you have?	<ol style="list-style-type: none"> 1. one

		2.two 3.three and above	
204	Do you have pervious history of depression?	1. Yes 2. No	
205	Do you have pervious family history of depression?	1. Yes 2. No	

Part three:- Standardized Mini mental state examination for cognition Assessment

Say: I am going to ask you some questions and give you some problems to solve. Please try to answer as best you can.

N.B.write“1” if the respondent answer correctly “o” if answered wrong for each questions

Sr.no	Questions	Choice	
		Correct	Incorrect
1	Orientation to Time		
1.1	What is today’s date?		
1.2	What is the month?		
1.3	What is the year?		
1.4	What is the day of the week today?		
1.5	What season is it?		
	Total		
2	Orientation to Place		
2.1	Whose home is this?		
2.2	What room is this?		

2.3	What city are we in?		
2.4	What county are we in?		
2.5	What state/region are we in?		
	Total		

Immediate Recall

Ask if you may test his/her memory. Then say —balll, —flagl, —tree| clearly and slowly, about 1 second for each. After you have said all 3 words, ask him/her to repeat them – the first repetition determines the score (0-3):

Ball
Flag
Tree

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

5. Attention

Ask the individual to begin with 100 and count backwards by 7. Stop after 5 subtractions.

Score the correct subtractions.

93

86

79

72

65

Total: _____

Alternative back spell of the word “WORLD”:

D

L

R

O

W

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

One point for each correct spell

6. Delayed Verbal Recall

Ask the individual to recall the 3 words you previously asked him/her to remember.

Ball

Flag

Tree

Total: _____

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

7. **Naming**

Show the individual a wristwatch and ask him/her what it is. Repeat for pencil.

Watch

Pencil

Total _____

8. **Repetition**

Ask the individual to repeat the following:

No if, ands, or buts

\

Total _____

9. **3-Stage Command**

Give the individual a plain piece of paper and say, —Take the paper in your hand, fold it in half, and put it on the floor.

Takes

Folds

Puts

Total _____

10. **Reading**

Hold up the card reading: “**CLOSE YOUR EYES**” so the individual can see it clearly. Ask him/her to read it and do what it says. Score correctly only if the individual actually closes his/her eyes.

Total _____

11. **Writing**

Give the individual a piece of paper and ask him/her to write a sentence. It is to be written spontaneously. It must contain a subject and verb and be sensible.

Total _____

12. **Copying**

Give the individual a piece of paper and ask him/her to copy a design of two intersecting shapes. One point is awarded for correctly copying the shapes. All angles on both figures must be present, and the figures must have one overlapping angle.



Total _____

Total score (30): _____

Part four:-Substance related factors: The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST v3.1questionnaires
Please circle a response for each substance

S. No	questions	R-mark
301	In your life, have you ever tried the following listed substances? please circle a response for each substance	
	a. Tobacco products (cigarettes)	1.Yes 2.No
	b. Alcoholic beverages (beer, wine, etc.)	1.Yes 2.No
	c. khat	1.Yes 2.No
<p>the answers are “No” to all items in question 301, stop interview, If "Yes" to any of these items ask Question302 for each substance ever used.</p>		
302	In the past three months, have you ever used the following substances?	
	a. Tobacco products (cigarettes)	1.Yes 2.No
	b. Alcoholic beverages (beer, wine, etc.)	1.Yes 2.No
	c. khat	1.Yes 2.No

Part five this part of the questionnaire includes 3 questions related to your experience with social support. Choose one of the suggested alternatives that apply to you.

S.No	Items		Remark
401	How many people are so close to you that you can count on them if you have serious personal problems?	1. None 2. one or two 3. three up to five 4. more than five	
402	How much interest and concern do people show in what you do?	1. None 2. little 3. uncertain 4. some 5. a lot	
403	How easy is it to get practical help from neighbors if you should need it?	1. very difficult 2. difficult 3. possible 4. easy 5. very easy	

Part six:-Assessment of Depression (Geriatrics Depression Scale-15 (GDS-15) questionnaires.

501	Are you basically satisfied with your life?	1.Yes 0.no
502	Have you dropped many of your activities and interests?	1.yes 0.no
503	Do you feel that your life is empty?	1.yes 0.no
504	Do you often get bored?	1.yes 0..no
505	Are you in good spirits most of the time?	1.yes 0.no
506	Are you afraid that something bad is going to happen to you?	1.yes 0.no
507	Do you feel happy most of the time?	1.yes 0..no
508	Do you often feel helpless?	1.yes 0..no
509	Do you prefer to stay at home rather than going out and doing new things?	1.yes 0.no
510	Do you feel you have more problems with memory than most?	1.yes 0.no
511	Do you think it is wonderful to be alive now?	1.yes 0.no
512	Do you feel pretty worthless the way you are now?	1.yes 0.no
513	Do you feel full of energy?	1.yes 0.no
514	Do you feel that your situation is hobbles?	1.yes 0.no
515	Do you think that most people are better off than you are?	1.yes 0.no

11.21 Annex III Amharic version Consent form

አማርኛ መጠይቅ፡ መረጃ ክፍል -----

ውድተሳታፊዎች

ስሜ-----

ይባላል፡፡ በደብረ-ብርሀን ከተማ የሚኖሩ አዛውንቶች ላይ የድብርት በሽታ ምን ያህል እንደሆነና ከሱ ጋር ሊያያዙ የሚችሉ ምክንያቶች ላይ ለሚደረግ ምርመራ መረጃ ሰብሳቢ ነኝ፡፡ ምርመራ ንድፍ ምሳሌ ላይ ወደ መቤት ለታትባ ላለች፡፡ እመቤት ለታትባ በደብረ-ብርሀን ዩኒቨርሲቲ የሚሰጠውን በአዋቂ ዎች ጤና ነርስነት ድህረ ምረቃ ተማሪ መደረግ ካለባቸው ግዴታዎች አንዱ የምርመራ ጥናት ማከናወን ነው፡፡ ይህ ደብዳቤ በዚህ ምርመራ ላይ ተሳታፊ እንዲሆኑ ለመጋበዝ ነው፡፡

የጥናት ምርመራ በደብረ-ብርሀን ከተማ የሚኖሩ አዛውንቶች ላይ የድብርት በሽታ ምን ያህል እንደሆነና እና ምክንያቶች ላይ ለሚያያዙ ምክንያቶች፡፡

መግቢያ፡ በተለያዩ አገራት የተደረጉ ጥናቶች እንደሚያሳዩት የድብርት በሽታ በእድሜ የገፉ (አዛውንቶች)

ላይ እንደሚበዛ ያሳያል፡፡ ይህ ደግሞ አዛውንቶች የተሻለ ህይወት እንዳይኖሩ ያደርጋቸዋል፤ ከምንም በላይ ህይወታቸውን እንደያጠፉ ምክንያት ሊሆን ይችላል፡፡ ይህ ጥናት ወደ ፊት በድብርት በሽታ ለሚሰቃዩ አዛውንቶች ህክምና ያጠናክራል ተብሎ ይታሰባል፡፡

የምርመራ ዓላማ፡-

አዛውንቶች ላይ የድብርት በሽታ ምን ያህል እንደሆነና እና ምክንያቶች ላይ ለሚያያዙ ምክንያቶችን መዳሰስ ነው፡፡ በዚህ ጥናት ለመሳተፍ ውሳኔው የእርስዎ ነው፡፡ መሳተፍ ካልፈለጉ ምንም እንኳን ለደብዳቤ ጠቅላይ ጥያቄዎች ምንም ዓይነት ግርዛድ ኖሮም፡፡ ለመሳተፍ ከወሰኑ ምንም ዓይነት ጥቅም አይኖረውም ሆኖም ግን በምርመራው ወቅት ህመሙ ከተገኘ ብዎት በባለሙያ አስፈላጊ ህክምና ይደረግልዎታል፡፡ በጥናቱ በሚሳተፉ በትግበራ ለደብዳቤ ደርሰው ምንም ዓይነት ጉዳት የለም፡፡ በዚህ ጥናት ላይ የሚሰጡ ማንኛውም መልስ በኮድ ስር አትበሙ ስሜን ለመጠይቅ ወይንት የሚቀመጥ ሲሆን ለማንም ሰው አይሰጥም፡፡ ስምዎንም ሆነ ስልክ ቁጥርዎንም ስጠኑት አይጠበቅብዎትም፡፡ በማንኛውም ሰዓት እራስዎን ከጥናቱ ለማግለል ሙሉ ጥንቅቅ ያለዎት፡፡ ቃለ መጠይቁ

ደቂቃ ሊፈጅ የሚችል ሲሆን በዚህ ጥናት ላይ ለመሳተፍ ከፈቀዱ ስምዎን ትፈረግ በቅፅ ላይ መፈረም ይኖርብዎታል፡፡ ከዚያ ምንም መረጃ ሰብሳቢዎች ለሽያጭ አንዲሰጡ ይጠየቃሉ፡፡

የተመራማሪዎቻቸው:- እመቤትለታስልክ- +251-943 39 36 91

የአማካሪዎችስም:-1.አቶንጉስአለምነውስልክ-+251910211536

2. ብሌንንጉሴስልክ-+251993818808

በቃለመጠይቁለመሳተፍፍቃደኛዎች 1.አዎ 2.አይደለሁም

የተሳታፊማረጋገጫ:-

የሰነዱንይዘትየተረዳሁሲሆንምርመርፕሮጀክቱንምዓላማተረድቻለሁ።በዚህምርመርፕሮጀክት
ትላይምለመሳተፍፍቃደኛሆኛለሁ።በማንኛውምሰአትከጥናቱራሴንለማግለልመብትእንዳለኝአ
ውቅያለሁ።

የተሳታፊፊርማ----- ቀን-----
 መረጃሰብሳቢስም ----- ፊርማ-----
 ቀን-----
 የሱፐርቪዥዎችስም----- ፊርማ----- ቀን---

በዚህአጠገብቃለመጠይቅለመሳተፍፍቃደኛስለሆኑአመሰግናለሁ።ቃለመጠየቁንለማጠናቀቅ
20 ደቂቃየሚፈጅሲሆንሁሉንምጥያቄዎችለመመለስይሞክሩ።ለትዕግሥትዎእናመሰግናለን።

ክፍልአንድ: የማህበራዊናኢኮኖሚያዊመረጃዎች

ቁ	ጥያቄ	መልስ
101	እድሜ(በአመት)	-----
102	ፆታ	1.ወንድ 2. ሴት
103	ብሄር	1.አማራ 3. ትግሬ

		2.አሮሞ 4.ጉራጌ 5.ሌላካለይጥቀሱ-----
104	የጋብቻሁኔታ	1. ያላገባ/ች 2.ያገባ/ች 3.የፈታ/ች 4.የሞተችበት/ባት
105	የት/ትደረጃ	1. መፃፍናማንበብ የማይችል 2. ማንበብና መፃፍ የሚችል 3. ክፍል1----8 4. ክፍል 9-12 5. ዲፕሎማ ነ ካዛ በላ
106	የስራሁኔታ	1. ስራየሌለው/ት 2. የመንግስትስራተኛ 3. ነጋዴ 4. ጡረተኛ 5. የ ቤትእመቤት 6. ሌላካለይጥቀሱ
107	የወርገቢ	_____
108	ከማንጋርነው የሚኖሩት?	1. ለብቻ 2.ከትዳርአጋርጋር 3.ከልጆችጋር 4.ሌላ(ከዘመድ/ከጎሮቤትጋር)

109	ሀይማኖት	1.አርቶዶክስ 2.ሙስሊም 3.ፕሮቴስታንት 4.ካቶሊክ 5.ሌላ-----
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ክፍልሁለት፡ከአካላዊጤንነትንየሚመለከቱመረጃዎች

ተ.ቁ	ጥያቄ	መልስ
201	የታወቁየቆዩበሽታዎችአሉባቸው?	1. አዎ 2. የለም
202	ለላይኛውጥያቄመልስዎአዎከሆነየትኛውበሽታ ነውያለብዎት?	1. የደምጊፍት 2. የስካርብሽታ 3. የልብሕመም 4. የሚጥልበሽታ 5. ችአይቭ/ኤድስ
203	ከላይከተጠቀሱትውስጥስንትበሽታአለብዎት?	1. አንድ 2. ሁለት ከሁለትበላይ

204	ከዚህ በፊት ድብርት አጋጥሞዎት ያውቃል	1. አዎ 2. የለም
205	ከዚህ በፊት በቤተሰብዎ ውስጥ ድብርት ያጋጠመው ስው አለ	1. አዎ 2. የለም

ክፍል 3: የአእምሮ ስራ ሁኔታን በተመለከተ

1. ጊዜን በተመለከተ

ትክክል(1)

ስህተት(0)

ዛሬ ቀኑን ስንት ነው?

ወሩ ምን ይባላል?

ዘንድ ሮዓ/ምህረቱ ስንት ነው?

የዛሬው እለት ምን ይባላል?

ወቅቱ ምን ድንገት ነው?

ጠቅላላ _____

2. ቦታን በተመለከተ

ይህ ቤት የማን ነው?

ያለንበት ቤት ይህ ክፍል ምን ይባላል?

አሁን የምንገኝበት ከተማ ምን ይባላል?

አሁን የምንኖርበት ሀገር ማንት ባላለች?

በየትኛው ክልል ነው አሁን የምንገኘው?

ጠቅላላ _____

3. በፍጥነት ማስታወስን በተመለከተ

በመጀመሪያ ማስታወስን በተመለከተ መረጃ ሰጪውን መጠየቅ እንደምትችሉ ጠይቅ ከዚያም የሚቀጥሉትን ቃላት በግልጽና በዝግታ (አንድ ሴኮንድ ለእያንዳንዱ ቃል)

ኪስ፣ ሰንደቅ አላማ፣ ዛፍ የሚሉ ቃላቶችን ከተናገርክ በኋላ መልሱን እንዲያውግ ማቸው ጠይቅ። የመጀመሪያው ድግግሞሽው ጤቱን ይወስነዋል።

ኪስ	<input type="checkbox"/>	<input type="checkbox"/>
ሰንደቅ አላማ	<input type="checkbox"/>	<input type="checkbox"/>
ዛፍ	<input type="checkbox"/>	<input type="checkbox"/>
ጠቅላላ _____		

4. ትኩረትን በተመለከተ

ግለሰቡን/ቧን ከ100 ወደኋላ ሰባት እንዲቀንስ ጠይቅ። አምስተኛው ስሌት ላይ ያቆማል።

93	<input type="checkbox"/>	<input type="checkbox"/>
86	<input type="checkbox"/>	<input type="checkbox"/>
79	<input type="checkbox"/>	<input type="checkbox"/>
72	<input type="checkbox"/>	<input type="checkbox"/>
65	<input type="checkbox"/>	<input type="checkbox"/>
ጠቅላላ _____		

እንደ አማራጭ አላማችን የሚለውን ወደካላ ያነብቡ

ንችማ ለ አ

ጠቅላላ _____

5. ከቆይታ በኋላ ያለ የማስታወስ ብቃትን በተመለከተ

ግለሰቡን/ቧን ቅድም ደጋገሟቸውን ቃላት እንዲያስታውሱ ጠይቅ

ኪስ	<input type="checkbox"/>	<input type="checkbox"/>
ሰንደቅ አላማ	<input type="checkbox"/>	<input type="checkbox"/>
ዛፍ	<input type="checkbox"/>	<input type="checkbox"/>

ጠቅላላ _____

6. በስም መለየትን በተመለከተ

ለግለሰቡ የእጅ ሰአት አሳይተህምን ድንኳን ውብ ለህጠይቅ። ለእርሳሱም በተመሳሳይ ሁኔታ ድገም

ሰዓት	<input type="checkbox"/>	<input type="checkbox"/>
እርሳስ	<input type="checkbox"/>	<input type="checkbox"/>

ጠቅላላ _____

7. ድግግሞሽንን በተመለከተ

ግለሰቡን የሚቀጥሉትን ሀረጎች እንዲደጋግሙ ጠይቅ። “አይሆንም/እና/ ነገርግን”

<input type="checkbox"/>	<input type="checkbox"/>
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ጠቅላላ _____

8 .ባለሰብት ደረጃ ትዕዛዝ

ወረቀት ስጠው/ስጥት ከዚያም ትዕዛዝ ስጥ። ወረቀቱን በእጅ ውሰድ፤ ለሁለት እጠፈው እና ወለልላይ/ ጠረጴዛ ላይ አስቀምጠው።

መውሰድ	<input type="checkbox"/>	<input type="checkbox"/>
ማጠፍ	<input type="checkbox"/>	<input type="checkbox"/>
ማስቀመጥ	<input type="checkbox"/>	<input type="checkbox"/>

ጠቅላላ _____

9 ማንበብን በተመለከተ

በካርድ ላይ የሚነበብ ነገር ጻፍ “አይንህን ጨፍን” ከዚያም ግለሰቡን ወይም ግለሰቧን አንብቦ ያነበ በውን እንዲተገብር አሳስበው። ሙሉው ጤቱን የሚያገኘው/ የምታገኘው በትክክል የተጻፈውን ከተገባረነው።

ጠቅላላ-----	<input type="checkbox"/>	<input type="checkbox"/>
-----------	--------------------------	--------------------------

10 ጽህፈትን በተመለከተ

ለግለሰቡ/ቧ ወረቀት እና እስክብሪት ስጠው/ጥት ከዚያም ሰዎችን ለሰዎች ስርዓቱን ያሟላላረፍ ተነገር እንዲ ጽፍ/ትዕፍ ጠይቀው/ቃት። ዓ/ነገሩን መፃፍ ያለባቸው በራሳቸው ምርጫ ፍፍላጎት በፍጥነት መሆን ይ ኖርበታል።

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

ጠቅላላ _____

11 ለግለሰቡ/ቧወረቀት እና እርሳስ/እስክርቢቶስ ጠውናሁ ለትእርስበራሳቸው የሚያቋርጡ ጎነአምስትስ እሎች እንድትሰራ/ዲሰራ ጠይቅ። ስእሎችሁ ሉም አንግሎች መኖር አለባቸው። ስእሉ አንዱ በአንዱ ላይ የሚያልፍ አንግል ይኖረዋል።

ጠቅላላ _____



አጠቃላይ ድምር ከ30 _____

ክፍል-4. እፅመጠቀምን በተመለከተ (አስስትሽ-3.1)

ተ.ቁ	ጥያቄዎች	አስተያየት	
301	<p>በህይወትዎ ከታችከተዘረዘሩት እፅሞ ክረው ያውቃሉ?</p> <p>እባክዎን ለእያንዳንዱ እፅም ለሽክብ ያድርጉ</p>		
	<p>ሀ. የትምባሆምርቶች (ሲጋራዎች)</p>	<p>1.አዎ 2.አይ</p>	
	<p>ለ. የአልኮል መጠጦች (ቢራ, ወይን, ወዘተ.)</p>	<p>1.አዎ 2.አይ</p>	
	<p>ሐ. ጫት</p>	<p>1.አዎ 2.አይ</p>	
<p>የቁ 301 ውስጥ ለሁሉም እፅሞ ልሶች “አይ” ከሆኑ፣ ቃለመጠይቁን ያቋሙ፣ ከእነዚህ እጾች ለአንዱም “አዎ” ከሆነ፣ ጥያቄ 302 ይጠይቁ።</p>			

302	ባለፉት ሶስት ወራት ውስጥ ከሚከተሉት እያንዳንዱን ተጠቅሙ?		
	ሀ. የትምህርት ምርጫዎች (ሲጋራዎች)	1. አዎ 2. አይ	
	ለ. የአልኮሎል መጠጦች (ቢራ, ወይን, ወዘተ.)	1. አዎ 2. አይ	
	ሐ. ጫት	1. አዎ 2. አይ	

ክፍል - 5: ማህበራዊ ድጋፍን በተመለከተ (ኦስሎ- 3)

ተ/ቁ	የጭዎች	የመልስ ምርጫ
401	ከጎሮቤት እርዳታ ቢያስፈልግዎብቀላሉ ማግኘት ይችላሉ?	1. በጣም በቀላሉ 2. በቀላሉ 3. ይቻላል 4. ከባድነ 5. በጣም ከባድነው
402	በጣም ከባድ ግርቢ ገጥሞዎች በዙሪያዎ በቁጥር ምን ያህል ሰው ይኖራል?	1. ምንም ከ 1-2 3. ከ 3-5 4. አምስት ና ከዚያ በላይ

403	እርስዎ በሚያደርጉት ነገር ላይ ሰዎች ምን ያክል ፍላጎት ያሳያሉ?	<ol style="list-style-type: none"> 1. ምንም 2. ጥቂት 3. እርግጠኛ አይደለሁም 4. የተወሰነ 5. ብዙ
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ክፍል-6: ድብርት ንብተመለከተ (ጀራትርክድፕሬሽን እስኬል -15 (ጅድኤስ-15))

501	በመሰረታዊነት በህይወትዎ እርካታ አልዎት?	1. አዎ 0. አይደለሁም
502	የስራ ፍላጎት መቀነስ አልዎት?	1. አዎ 0. የለም
503	በህይወትዎ ባዶነት ይሰማዎታል?	1. አዎ 0. አይሰማኝም
504	በነገሮች መሰላቸት አልዎት?	1. አዎ 0. የለም
505	ብዙ ጊዜ ጥሩስ ሜት ይሰማዎታል?	1. አዎ 0. አይሰማኝም

506	መጥፎነገርሊከሰትቢኝ/ሊገጥመኝይችላልብለዉይፈራሉ?	1.አዎ 0.አይ
507	ብዙጊዜደስተኝነትይሰማዎታል?	1.አዎ 0.አይሰማኝ ም
508	ረዳትእንደሌሎችይሰማዎታል?	1.አዎ 0..አይሰማኝ ም
509	ወደውጪወተዉአዳድስነገሮችንከመስራትይልቅእቤትዉስጥመዋልንይ መርጧሉ?	1.አዎ 0.አይ
510	ብዙጊዜነገሮችንየማስታወስችግርአላብኝብለዉያስባሉ?	1.አዎ 0. አይ
511	ለርስዎአሁንበህይወትመኖርዎበጣምአረፍነውብለዉያስባሉ?	1. አዎ 0. አላስብም
512	አሁንያሉበትሁኔታዋጋቢስ/የማይረባነውብለዉያስባሉ?	1. አዎ 0. አይሰማኝም
513		1. አዎ 0.

	ሙሉሀይልወይምጉልበትእንዳልዎትይሰማዎታል?	አይሰማኝም
514	የርስዎሁኔታተስፋየለውምብለውያስባሉ?	1.አዎ 0.አይ
515	ብዙሰዎችከኔየተሻሉናቸውብለውያስባሉ?	1. አዎ 0. አላስብም

11.3 Declaration

I, the undersigned, hereby declare that the work entitled “prevalence of depression and associated factors among older people in Debre Berhan town, North Shoa Zone, Amara Region, Ethiopia, 2022” presented in this research thesis is original. It has not been presented to any other university or institution. Where, the work of other people has been used, reference has been provided. In this regard, I declare this work to be our unique work.

Name and signature of the investigators

Name

Signature

Date

Emebet Leta
