ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF PREVENTIVE MEDICINE

SHOE-WEARING PRACTICE FOR PREVENTION OF PODOCONIOSIS AND ITS ASSOCIATED FACTORS IN HIGHLY ENDEMIC AREAS OF THE WOLAYITA ZONE, SOUTH ETHIOPIA REGIONAL STATE: THE APPLICATION OF HEALTH BELIEF MODEL

By

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This thesis, by Bethelhem Messele accepted in its present form by the board of examiners as a fulfilling for degree of master's Public Health (MPH) in Health Education and Health Promotion specialty.

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ACRONYMS

AAU	Addis Ababa University
CHBMS	Champion's Revised Health Belief Model Scale
HBM	Health Belief Model
HEPs	Health Extension Program
LF	Lymphatic Filariasis
MPH	Master of Public Health
NaPAN	National Podoconiosis Action Network
NGOs	Non-Governmental Organizations
NTD	Neglected tropical diseases
PhD	Doctor of Philosophy
SPSS	Statistical Packages for Social Sciences
SPH	School of Public Health
SNNPR	Southern Nations Nationalities Peoples Region
USD	United States Dollar
WHO	World Health Organization

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ABSTRACT

Background: Podoconiosis is a chronic, non-communicable, non-infectious, neglected tropical disease that is acquired by walking barefoot in red clay volcanic soils for a long period of time. Although many studies have been conducted on podoconiosis in Ethiopia, most of them have focused on the prevalence of the disease, therapy, and prevention strategies to manage the disease, and the study participants were those who were affected by it. Therefore, this study aimed to investigate how households in the Wolayita Zone perceive podoconiosis and shoe-wearing practices to prevent it.

Objective:-To assess shoe-wearing practices for the prevention of podoconiosis and its associated factors in highly endemic areas of Wolayta Zone, South Ethiopian Regional State, 2023.

Methods: A study was conducted in selected woredas of Wolayta Zone using a cross-sectional study design. The study had a total sample size of 617 participants, who were chosen using a multistage cluster sampling technique. Data was collected using Kobo Toolbox software, and SPSS version 27 software was used for the analysis. The association between the variables was identified using bivariable logistic regression with a p-value <0.25, then feed into multivariable logistic regression with a p-value <0.05 and a confidence interval of 95%, which were considered to be significantly associated variables.

Result: In this study, out of 617 participants, 594 had participated with a response rate of 96.3%, and 301 (50.7%) of the respondents had good shoe-wearing practice. Out of the 594 participants, 335 (56.4%) were male, 169 (28.5%) were aged between 25 and 34, and 282 (47.5%) had a monthly income between 2751 and 5000 Ethiopian birr. Variables significantly associated with shoe-wearing practice were: residence in rural areas (AOR.210, 95%CI.101,.437); marital status being single (AOR 5.927, 95%CI 2.062, 17.042); occupation status: being a farmer (AOR.392, 95%CI.176,.876); educational status: primary (AOR 3.143, 95%CI 1.298, 7.615), secondary (AOR 7.558, 95%CI 2.998, 19.050); and higher education (AOR 7.933, 95%CI 2.811, 22.390); and among health belief model constructs, perceived barriers (AOR.849, 95% CI.792,.910) and perceived self-efficacy (AOR 1.150, 95% CI 1.000, 1.323) were significantly associated.

Conclusion: The study found that only 50.7% of participants had good shoe-wearing practices. To improve this, community leaders and other stakeholders should educate their communities about the importance of good shoe-wearing practices and make shoes more accessible, comfortable, and affordable. This study has the potential to reduce the incidence of podoconiosis by identifying the predictors of shoe wear.

Keywords: podoconiosis, HBM (health belief model), Wolayita Zone, shoe-wearing

INTRODUCTION

1.1 Background

Neglected Tropical Diseases (NTD) are chronic parasitic diseases that are common among the world's poorest and most vulnerable people, particularly those living in remote areas of Africa, North-West India, and Central America (1–3). Podoconiosis (endemic non-filarial elephantiasis) is a non-communicable, chronic, non-infectious NTD. It is widespread among the world's poorest and most vulnerable people, who live in remote areas of Africa, North-West India, and Central America. It is a geochemically-induced lymph edema resulting from barefoot exposure to volcanic red clay soils. Due to the interaction of hereditary and environmental factors that triggers an inflammatory response that leads to lymph edema and fibrosis (4, 5).

Early symptoms of podoconiosis include burning in the foot and lower leg as well as itching of the skin on the forefoot. Later on, it develops persistent foot swelling, which begins on the dorsum of the foot and progresses to the lower leg knee but rarely involves the groin. The swelling is bilateral in nature, asymmetric, and usually limited to below the knees, with mossy and nodular skin changes (3, 4).

Most patients acquire complications due to repeated infections of bacteria and fungus in the affected leg(s), necessitating extra medical attention (4). The death rate among people with podoconiosis is six times higher than in control groups, which makes it a public health issue (6). Therefore, to tackle its consequences, prevention is mandatory. Due to the lack of a biological agent or vector, the relatively limited global scope of the disease, and the safe methods of podoconiosis prevention and control measures, it is possible to control podoconiosis. Evidence and key strategies for podoconiosis control suggest prevention of contact with irritant soil through footwear use, foot hygiene, and covering floors are the three prevention methods (7) (6).

1.2 Statement of the Problem

Podoconiosis affects around four million people worldwide (8). The disease is prevalent in tropical Africa, Central America, and North India (5). According to the WHO report, 12 of the 17 countries with podoconiosis are in Africa, with a total prevalence of 7.8% (9, 10). Over a third of those affected by podoconiosis worldwide (1.5 million) live in Ethiopia. The national average prevalence of podoconiosis is 4.0%, with the SNNP region having the greatest prevalence (8.3%) (11). In the SNNP region, the highest prevalence is found in the Wolayta zone, which is 5.5%, according to a population-based household survey in 2003 (11) (9).

Podoconiosis is a considerable public health problem in Ethiopia, yet little is known about the community's understanding of it (12). It is common among remote rural communities, in particular those dependent on subsistence farming, and productive age groups (15–64) (13) (6). Podoconiosis also has significant social and economic consequences. Social consequences like reduced employment and educational opportunities, social exclusion, challenges in interpersonal relationships, and an 11-time higher likelihood of depression than healthy neighbors (21, 33) (6). Over all, patients lose 45% of their economically productive time because of the morbidity associated with the disease. In addition, the 2005 statistics showed the economic cost due to impairment caused by podoconiosis in Ethiopia is greater than USD 200 million annually (14). Until recently, podoconiosis was assumed to lead to illness rather than death. However, according to Hannah et al.'s findings, the death rate among people with podoconiosis is higher than the comparison groups, with an overall standardized mortality rate of 6 percent (15).

To the best of my knowledge, studies conducted in our nation on podoconiosis focus on the prevalence of the disease, therapy, and prevention of the progression of the disease to an advanced stage, and the study populations are affected populations. And also, only a few studies have been done on perceptions regarding podoconiosis and its primary prevention practice. A qualitative study done in the Wolayita Zone on school-aged children from affected families by applying the health belief model and a quantitative study on the knowledge, and practice on the importance of shoe wearing and its Associated Factors (16, 17). Therefore, the aim of this study is to address this gap by identifying perceptions of the community’s (affected and unaffected) regarding podoconiosis and its prevention measure (shoe-wearing).

1.3 Significance of the Study

The findings of this study will provide a baseline for future studies aimed at understanding how people view podoconiosis, its prevention measures, and what motivates or hinders them from engaging in the prevention practices. In addition, with other similar work, it can be an input for policymakers to look up effective intervention strategies that meet cultural needs while still reducing barriers and enhancing the benefits associated with preventive behaviors against podoconiosis. Hence, the government of Ethiopia prioritized podoconiosis as one of eight priority NTDs on the national master plan for NTD. And also on the 3rd national NTD strategic plan, podoconiosis is one of the diseases targeted for control by 2030 by using proper and regular shoe-wearing as the indicators of national milestones for podoconiosis control (11,18).

LITERATURE REVIEW

2.1 Global Burden of Podoconiosis

Although podoconiosis has been recognized as a specific disease entity for over a thousand years, the exact global burden of the illness is unknown, despite estimates indicating that four million people worldwide—diseased in 17 countries—struggle with podoconiosis. Given that the illness is poorly understood, the number can be higher than anticipated (19, 20). The disease was more prevalent and widespread in tropical Africa, Central America, and northern India, but it remains neglected (19). According to the WHO report, of the 17 countries where podoconiosis is prevalent, 12 are from Africa, with a high number in Ethiopia (1.5 million), in Cameron (40,000), in Kenya (9000), and in Rwanda (7000) (6).

2.2 Podoconiosis in Ethiopia

Podoconiosis affects around 1.5 million people in Ethiopia. The country's overall prevalence of podoconiosis is 4.0%, with the SNNP region having the highest frequency (8.3%), followed by Amhara (3.9%) and Oromia (4.0%) (17, 21). There were 345 districts in Ethiopia where the illness frequency was greater than 1% (5). The underlying cause of podoconiosis, red clay soil, is thought to occupy 18% of Ethiopia's surface area, where 22–25% of the country's 19.3 million people live (9).

Data from the National podoconiosis Action Network (NaPAN) show that 8 districts in Wolayta Zone have a prevalence of more than 10%; around 3 districts are between 5 and 10%, and 4 districts are between 1 and 5% (20). The overall prevalence of podoconiosis in Wolayita Zone is 5.5%, according to a population-based household survey in 2003 (11).

2.3 Causes and Risk Factors for Podoconiosis

The WHO reports that no biological agent for podoconiosis has been identified; it is influenced by both hereditary and environmental factors (WHO report 2023). The etiology of the condition is explained by genetic predisposition, chronic infections, and a lack of micronutrients.

Aluminum and silicon are absorbed through the foot, resulting in the formation of macrophages in the lower lymph nodes, lymphatic fibrosis, and blockage (20).

Previous research identified the following factors as contributing to podoconiosis prevalence: Lack of awareness of the disease; age greater than 65 years; frequent exposure to irritant clay due to farming activities; lack of clean water in a rural community; marital status; wealth index; number of shoes owned; soap usage during foot washing; family history (17, 21). A comprehensive analysis also found that being female in rural settings raises the probability of developing podoconiosis by 1.29 times more than being male. However, in urban areas, both sexes were at about the same risk (9).

2.4 Prevention Methods to Eradicate Podoconiosis

The World Health Organization establishes important strategies for podoconiosis control and prevention. The first way is primary prevention, which involves avoiding contact with irritating soil, while the second and third methods are secondary and tertiary prevention, respectively, and involve lymph edema morbidity management. Furthermore, evidence from the previous 5 years indicates that wearing appropriate footwear and maintaining proper foot hygiene minimizes the incidence of podoconiosis. Controlling podoconiosis is possible due to the lack of a biological agent or vector, the relatively small global scale of the problem, and the safe methods of podoconiosis prevention and control measures (6). For instance, it has been eradicated in France, Scotland, and the Canary Islands as the use of shoes to protect the feet from irritant soil has become universal (12).

2.4.1 Shoe-Wearing Practice for Prevention of Podoconiosis

The purpose of podoconiosis prevention is to keep people from coming into direct and prolonged contact with irritating volcanic soils, and one of the preventive methods is to wear proper and consistent footwear (21). Wearing shoes decreases skin-on-foot contact with other environmental factors that could cause infection or damage. Wearing shoes, on the other hand, may not always result in strong adherence, especially among those living in resource-limited environments. Furthermore, it is well recognized that people living in rural areas with low socioeconomic origins are typically unaware of the potential difficulties associated with podoconiosis (24, 25).

A significant number of Ethiopians still lack access to shoes, and it is predicted that supplying shoes to school-aged children will reduce the incidence of podoconiosis (24).

2.4.1.1 Predictors of Shoe-Wearing Practice to Prevent Podoconiosis

2.4.1.1.1 Socio-Demographic Factors Associated With Shoe-Wearing Practices to Prevent Podoconiosis

According to a study done in Wolayta Zone, the most common reasons for not wearing shoes were: being unable to afford shoe prices; being uncomfortable to walk and work in; difficulty finding the correct size; sex, as females had approximately half the knowledge score of males; employed respondents were more likely than unemployed respondents to wear shoes; and respondents who graduated from health extension packages were twice as likely to wear shoes than respondents who had not graduated (13, 27). In another study, respondents who were not married were 4.6 times more likely to wear shoes than married respondents.

2.4.1.1.2 Knowledge, Attitude, and Perception-Related Factors Associated With Shoe-Wearing Practices to Prevent Podoconiosis

The knowledge gap is a major factor in the occurrence of podoconiosis. For instance, the study done in Gojam showed that many study participants said (41.3%) they did not know the cause, while others hypothesized barefoot walking (18%), heritability (7%), and exposure of feet to condensation (7.4%). Having a positive attitude towards shoe wear and positive social norms that shoe wear is the right thing to do are also factors (26).

Other research revealed a knowledge gap among health professionals on podoconiosis prevention and control. According to the findings, 21.9%, 11.9%, and 22.1% of health professionals believe the condition is caused by infectious agents, parasites, and curses/evil eyes, respectively; 45% of participants answered erroneously concerning podoconiosis risk factors. Overall, 68 (23.1%) of health professionals were unaware of podoconiosis prevention and control strategies (27).

Similarly, in another study, those with a high knowledge score on podoconiosis were twice as likely to wear shoes as those with a low knowledge score. Approximately half (53.9%) misunderstand podoconiosis as an infectious disease (25). The findings of a study done in

Aneded district also showed that respondents who knew the drawbacks of barefoot walking were 3.3 times more likely to wear shoes than those who did not know the drawbacks of barefoot walking (30).

2.5 Factors Affecting Prevention Methods for Podoconiosis

It is probably possible to eliminate podoconiosis because it is not contagious. As was previously mentioned, wearing shoes is a useful strategy to stop podoconiosis. Consistent use of shoes, regular foot hygiene, and covering floors are the key preventive strategies against podoconiosis. Even though these actions seem straightforward, endemic area residents find them difficult to embrace due to social, practical, and logistical issues. Financial constraints, lack of appropriate shoes for wet and dry seasons, and socio-cultural factors all affect the availability and use of shoes (28).

The main challenge faced in podoconiosis control is lack of understanding about the exact environmental trigger, and lack of awareness creates confusion among people. Despite its prevention and treatment being most effective when diagnosed early, in most countries, the diagnosis takes longer because of the diagnostic tools that can be used in the community. And also, it gets less attention at the regional and national levels because of its long, latent phase (6). Although podoconiosis is officially recognized by the World Health Organization (WHO) as an NTD, there is no worldwide strategy for prevention or control of podoconiosis. As podoconiosis is still placed under the lymphatic-filariasis (LF) control program, this leaves countries with no LF program in a challenging situation (29).

2.6 Impact of Podoconiosis

2.6.1 Economic Impact

If podoconiosis is not identified and treated promptly, it may result in both temporary and permanent disabilities (15). Due to impairment, the economic cost of podoconiosis per patient per year in endemic areas of Ethiopia was calculated at 45% of total working days, or 63 USD. And by extrapolating directly from these 2005 statistics, it is projected that the economic loss caused by podoconiosis in Ethiopia is greater than $200 million annually (14).

A study conducted in Gulliso Woreda found out that 90.3% of sufferers have been within the 15–64 age range, so we are losing productive age group. In general, 67% of sufferers developed the sickness earlier than the age of thirty; because of this, 24 working days have been missed annually, and shoe-wearing has become specifically constrained because of monetary problems. Farmers, the uneducated, and the poor have suffered the most (13). Therefore podoconiosis can hinder the development of the country.

2.6.2 Social Impacts

Podoconiosis-related impairments develop over time and play a significant role in stigma. Reduced employment and educational opportunities, social exclusion, and challenges in interpersonal relationships, including marital problems, are a few examples of social consequences (21, 33). Psychological consequences include feelings of shame, low self-esteem, mental distress, depression, anxiety, and decreased individual and family quality of life (26).

2.7 The Health Belief Model

The Health Belief Model (HBM) is a psychological model that seeks to explain and predict health-related behaviors by focusing on an individual's beliefs about their illness and the behavior that is necessary to prevent it (30). The model proposes that individuals will engage in preventive behaviors if they believe they are susceptible to the illness and that they will benefit from engaging in the behavior. Additionally, the model also takes into account perceived barriers to engaging in preventive action (35, 36). In the case of podoconiosis, an individual's beliefs about the severity of the condition, their perceived risk of developing it, and their perceived benefits and barriers to wearing shoes all play a role in determining whether people will adopt the behavior.

2.8 Conceptual Framework

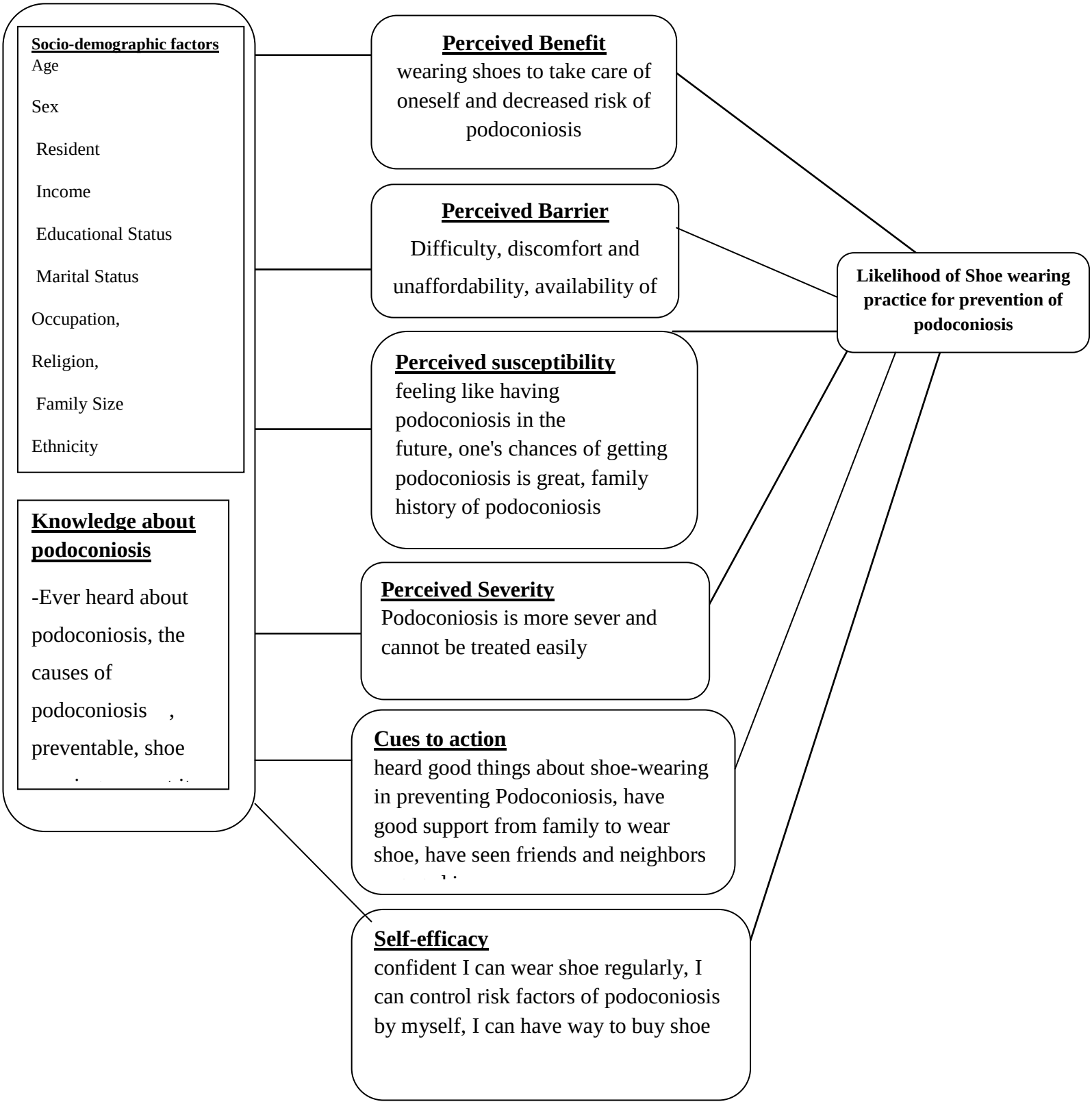

Figure 1: Conceptual framework adapted from CHBMS and different literatures(17, 33–36)

OBJECTIVE

3.1 General Objective

- To assess the prevalence and its associated factors of shoe-wearing practices for the prevention of podoconiosis in highly endemic areas of Wolayta Zone, 2023

3.2 Specific Objective

- To assess the prevalence of shoe-wearing practices for the prevention of podoconiosis in Wolayta Zone, 2023
- To identify associated factors of shoe-wearing practice for the prevention of podoconiosis in Wolayta Zone, 2023

METHODS AND MATERIALS

4.1 Study Setting

The study was conducted in the Wolayta Zone, which is located in the South Ethiopia Regional State. The capital city of the Wolayta Zone is Sodo, which is approximately 380 km away from Addis Ababa, the capital city of Ethiopia. According to the 2021 administrative office of the Wolayita Zone, there are sixteen woredas and six administrative towns. The total population of the Zone is predicted to be 2,489,437, with 1,220,660 males and 1,268,778 females. Approximately 67% of the total population resides in rural areas and depends mainly on farming for their livelihoods (32).

The health coverage of the Zone is 55%, and there are 310 health posts, 24 health centers, one public hospital, and 98 private health facilities (27). Wolayta Zone was selected for the study due to its high prevalence of podoconiosis. According to the elephantiasis survey conducted in 2001, there were at least 81,000 people suffering from podoconiosis in the Wolayita Zone.

Figure 2: Administrative map of the Wolayita Zone, Source: http://touristinfo.ning.com/photo/damot-mountain-

4.2 Study Design and Period

The study was conducted within the timeframe of March 2023 to April 2023, using a cross-sectional study design among households in the Wolayita Zone.

4.3 Source and Study Population

4.3.1 Source Population

This includes all individuals living in areas that are highly endemic for podoconiosis in the Wolayta Zone.

4.3.2 Target Population

Refers to individuals who were residing in the selected woredas of the Wolayta Zone.

4.3.3 Study Population

The study population comprises individuals from selected households in which data was actually collected.

4.4 Eligibility Criteria

4.4.1 Inclusion Criteria

Individuals who have been permanently residing in the study area for at least six months (>=6 months) are eligible to participate.

4.4.2 Exclusion Criteria

The exclusion criteria specify that individuals below the age of 18 (< 18) are not eligible to participate in the study.

4.5 Sample Size Determination

The sample size for the prevalence of shoe-wearing practice was determined by using a single population proportion formula with the following assumptions:

- $n = \frac{(Z\alpha/2)^2\, p(1-p)}{d^2}$

Where n = sample size, P = expected proportion of Shoe wearing practice = 0.419 (33) , Z = confidence interval (95%), α = significance level (0.05), Zα /2 = the standard score for 95% confidence level is 1.96, and d = margin of error (0.05).

Variable	Expected proportion (P)	Sample size (n)
Shoe wearing practice	0.419	374

- $n = \frac{(Z\alpha/2)^2\, p(1-p)}{d^2}$

  $= \frac{(1.96)^2 0.419\ (0.581)}{0.05^2}$

  = 374

Since the multistage sampling method is used, the design effect was applied to calculate the sample size. Then 374* 1.5 = 561

To minimize errors arising from the likelihood of a non-response rate, ten percent of the sample size is added to the calculated sample. Then it becomes:

561+ 56 = 617

The sample size to determine the second objective, which is factors associated with shoe-wearing practices to prevent podoconiosis, was calculated by using the double population proportion formula in OpenEpi, Version 3, (open source calculator). We took four independent factors of shoe-wearing practices from the previous study and made the following assumptions: confidence level of 95%, power of 80%, and ratio of unexposed to exposed of 1. Since multistage sampling is used, we considered the design effect when calculating the sample size. To minimize errors arising from the likelihood of a non-response rate, ten percent of the sample size is added to the calculated sample.

Table 1: Sample size calculation to determine predictors of shoe-wearing practice to prevent podoconiosis in the Wolayita Zone, 2023

S/N	Variables	Confidence level	Power	Ratio of sample size (exposed/unexposed)	Percent of Unexposed with Outcome	Percent of exposed with Outcome	Odds ratio	Total sample size calculated	Considered design effect (1.5)	Add 10% Non-response rate
1	Drawback of barefoot	95%	80	1	23.5%	8.4%	0.3	210	315	347
2	Attending radio	95%	80	1	39%	16%	0.3	134	201	221
3	Graduation HEPs	95%	80	1	46.5%	30%	0.5	306	459	505
4	Marital status	95%	80	1	90%	98%	4.6	360	540	594

HEPs: Health Extension Program

The five sample sizes calculated from both the double population proportion formula and the single population proportion formula were compared, and the maximum sample size of 617 was used for this study.

4.6 Sampling Procedure

The study used a multi-stage cluster sampling technique to select the participants. It began by using a simple random sampling method (known as the lottery method) to choose 30% of highly endemic woredas (districts) for podoconiosis (i.e., >10% of cases) in the Wolayta Zone. Which are Areka town, Boloso Sore, and the Soddo zuria woredas.

Next, 30% of the total kebeles (sub-districts) was proportionally allocated using the proportional allocation formula: - , Where: n = the total number of Kebeles to be selected (which are 14); ni = sample size from each selected referral Kebele's (1 from Areka town, 8 from Boloso sore, and 5 from Soddo zuria); Ni = total number of Kebeles at each selected woredas = 4 from Areka town, 28 from Boloso sore, and 16 from Soddo zuria; N = total number of the Kebeles at the three selected woredas (which is 48).

Third, households were selected from each of the selected Kebeles using the proportional allocation formula. From Areka town, 121 households (from Kebele 01); from Boloso Sore, 309 households (Chama hembecho = 58, Legama = 47, Basa Gofera = 51, Afama Adila = 37, Dubo = 25, Tedisa = 31, Dengera Selata = 38, woibo = 22); and from Sodo zuria, 187 households (Gilo Bisare = 44, Shela Borkeshe = 38, Ziga Borkesh = 33, Buge wanche = 50, Gulgula = 22) were selected.

Finally, a total of 617 individuals from the selected households were included using a systematic random sampling technique from the selected Kebeles of the selected Woredas. The skipping interval K was 38, where N is the total number of households (23,098) and n is the final number of households. In households where there were more than one individual, those whose age was above 18 were identified, and one was chosen among them using the lottery method.

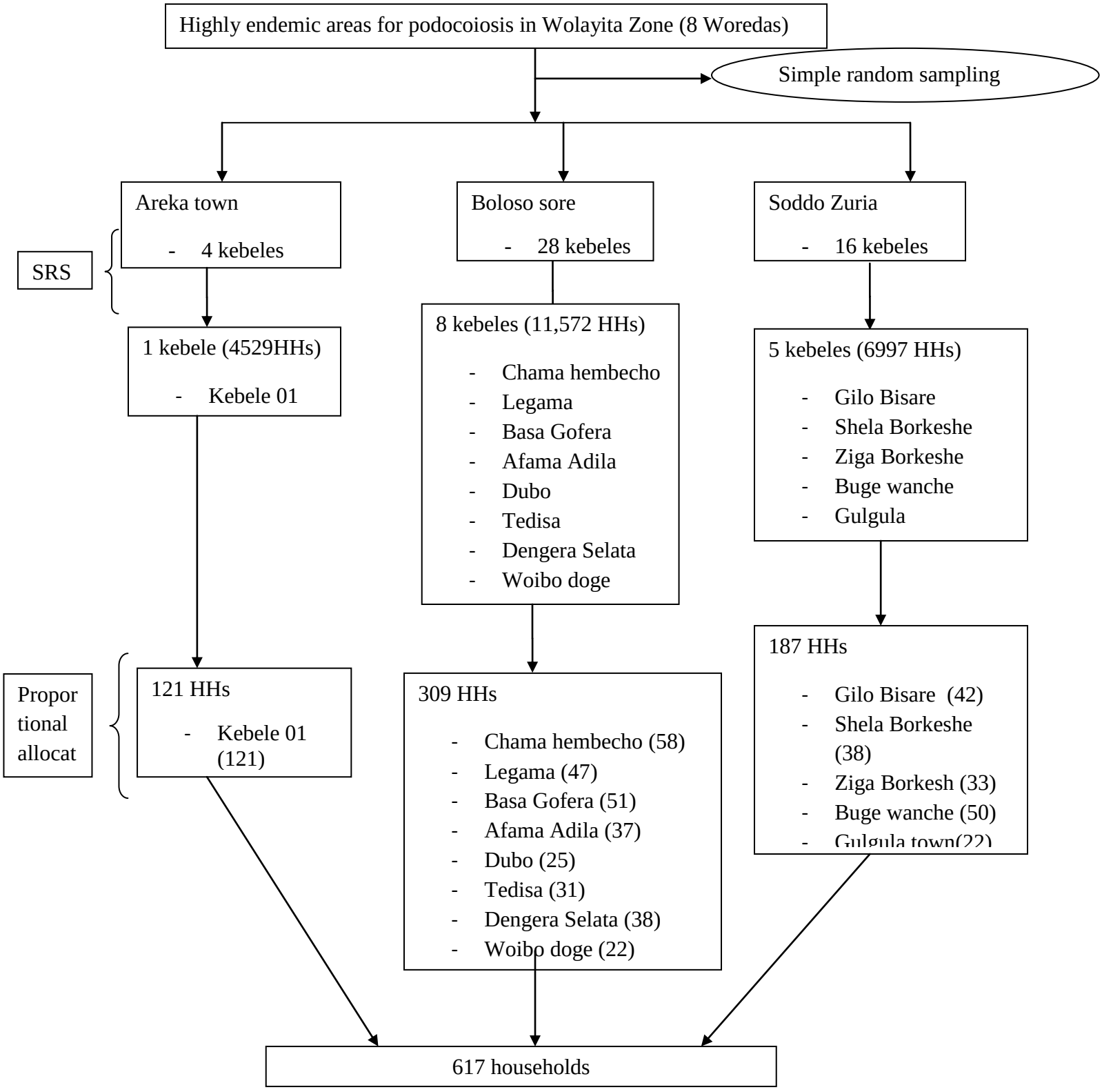

Figure 3: Sampling procedure for selecting study participants at selected Woredas in Wolayita zone, 2023

4.7 Data Collection Tool and Procedure

The questionnaire was adapted from different pieces of literature (17, 33–36). Next, the questionnaire was translated from English to Amharic and Wolaytegna by language professionals who were fluent in all three languages. The data collection team was comprised of five recent health sciences graduates who were fluent in both Wolaytegna and Amharic. They were supervised by three assistant supervisors daily and by the principal investigator every fourth day. In addition, Kobo Tool Box software was used for data collection.

Once the questionnaire was finalized, face-to-face interviews were conducted at the household level using a structured questionnaire. The questionnaire measured various aspects of the participants, such as socio-demographic characteristics, knowledge, health belief model constructs, and shoe-wearing practices. This allowed for a comprehensive understanding of the participants' perspectives and practices.

4.8 Variables

4.8.1 Dependent Variable

- Shoe-wearing practice (Good or Poor)

4.8.2 Independent Variables

Socio-demographic: Age, Sex, Resident, Income, Educational Status, Marital Status, Occupation, Religion, Ethnicity, Family Size

Knowledge about podoconiosis: Ever heard about podoconiosis, the causes of podoconiosis, preventable; shoe-wearing prevents it.

Perceived susceptibility: if one feels like having podoconiosis in the future, one's chances of getting podoconiosis are great.

Perceived Severity: Podoconiosis is more severe and cannot be treated easily.

Perceived Benefit: Wearing shoes to take care of oneself and decreasing the risk of podoconiosis
Perceived Barrier: difficulty, discomfort, unaffordability, availability of shoe-wearing

Self-efficacy: knowing: confident I can wear shoes regularly, I can have way to buy shoe, thinking I can control risk factors for podoconiosis by myself, and buy shoe

Cues to action:-Heard good things about shoe-wearing in preventing podoconiosis; have good support from family to wear shoes; have seen friends and neighbors engaged in regular shoe - wearing

4.9 Operational Definition

Shoe-wearing practice: From the total of seven shoe-wearing practice questions, the mean score was used as the cutoff point. If respondents' practice was above the mean score, it was considered good shoe-wearing practice, and if it was below, it was considered poor shoe-wearing practice (33).

Perceived susceptibility is people's view of the probability of getting podoconiosis, and it was measured by adding four items each on a 5-point Likert scale (36).

Perceived severity: the likelihood that a person believes podoconiosis is a threat to them. It was measured by adding five related items, each rated on a 5-point Likert scale (36).

Perceived barrier: difficulties that resulted in a negative aspect of podoconiosis prevention. It was measured by summing eight related items on a 5-point Likert scale (36).

Perceived benefit: the effectiveness of podoconiosis prevention practices to reduce the threat of having the condition. It was measured by summing the scores of five items on a 5-point Likert scale (36).

Cues to action: conditions that facilitate people taking preventive measures against podoconiosis. It was measured by summing four related items on a 5-point Likert scale (37).

Self-efficacy: people's confidence to use preventive measures against podoconiosis It was measured by summing four related items on a 5-point Likert scale (36).

Knowledge: The respondents' knowledge of podoconiosis was examined using yes or no responses, with a score of zero for no and one for yes. From six knowledge questions, a person had good knowledge if he or she scored 75% or more and poor knowledge if he or she scored less than 75% (34).

4.10 Data Management and Analysis Procedure

The data collected by the Kobo toolbox was exported to Statistical Packages for Social Sciences (SPSS) version 27 and cleaned for further analysis. Before conducting any statistical analysis, the psychometric properties of the CHBMS were checked through the construct validity of the instrument and internal consistency to address measurement variability. Amos version 26 was used for conducting the confirmatory factor analysis. Then the confirmatory factor analysis for health belief model constructs confirmed all the factor loadings were greater than 0.4 except for three items from perceived susceptibility, two items from perceived severity, and one item from perceived barrier, perceived benefits, perceived self-efficacy, and cues to action (table 9). The average variance extracted (AVE) for all the constructs was more than 0.5 (refer to Table 8). To assess the internal consistency of each item, Cronbach's alpha of > 0.7 was considered a cut point (table 7). There is no multi-co-linearity (VIF <10) among health belief model constructs, and chi-square was checked (38) (table 8). The hosmer-lemeshow goodness of fit was tested, as the model for this study ($p = 0.063$) adequately fit the model.

A descriptive analysis was performed to analyze the key baseline characteristics of the participants. Categorical predictors were described using frequency and percentage. Then the six HBM constructs, namely perceived susceptibility, perceived severity, perceived benefits, perceived barrier, perceived self-efficacy, and cues to action, were measured using a sum score for each construct. All of these were treated as continuous variables and explored by calculating the mean and standard deviation (SD), as well as the minimum and maximum values.

For bi-variable logistic regression, a p-value less than 0.25 was used as a cut-off point for selecting variables for multivariable logistic regression. Then the association between dependent

variables and independent variables was identified with a p-value (probability value) of <0.05 and a 95% confidence interval (CI) of 95%, which was considered statistically significant for shoe-wearing practices for the prevention of podoconiosis. The strength of the statistical association was measured by the adjusted odds ratio at 95% CI.

4.11 Data Quality Assurance

Various measures were put in place to address potential sources of bias that could affect the quality of the data gathered. One of the measures employed was a pre-test of the questionnaire used to collect data. This pre-test was conducted a week prior to the actual data collection date on a 5% sample size in a similar setting (Sodo Town) in Wolayta Zone. The purpose of this pre-test was to determine the appropriateness of each item and wording in the questionnaire. It was helpful in identifying gaps in the questionnaire that could potentially affect the quality of the data collected. Based on the gaps identified, necessary modifications were made.

Additionally, the data collectors were supervised and received two days of training on data collection tools and interviewing techniques. The training was specifically designed to ensure that the data collectors were adequately equipped with the necessary skills to collect high-quality data. It contains various aspects of data collection, including how to approach study participants, how to ensure that the study participants understood the questions, and how to record the responses accurately.

4.12 Ethical Consideration

The ethical approval and clearance letter were obtained from the Ethical Review Committee of the School of Public Health of the College of Health Sciences, Addis Ababa University. Before participating in the study, all individuals were fully informed about the potential risks, benefits, procedures, and their right to withdraw from the study at any time. The study ensured that confidentiality and anonymity were maintained throughout by using codes for all questionnaires and ensuring that the collected data was not disclosed to anyone other than the investigator. Furthermore, the study took great care to avoid causing harm to participants through psychological or physical manipulation.

RESULT

5.1 Socio-Demographic Characteristics of the Study Participants

In this study, out of 617 participants, 594 participated, with a response rate of 96.3%. Further analysis of the participants revealed that among 594 participants, 335 (56.4%), 169 (28.5%), and 282 (47.5%) were males, in the age group of 25–34, with a monthly income between 2751 and 5000 Ethiopian birr, respectively. Three hundred ninety-four (66.3%) of the participants permanently reside in rural parts of the Wolayita Zone. Out of all the participants, 154 (25.9 %) were farmers, and 187 (31.5%) were unable to read and write (see Table 3 for further details).

Table 2: Socio-demographic characteristics of the study participants in the Wolayita Zone, Southern Ethiopia, 2023 (n = 594)

S. no.	Variables	Categories	Frequency	Percent (%)
1	Sex	Male	335	56.4
		Female	259	43.6
2	Age	18-24	61	10.3
		25-34	169	28.5
		35-44	151	25.4
		45-54	98	16.5
		>=55	115	19.4
3	Educational level	cannot read and write	187	31.5
		can read and write	42	7.1
		primary education(0-8)	78	13.1
		secondary education(9-12)	119	20.0
		higher education(>12)	168	28.3
4	Occupation	Employed	222	37.4
		Merchant	80	13.5
		Farmer	154	25.9
		Daily laborer	82	13.8
		Others	56	9.4
5	Income	<=1650	61	10.3
		1651-2750	131	22.1
		2751-5000	282	47.5
		>=5001	120	20.2
6	Residence	Urban	200	33.7
		Rural	394	66.3
7	Ethnicity	Wolayita	582	98.0
		Others	12	2.0
8	Marital status	Married	398	67.0
		Single	133	22.4
		Others	63	10.6
9	Religion	Protestant	514	86.5
		Others	80	13.5

10	Family size	1-4	301	50.7
		>=5	293	49.3

5.2 Knowledge of the Respondents

Among the 564 respondents who heard about podoconiosis, 183 (32.4%) and 293 (52%) knew that heredity is a risk factor and minerals in the soil are the cause of podoconiosis, respectively. Additionally, a large majority of the respondents (86%) were aware that the disease is preventable, and of those, 458 (94.4%) responded by shoe-wearing (refer to Table 4).

Table 3 : Knowledge of the study participants on podoconiosis among households in the Wolayita Zone, Southern Ethiopia, 2023

S/N	Variables	Categories	Frequency	Percent (%)
1	ever heard about podoconiosis (n=594)	Yes	564	94.9
		No	30	5.1
2	If yes, is heredity risk factor for podoconiosis (n=564)	Yes	183	32.4
		No	381	67.6
3	Is minerals in the soil the causes of podoconiosis (n=564)?	Yes	293	52.0
		No	271	48.0
4	Is podoconiosis preventable disease (n=564)?	Yes	485	86
		No	79	14
5	Does shoe wear prevent podoconiosis (n=485)?	Yes	458	94.4
		No	27	5.6
6	Is podoconiosis treatable (n=564)?	Yes	490	86.9
		No	74	13.1
7	Total Knowledge score	Good knowledge	341	57.4
		poor knowledge	253	42.6

5.3 Shoe-Wearing Practice of the Respondents

Out of all the participants, 585 (98.5%) reported that they had worn shoes at some point in their lives. Among those who wore shoes, it was found that the average age at which they started wearing shoes was 17 years old, with a standard deviation of +/- 7.9 years. Observation during interview time indicates that a significant proportion of the participants were barefoot: 123 (20.7%), almost half of the respondents (48.3%) were wearing open shoes, and 184 respondents (31%) were wearing closed shoes. Please refer to Table 2 for further details.

Table 4: Practice of Shoe-Wearing to Prevent Podoconiosis among Households of the Wolayita Zone, Southern Ethiopia, 2023

S. no.	Variables	Categories	Frequency	Percent
1.	Ever wear shoe (n=594)	Yes	585	98.5
		No	9	1.5
2.	First age of wearing shoe (n=585)	<20	371	63.4
		21-30	183	31.3
		31-40	31	5.3
3.	If yes (n=585)	Regularly	412	70.4
		Occasionally	173	29.6
4.	Substitution time of old shoe (n=585)	before old	201	34.3
		as needed	214	36.6
		being old	170	29.1
5.	Does it cover the dorsum of your foot (closed shoe)? (n=585)	Yes	433	74.0
		No	152	26.0
6.	Number of shoes owned currently (n=585)	>=4	269	46.0
		3	177	30.3
		2	123	21.0
		1	12	2
		0	4	0.7
7.	observed shoe-wearing practice during interview time (n=594)	clothed shoe	184	31.0
		open shoe	287	48.3
		Barefoot	123	20.7

5.4 Prevalence of Good Shoe-Wearing Practice among the Respondents

The study had 594 participants, out of whom 301 individuals (50.7%, 95% confidence interval ranging from 45.2% to 53.4%) were found to have good shoe-wearing habits. The results of the study are visually represented in Figure 4, providing a clear and concise way to interpret the findings.

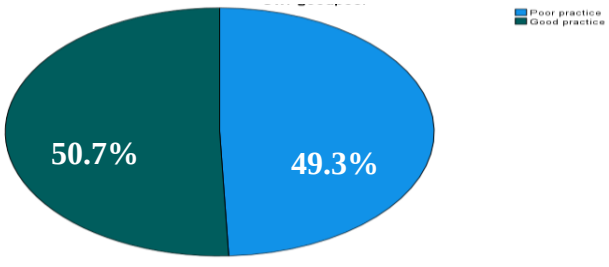

Figure 4: Shows prevalence of shoe-wearing practice for Prevention of Podoconiosis among Households in Wolayita Zone, Southern Ethiopia, 2023

5.5 Predictors of Shoe-Wearing Practice for Prevention of Podoconiosis

To determine the variables for the final model, a bivariable logistic regression analysis was conducted. Then age, residency, income, marital status, educational level, occupation, family size, knowledge, perceived severity, perceived benefit of wearing shoes, perceived barrier, perceived self-efficacy to wear shoes, and cues to take preventive action were passed with a p-value of less than 0.25. In multi-variable logistic regression, six variables were significantly associated with shoe-wearing practice: residence, educational status, occupational status, marital status, perceived severity, and perceived self-efficacy (as shown in Table 5).

Among socio-demographic factors, the independent predictors of shoe-wearing practice were residence, educational levels, marital status, and occupational status. Those who lived in rural areas were less likely to wear shoes (AOR.210, 95%CI.101,.437) than urban residents, farmers (AOR.392, 95%CI.176,.876) were also less likely to wear shoes than employed individuals, and singles were 5.9 times more likely to wear shoes than married (AOR 5.927, 95%CI 2.062, 17.042). The odds of shoe-wearing practice for those who were educated at primary, secondary, and higher educational levels, respectively, were three times (AOR 3.143, 95%CI (1.298, 7.615), seven times (AOR 7.558, 95%CI 2.998, 19.050), and seven times (AOR 7.933, 95%CI 2.811, 22.390) higher than for those who cannot read and write (as shown in Table 6).

After holding all other variables constant, A unit increase in the total score of perceived self-efficacy toward wearing shoes increased the odds of doing so by 15% (AOR 1.150, 95% CI 1.000, 1.323), while a unit increase in the total score of perceived barrier decreased the odds of wearing shoes by 15.1% (AOR.849, 95% CI.792,.910) (Table 6).

Table 5: Bivariable and multivariable logistic regression analysis results to identify predictors of shoe-wearing practice for prevention of podoconiosis among Households of the Wolayita Zone, Southern Ethiopia, 2023

S/N	Variables	Responses	Shoe-wearing practice for categorical variables		COR(crude odds ratio)(95%CI)	AOR(adjusted odds ratio)(95%CI)
			Good shoe-wearing practice	Poor shoe-wearing practice		
1.	Age	18-24	40 (6.7%)	21 (3.5%)	1	1
		25-34	104 (17.5%)	65 (10.9%)	.840 (.455, 1.550)	2.200 (.792, 6.113)
		35-44	86 (14.5%)	65 (10.9%)	.695 (.374, 1.290)	1.802 (.505, 6.428)
		45-54	44 (7.4%)	54 (9.1%)	.428 (.221, .829)	2.225 (.549, 9.023)
		>=55	27 (4.5%)	88 (14.8%)	.161 (.081, .319)	1.169 (.286, 4.769)
2.	Educational level	cannot read and write	22 (3.7%)	165 (27.8%)	1	1
		can read and write	7 (1.2%)	35 (5.9%)	1.500 (.595, 3.784)	1.251 (.406, 3.850)
		primary education(0-8)	35 (5.9%)	43 (7.2%)	6.105 (3.251, 11.463)	3.143 (1.298, 7.615)*
		secondary education(9-12)	85 (14.3%)	34 (5.7%)	18.750 (10.324, 34.053)	7.558 (2.998, 19.050)**
		higher education(>12)	152 (25.6%)	16 (2.7%)	71.250 (36.074,) 140.727	7.933 (2.811, 22.390)**
3.	Occupation	Employed	168 (28.3%)	54 (9.1%)	1	1
		Merchant	44 (7.4%)	36 (6.1%)	.393(.230, .672)	.503 (.218, 1.164)
		Farmers	24 (4.0%)	130 (21.9%)	.059 (.035, .101)	.392 (.176, .876)*
		Daily laborer	30 (5.1%)	52 (8.8%)	.185(.108, .319)	.535 (.218, 1.312)
		Others	109 (18.4%)	109 (18.4%)	.536 (.288, .998)	.318 (.095, 1.065)
4.	Income	<=1650	20 (3.4%)	41 (6.9%)	1	1
		1651-2750	34 (5.7%)	97 (16.3%)	.719 (.371, 1.393)	.532 (.200, 1.418)
		2751-5000	146 (24.6%)	136 (22.9%)	2.201 (1.228, 3.944)	1.014 (.405, 2.534)
		>=5001	101 (17.0%)	19 (3.2%)	10.897 (5.277, 22.506)	2.943 (.933, 9.287)

5.	Residence	Urban	176 (29.6%)	24 (4.0%)	1	1
		Rural	125 (21.0%)	269 (45.3%)	.063 (.039, .102)	.210 (.101, .437)**
6.	Family size	1-4	171 (28.8%)	130 (21.9%)	1	1
		>=5	130 (21.9%)	163 (27.4%)	.606 (.438, .839)	1.614 (.861, 3.026)
7.	Marital status	Married	189 (31.8%)	209 (35.2%)	1	
		Single	95 (16.0%)	38 (6.4%)	2.765 (1.808, 4.227)	5.927 (2.062, 17.042) *
		Others	17 (2.9%)	46 (7.7%)	.409 (.227, .737)	1.046 (.371, 2.949)
8.	Knowledge	Poor knowledge	94 (15.8%)	159 (26.8%)	1	1
		Good knowledge	207 (34.8%)	134 (22.6%)	2.613 (1.869, 3.653)	1.359 (.749, 2.465)
	Constructs of HBM	Mean and standard deviation for continuous variables			COR (crude odds ratio)(95%CI)	AOR (adjusted odds ratio) (95%CI)
1.	perceived severity	18.13 ± 5.417			1.055 (1.022, 1.089)	1.067 (.994, 1.146)
2.	perceived benefit	17.95 ± 5.331			1.115 (1.072, 1.158)	.992 (.914, 1.077)
3.	perceived barriers	16.45 ± 5.961			.886 (.856, .917)	.849 (.792, .910)**
4.	perceived self efficacy	13.4 2 ± 4.016			1.258 (1.180, 1.340)	1.150 (1.000, 1.323)*
5.	Cues to action	12.93 ± 3.917			1.259 (1.184, 1.339)	1.047 (.913, 1.201)

*NB: - * Variables statistically significant at p – value < 0.05, ** Variables statistically significant at p – value < 0.001*

DISCUSSION

Despite its high prevalence and the devastating impact it has on affected individuals and communities in our country, it gets less attention. As a result, there is a critical need for encouraging and sustaining primary prevention to effectively control and eliminate this debilitating condition (6). The major findings of our study were the prevalence of shoe-wearing practice, residence, marital status, educational status, occupational status, perceived self-efficacy, and perceived barriers.

According to the findings of this study, the prevalence of good shoe-wearing practice was 50.7%; therefore, the communities are at risk of acquiring podoconiosis, as the major prevention measure is proper shoe-wearing practice (18). This shoe-wearing practice is less than the Third National NTD Strategic Plan to attain the objective of ensuring 70% regular shoe wearing (18). While it is higher than studies done in Anded District, North West Ethiopia, with a prevalence of 41.9%. The difference might be due to the fact that all the study participants were residents of rural areas, and the majority of them were farmers (33).

From the four socio-demographic factors that affect shoe-wearing practice, the first one was the educational status of the respondents. And those who were educated at the level of primary school and above have better shoe-wearing practices than those who can‘t read and write. This might be related to the fact that more educated people may have more exposure to information about the importance of shoe wear (38). It is also thought to influence behavior indirectly by affecting perceptions of susceptibility, severity, benefits, and barriers (30).

The second one was residence. Respondents who reside in rural areas were less likely to have good shoe-wearing practices than those who reside in urban areas. This could be due to the fact that urban residents are more likely to access shoes and information about the importance of shoe-wearing practices or a low-risk perception about podoconiosis among rural residents (22). So, ensuring access to and information on the importance of good shoe-wearing practices in rural areas from concerned stakeholders is crucial.

Another socio-demographic factor that was associated with shoe-wearing practice was the occupational status of the respondent. In our study, we found that shoe-wearing practices were

less common among farmers compared to employed individuals. This could be due to a lack of comfortable (appropriate) shoes for farming activities; for instance, a study done in the Wolayita Zone found that 42.1% of school-aged children in rural areas did not use footwear when engaged in farming activities (17). This suggests that shoes that are comfortable for farming activities should be accessible and affordable for farmers.

Regarding marital status, singles are more likely to wear shoes than married; this was consistent with the study conducted in Anded district (33). This might be explained by the fact that single people have a stronger sense of personal responsibility for their health and are more driven to adopt preventive steps such as wearing shoes.

Among health belief model constructs, increasing the total sum score of perceived self-efficacy towards podoconiosis by one unit enhanced the likelihood of practicing shoe-wearing by 15%. This shows the importance of people feeling competent (self-efficacious) in their ability to perform good shoe-wearing practices to prevent podoconiosis. This was supported by the health belief model, which stated that perceived self-efficacy is one of the determinants during both the initiation and maintenance of behavioral change. It is also helpful to overcome perceived barriers to taking action (30).

Apart from perceived self-efficacy, a unit increase in the total sum score of perceived barriers decreased the odds of practicing shoe-wearing by 15.1%. This might be due to the belief that the tangible and psychosocial cost of the advised action is only undertaken when people realize that they have the capacity to deal with these barriers and that they will be able to take the necessary actions (to wear shoes) (30).

STRENGTH AND LIMITATIONS OF THE STUDY

Strengths

The study used Health Belief Model (HBM) constructs, which are effective in predicting the likelihood of individuals adopting recommended health behaviors. It also provided a theoretical framework for research interventions.

Limitation

The respondent might have had a recall bias regarding the number of shoes, age of wearing shoes, and sources of information. Additionally, there could have been social desirability bias on the perceived barriers and shoe-wearing practice questions. The HBM only considers the cognitive aspects of an individual's perception and is limited in addressing the emotional component of behavior.

CONCLUSION

Overall, the prevalence of good shoe-wearing practice was 301 (50.7%). And this study found independent predictors of shoe-wearing practice for prevention of podoconiosis: socio-demographics (residence, educational status, marital status, and occupational status), health belief model construct, perceived self-efficacy, and perceived barrier. This implies that there is still a need for improvement in shoe-wearing practices in terms of reducing barriers by ensuring access, confortability of shoes, and affordability as well. Therefore, this study can go a long way in promoting good shoe-wearing practices and reducing the incidence of disease (podoconiosis) by identifying predictors.

RECOMMENDATION

Based on the findings of the study, the following recommendations were forwarded to the respective responsible bodies:

- ✓ Zonal health offices, in collaboration with other stakeholders, should educate the communities by preparing health education programs to raise awareness and effectively promote good shoe-wearing practices. Especially by giving emphasis to those who cannot read and write, married and rural residents.

- ✓ Both governmental and nongovernmental stakeholders should collaborate to reduce the perceived barriers and facilitate perceived self-efficacy by ensuring accessibility, comfortability, and affordability of shoes.
- ✓ In general, as podoconiosis is targeted for control, this finding and other similar work can be input for policymakers to lookup strategies that focus on enabling the community to take prevention measures.

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ANNEX

Table 6: Reliability scores of HBM constructs towards shoe-wearing practice

S. no.	Scale	Cronbach's alpha value
1.	perceived susceptibility	.708
2.	perceived severity	.775
3.	perceived benefit	.867
4.	perceived barriers	.832
5.	perceived self efficacy	.710
6.	Cues to action	.702

Table 7 shows the variance inflation factor (VIF) and average variance extracted (AVE) for all the HBM constructs

S. no.	Variables	VIF	AVE
1.	perceived susceptibility	2.002	0.521
2.	perceived severity	1.954	0.520
3.	perceived benefit	1.619	0.544
4.	perceived barriers	1.705	0.610
5.	perceived self-efficacy	4.491	0.566
6.	Cues to action	4.233	0.561

Table 8 shows factor loading of health belief model constructs

S. no.	Questions	factor loading
1.	PSU7----perceived susceptibility 7	.053
2.	*PSU6----perceived susceptibility 6*	*.631*
3.	*PSU5----perceived susceptibility 5*	*.518*
4.	PSU4----perceived susceptibility 4	.020
5.	*PSU3----perceived susceptibility 3*	*.646*
6.	PSU2----perceived susceptibility 2	.028
7.	*PSU1----perceived susceptibility 1*	*.670*
8.	*PSV8----perceived severity 8*	*.649*
9.	*PSV7----perceived severity 7*	*.758*
10.	PSV6----perceived severity 6	.208
11.	PSV5----perceived severity 5	.344
12.	*PSV4----perceived severity 4*	*.744*
13.	*PSV3----perceived severity 3*	*.408*
14.	*PSV2----perceived severity 2*	*.744*
15.	*PSV1----perceived severity 1*	*.569*
16.	*PBF6----perceived benefit 6*	*.655*
17.	*PBF5----perceived benefit 5*	*.635*

18.	*PBF4----perceived benefit 4*	*.827*
19.	*PBF3----perceived benefit 3*	*.818*
20.	*PBF2----perceived benefit 2*	*.852*
21.	PBF1----perceived benefit 1	.382
22.	*PBR9----perceived barrier 9*	*.432*
23.	PBR8----perceived barrier 8	.263
24.	*PBR7----perceived barrier 7*	*.766*
25.	*PBR6----perceived barrier 6*	*.578*
26.	*PBR5----perceived barrier 5*	*.630*
27.	*PBR4----perceived barrier 4*	*.515*
28.	*PBR3----perceived barrier 3*	*.598*
29.	*PBR2----perceived barrier 2*	*.745*
30.	*PBR1----perceived barrier 1*	*.735*
31.	*PSE5----perceived self efficacy 5*	*.494*
32.	*PSE4----perceived self efficacy 4*	*.620*
33.	*PSE3----perceived self efficacy 3*	*.643*
34.	*PSE2----perceived self efficacy 2*	*.684*
35.	PSE1----perceived self efficacy 1	.311
36.	*CA5----cues to action 5*	*.514*
37.	CA4----cues to action 4	.122
38.	*CA3----cues to action 3*	*.726*
39.	*CA2----cues to action 2*	*.513*
40.	*CA1----cues to action 1*	*.485*

Note: Italic font is used for variables with factor loading >0.4

1. Study Information Sheet

My name is …….. I am a data collector on behalf of Bethelhem Messele. She is conducting study on assessment of shoe wearing practice for prevention of podoconiosis and its associated factors in highly endemic areas of Wolayta zone for the partial fulfillment of a master's in Health Promotion and Health Education at Addis Ababa University. The objective of this study is to assess shoe wearing practice for prevention of podoconiosis and its associated factors in highly endemic areas of Wolayta zone. Therefore, the study will contribute to assess perceived associated factors of shoe wearing practice which is used to design an appropriate intervention for prevention of podoconiosis.

Study site and period; - the study will be conducted in Areka town, Boloso sore and Soddo zuria woreda's (district) from March, 2023 to April, 2023 GC.

Benefit: - There will be no direct benefit to you; however, the information you provide will have great importance to conduct this research.

Risk- There is no risk or harm for participating in the study. You will be asked about what you know about podoconiosis and there is no right or wrong answer.

Procedures: You are selected by chance for this study and I kindly invite you to participate in this study. If you agree to participate, you will be interviewed with some structured questions about the research and yourself. The interview will take 15-20 minutes.

Participation: - You have the right to choose not to take part in this study and your participation is based on your willingness. If you choose to take part, you have the right to stop the interview at any time. If you are willing to participate or refuse or decide to withdraw later, you will not be subjected to any problems.

Confidentiality: - The information that you provide will be kept confidential by using codes and locking the data. No one will have access to the non-coded data except the investigator. The data will not be used for purposes other than this study.

Whom to Contact: - If you have any questions, you may contact the person stated below.

Bethelhem Messele- Tele: +251967217219 Email: bethelehemmessle2014@gmail.com

2. Informed Consent form (English Version)

I have been informed about the purpose of this particular research project. I have been informed that I am going to respond to this question by answering what I know concerning the issue. I have been informed that the information I give will be used only for the purpose of this study and my identity as well as the information I give will be treated confidentially. I have also been informed that I can refuse to participate in the study or not to respond to questions if I am not interested. Furthermore I have been informed that I can stop responding to the questions at any time in the process. Based on the above information I agree to participate in this research voluntarily.

1. Yes_____ 2. No____

NB: 1. If the study subject is voluntary to participate in the study, start the interview.

2. Interviewer signature certifying that informed consent has been given verbally by the respondent.

Name _____ Signature _____ Date _____

Date of interview _____ Time started _____ Time completed _____

3. If there are things that require clarification please don't hesitate to ask the Interviewer or the principal investigator for clarification.

Checked by: Supervisor:

Name _____ Signature_____

3. Questionnaire (English version)

General information		
Questions	Response & Coding Categories	Remark
Date of data collection	dd/mm/yy	
Code of data collectors		
Code of the woreda		
Code of the questionnaire		

Part 1: Socio demographic characteristics

S. No	Question	Response	Remark
1	How old are you?(Complete in years)?	_____ (in number)	
2	Sex	1. Male 2. Female	
3	Where is your permanent residence?	1. Urban 2. Rural	
4	What is your monthly total house hold income?	_____ birr	
5	What is your current educational Status?	1. Cannot read and write 2. Can read and write 3. Primary education(0-8) 4. Secondary Education(9-12) 5. Higher education (>12)	
6	What is your current marital status?	1. Married 2. Single 3. Widowed 4. Divorced	
7	What is your current occupational Status?	1. Gov't employee 2. Non-governmental employee 3. Merchant 4. Farmer 5. Daily laborer 6. Student 7. Unemployed 8. Health professional 9. Others(specify)_	
8	What is your religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others (specify)	
9	What is your ethnicity?	1. Wolayeta 2. Oromo 3. Amhara 4. Sidama 5. Gurage	

		6. Tigray 7. Others(specify)	
10	Family size	----------in number	

Part 2: Knowledge of the study participants on podoconiosis and its prevention measures

S/N	Variables	Responses	Remark
1	ever heard about podoconiosis	Yes	
		No	
2	If yes, is heredity risk factor for podoconiosis	Yes	
		No	
3	Is minerals in the soil the causes of podoconiosis	Yes	
		No	
4	Is podoconiosis preventable disease	Yes	
		No	
5	Does shoe wear prevent podoconiosis	Yes	
		No	
6	Is podoconiosis treatable	Yes	
		No	

Part 3: Shoe wearing practice

S. No	Question	Response	Remark
1	Ever wear shoe	Yes	
		No	
2	First age of wearing shoe	<20	
		21-30	
		31-40	
3	If yes	Regularly	
		occasionally	
4	Substitution time of old shoe	before old	
		as needed	
		being old	
5	Does it cover the dorsum of your foot (closed shoe	Yes	
		No	
6	Number of shoes owned currently	>=4	
		3	
		2	
		1	
		0	
7	observed shoe wearing practice during interview time	clothed shoe	
		open shoe	
		Barefoot	

Part 4: Health belief model constructs

4.1. Perceived susceptibility						
S No	Question	Response				
		Strongly	Disagree	Don't	Agree	Strongly

		disagree		know		agree
1	I feel like I will have podoconiosis in the future	1	2	3	4	5
2	My chances of getting podoconiosis is great as compared to others	1	2	3	4	5
3	living in this area will expose to get podoconiosis	1	2	3	4	5
4	I have family history of podoconiosis so I will have podoconiosis in the future	1	2	3	4	5
4.2. Perceived severity						
S No	Question	Response				
		Strongly disagree	Disagree	Don't know	Agree	Strongly agree
1	Getting Podoconiosis scares me as the consequences are serious	1	2	3	4	5
2	I believe that Podoconiosis is a severe health problem	1	2	3	4	5
3	I am afraid to think about Podoconiosis	1	2	3	4	5
4	If I got Podoconiosis, it would be more serious than other disease	1	2	3	4	5
5	podoconiosis would threaten social relationship	1	2	3	4	5
4.3. Perceived benefit						
S No	Question	Response				
		Strongly disagree	Disagree	Don't know	Agree	Strongly agree
1	Regularly wearing shoe help me to take care of myself from podoconiosis	1	2	3	4	5
2	wearing shoes can decrease podoconiosis associated complications	1	2	3	4	5
3	If I wear shoe regularly, I will decrease my risk of getting Podoconiosis	1	2	3	4	5
4	I don't worry about getting podoconiosis if I wear shoe regularly	1	2	3	4	5
5	Wearing shoe will help me to have good social life as it prevent podoconiosis	1	2	3	4	5
4.4 Perceived barrier						
S No	Question	Response				
		Strongly disagree	Disagree	Don't know	Agree	Strongly agree
1	I feel discomfort when I wear shoe	1	2	3	4	5
2	Wearing shoe will make me discomfort able for my daily tasks	1	2	3	4	5
3	Wearing shoe is not necessary if I have regular check up for podoconiosis	1	2	3	4	5
4	I can't afford having shoe	1	2	3	4	5
5	There is no Shoe shop close to my house (not easily accessible in our village)	1	2	3	4	5
6	My friends/family would make fun of me if	1	2	3	4	5

	I engage in regular shoe wearing					
7	Wearing shoe regularly would require starting a new habit, which is difficult for me	1	2	3	4	5
8	If I have family history of podoconiosis, I can't **prevent it** by wearing shoe	1	2	3	4	5
4.5. self-efficacy						
S No	Question	Response				
		Strongly disagree	Disagree	Don't know	Agree	Strongly agree
1	I can control risk factors of podoconiosis by myself	1	2	3	4	5
2	I am confident I can wear shoe regularly	1	2	3	4	5
3	I can find a way to buy shoe	1	2	3	4	5
4	I know the type of shoe which prevent podoconiosis	1	2	3	4	5
4.6. cues to action						
S No	Question	Response				
		Strongly disagree	Disagree	Don't know	Agree	Strongly agree
1	I have heard good things about shoe wearing in preventing Podoconiosis	1	2	3	4	5
2	I have good support from my family and friends to wear shoe regularly	1	2	3	4	5
3	I have seen friends and neighbors engaged in regular shoe wearing	1	2	3	4	5
4	I Have heard about Podoconiosis through media	1	2	3	4	5

Thank you for your participation!

4. Amharic version questionnaire

4.1 .የአማርኛ ቃለመጠይቅ የጥናትመረጃ

ስሜ.....

የቤተልሄምመሰለመረጃሰብሳቢነኝ፡፡በአዲስአበባዩኒቨርሲቲበጤናማበልጸግእናበጤናትምህርትየማስተርስትምህርታንበከፊልለመጨረስበወላይታዞንከፍተኛሥርጭትባለባቸውአካባቢዎችፖፑኮኪዮሲስንለመከላከልየጫማማልበስልምድንበመገምገምላይትገኛለች፡፡የዚህጥናትአላማበወላይታዞንስርጭቱበተከሰተባቸውአካባቢዎችየፖፑኮኪዮሲስንበሽታየመከላከልእናተያያዥነትያላቸውንጫማዎችየመልበስልምድንመገምገምነው፡፡ስለዚህጥናቱፖፑኮኪዮሲስንለመከላከልተገቢውንጣልቃገብነትለመንደፍየሚያገለግልየጫማማልበስልምድንለመገምገምአስተዋፅኦያደርጋል፡፡

<u>የጥናትቦታእናጊዜ;</u>ጥናቱበአረካከተማ፣ቦሎሶሶሬእናሶዶዙሪያወረዳ (ወረዳ) ከመጋቢት 2023 እስከ ሚያዝያ 2023 ዓ.ም.

<u>ጥቅማጥቅሞች:</u> -ለእርስዎምንምአይነትቀጥተኛጥቅምአይኖርም, ነገርግን, የሚያቀርቡት መረጃ ይህንን ጥናት ለማካሄድ ትልቅ ጠቀሜታ ይኖረዋል.

<u>ስጋት</u> -በጥናቱውስጥለመሳተፍምንምአይነትአደጋወይምጉዳትየለም.

ስለፖፑኮኪዮሲስስለሚያውቁትነገርይጠየቃሉእናትክክለኛወይምየተሳሳተመልስየለም.

<u>ሂደቶች</u>፡ለዚህጥናትበአጋጣሚተመርጠዋልእናበዚህጥናትእንድትሳተፉበአክብሮትእጋብዛችኋለሁ፡፡ለመሳተፍከተስማሙ፣ስለጥናቱእናስለራስዎከተዋቀሩአንዳንድጥያቄዎችጋርቃለመጠይቅይደረግልዎታል፡፡ቃለመጠይቁከ15-20 ደቂቃይወስዳል፡፡

<u>ተሳትፎ</u>፡ -

በዚህጥናትላለመሳተፍየመምረጥመብትአሎትእናተሳትፎዎበፍላጎትዎላይየተመሰረተነው፡፡ለመሳተፍከመረጡ፣በማንኛውምጊዜቃለመጠይቁንየማቆምመብትአልዎት፡፡ለመሳተፍፈቃደኛከሆኑወይምእምቢካሉወይምበኋላለመውጣትከወሰኑምንምአይነትችግርአይደርስብዎትም፡፡

<u>ምስጢራዊነት</u>፡ -

የሚያቀርቡትመረጃሚስጥራዊሆኖየሚይዘውኮዶችንበመጠቀምእናውሂቡንበመቆለፍነው፡፡ከመርማሪውበቀርማንምሰውኮድያልሆነውንመረጃማግኘትአይችልም፡፡መረጃውከዚህጥናትውጭለሌላዓላማዎችጥቅምላይአይውልም.

<u>ማንንማነጋገርእንዳለብዎ፡-</u>

ማንኛውምአይነትጥያቄካሎትከዚህበታችየተገለፀውንሰውማነጋገርይችላሉ፡፡

ቤተልሔምመሰለ- ቁሌ፡ +251967217219 ኢሜል፡ bethelehemmessle2014@gmail.com

5.2በመረጃየተደገፈየስምምነትቅጽ (የአማርኛቅጂ)

የዚህልዩየምርምርፕሮጀክትዓላማተነግሮኛል።ጉዳዩንበሚመለከትየማውቀውንበመመለስለዚህጥያቄምላሽእን ደምሰጥተነግሮኛል።የምሰጠውመረጃለዚህጥናትዓላማብቻእንደሚውልእናማንነቴእንዲሁምየምሰጠውመረጃበ ሚስጥርእንደሚታከምተነግሮኛል።ፍላጎትከሌለኝበጥናቱላለመሳተፍወይምለጥያቄዎችምላሽአለመስጠትእንደ ምችልተነግሮኛል።በተጨማሪምበሂደቱውስጥበማንኛውምጊዜለጥያቄዎቹምላሽመስጠትማቆምእንደምችልተ ነግሮኛል።ከላይባለውመረጃመሰረትበዚህጥናትውስጥበፈቃደኝነትለመሳተፍእስማማለሁ።።

1. **አዎ**_____ 2. **አይደለም**_____

ማሳሰቢያ፡ 1.የጥናትርእሰጉዳይበጥናቱለመሳተፍፈቃደኛከሆነቃለመጠይቁንይጀምሩ።።

2. የተጠያቂውፊርማበመረጃላይየተመሰረተስምምነትበተጠሪውበቃላትመሰጠቱንየሚያረጋግጥነው።።

ስም _____ **ፊርማ** _____ **ቀን** _____

የቃለመጠይቁቀን _____ **የተጀመረውጊዜ** _____ **የተጠናቀቀውጊዜ** _____

3. ማብራሪያየሚሹነገሮችካሉእባክዎንቃለ-

መጠይቁንወይምዋናመርማሪውንማብራሪያከመጠየቅአያመንቱ።።

ያረጋገጠው፡ሱፐርቫይዘር፡

ስም _____ **ፊርማ**_____

የአማርኛ ቃለመጠይቅ

ጠቅላላ መረጃ		
ጥያቄዎች	**ምላሽና የኮድ መደብ**	**ይዝለሉት**
መረጃ የተሰበሰበበት ቀን	ቀን/ወር/ዓ.ም	
የመረጃ ሰብሳቢው ኮድ		
የወረዳው ኮድ		
የመጠይቁ ኮድ		

ክፍል አንድ ማህበራዊ እና የስነ- ህዝብ መረጃዎች

ተ.ቁ	**ጥያቄ**	**መልስ**	**ማመልከቻ (ዝለል)**
1	እድሜዎ ስንት ነው? (በዓመት ይናገሩ)	_____ ዕድሜ ነው።።	
2	ጾታዎ ምንድነው?	_____ ወንድ _____ሴት	
3	ቋሚ የመኖሪያ አድራሻዎ የት ነው?	1.ከተማ 2.ገጠር	
4	የቤተሰቦ ወርሀዊ ገቢ ስንት ብር ነው? (ኢትዮ/ብር)	_____ብር (ቁጥሩን ያስገቡ)	
5	የትምህርት ሁኔታዎ ምን ይመስላል?	1. አልተማርኩም(ማንበብና መፃፍ አልችልም) 2. ማንበብና መፃፍ ሆኖ መደብኛ ትምህርት የለኝም 3. መደበኛትምህርት (1-8) 4. ሁለተኛደረጃ (9-12) 5. ከፍተኛደረጃ (> 12)	

6	ወቅታዊ የጋብቻ ሁኔታዎ ምን ይመስላል?	1. አግብቻለሁ 2. አላገባሁም 3. ባለቤቴሞቶብኛል 4. ተፋትቻለሁ 5. ሌላካሌይጠቀስ.....	
7	በአሁኑ ሰዓት መደበኛ ስራዎ ምንድነው?	1. የመንግስት ሰራተኛ 2. መንግስታዊ ያለሆነ ድርጅት ሰራተኛ 3. ነጋዴ 4. አርሶ አደር 5. የቀን ሰራተኛ 6. ተማሪ 7. ስራ ፈላጊ 8. የጤና ባለሙያ 9. ሌላ (ይግለጹ)	
8	ሃይማኖትዎ ምንድን ነው?	1. ኦርቶዶክስ 2. ፕሮቴስታንት 3. ሙስሊም 4. ካቶሊክ 5. ሌላ (ይጠቀስ) ----------	
9	ብሔርዎ ምንድን ነው?	1. ወላይታ 2. ኦሮሞ 3. አማራ 4. ሲዳማ 5. ጉራጌ 6.ትግሬ 7. ሌሎች	
10	ምን ያህል የቤተ ሰብ አባላት አሉ?	_____ ቁጥሩን ያስገቡ	

ክፍል 2: ስለፖኦኪዮሲስእናየመከላከያመንገዶችእውቀትጥያቄ

ተራቁጥር	ጥያቄ	ምላሽ	አስተያየት
1	ስለፖኦኪዮሲስሰምተው ያውቃሉ	1. አዎ 2. አይ	
2	የዘር ሀረግ ለፖኦኪዮሲስ ያጋልጣል	1. አዎ 2. አይ	
3.	የፖኦኪዮሲስመንስኤ በአፈርውስጥያሉማዕድናት ናቸው	1. አዎ 2. አይ	
4.	ፖኦኪዮሲስንመከላከልይቻላል	1.አዎ 2.አይ	
5.	ጫማማድረግፖኦኪዮሲስንይከላከላል?	1. አዎ 2.አይ	
6.	ፖኦኪዮሲስሊታከም ይችላል?	1. አዎ 2. አይ	

ክፍል 3፡ጫማየመልበስልምድጥያቄዎች

ተራቁጥር	ጥያቄ	ምላሽ	አስተያየት
1	ጫማለብሰህታውቃለህ	አዎ አይ	
2	መጀመሪያ ጫማ የለበሱበት እድሜ	_____ (በቁጥር)	
3	አዎከሆነ	1. ደበኛነት 2. አልፎአልፎ	
4	አሮጌ ጫማ መች ይተካሉ	ከአሮጌው በፊት እንደ አስፈላጊነቱ አሮጌ መሆን	
5	የእግርዎንየላይኛውክፍልይሸፍናል?	አዎ አይ	
6	አሁን ላይ ያሎትየጫማብዛት	_____ (በቁጥር)	
7	በቃለ መጠይቅ ጊዜ የነበረው የጫማ ማድረግ ሁኔታታይቷል።	ሸፍን ጫማ ክፍት ጫማ በባዶ እግሩ	

ክፍል 4.የሽልዝብሊፍሞዴልመዋቅርጥያቄዎጭ

4.1. ተላላፊ ላልሆነው የዝሆኔበሽታተጋላጭነት ያለ ግንዛቤ						
ተ.ቁ	ጥያቄ	መልስ				
		በጣምአልስማማም	አልስማማም	አላውቅም	እስማማለው	በጣምእስማማለው
1	ወደፊት (ፖዶኮኒዮሲስን) ተላላፊያልሆነውየዝሆኔበሽታ ልይዘኝእንደሚችልይሰማኛል	1	2	3	4	5
2	በፖዶኮኒዮሲስየመያዝእድሌከ ሌሎች ጋርሲነጻጸርትልቅነው።	1	2	3	4	5
3	በዚህአካባቢመኖርለፖዶኮኒዮሲስይጋለጣል	1	2	3	4	5
4	በቤተሰባችንውስጥበፖዶኮኒዮሲስየተጠቃሰውስላልወደፊትየ ፖዶኮኒዮሲስንበሽታልይዘኝእን ደሚችልይሰማኛል	1	2	3	4	5

4.2. ተላላፊ ላልሆነው የዝሆኔበሽታከባድነትላይ ያለ ግንዛቤ						
ተ.ቁ	ጥያቄ	መልስ				
		በጣምአልስማማም	አልስማማም	አላውቅም	እስማማለው	በጣምእስማማለው
1	በፖዶኮኒዮሲስመያዝው ጤቱከባድስለሆኑያስፈራኛል።	1	2	3	4	5
2	ፖዶኮኒዮሲስከባድየጤና ችግርነውብዬአምናለሁ	1	2	3	4	5

3	ስለፖኮኒዮሲስለማሰብእፈራለሁ	1	2	3	4	5
4	ፖዶኮኒዮሲስካጋጠመኝ, ከሌሎችበሽታዎችየበለጠ ክባድይሆናልብዬአስባለው	1	2	3	4	5
5	ፖዶኮኒዮሲስማህበራዊግንኙነትንአደጋላይይጥላል	1	2	3	4	5
6	ፖዶኮኒዮሲስቢኖርብኝመላሕይወቴ ይለዋወጥብኝ ነበር።	1	2	3	4	5

4.3ጫማ ማድረግ የሚያስገኛቸው ጥቅሞች

ተ.ቁ	ጥያቄ	መልስ				
		በጣምአልስማማም	አልስማማም	አላውቅም	እስማማለው	በጣምእስማማለው
1	አዘውትሮጫማማድረግከፖዶኮኒዮሲስእራሴንእንድጠብቅይረዳኛል	1	2	3	4	5
2	ጫማማድረግሊቀንስይችላልፖዶኾኒሲስ ተዛማጅችግሮች					
3	ጫማዎችንአዘውትሬየምለብስከሆነበፖዶኮኒዮሲስየመያዝእድሌንእቀንስበታለሁ።	1	2	3	4	5
4	አዘውትሮጫማብለብስፖዶኮኒዮሲስስለመያዝአልጨነቅም	1	2	3	4	5
5	ጫማማድረግፖዶኮኒዮሲስንስለሚከላከልጥሩማህበራዊህይወትእንድኖረኝይረዳኛል።	1	2	3	4	5

4.4 ጫማ ለማድረግ እንቅፋት የሚሆኑ ችግሮች

S No	ጥያቄ	መልስ				
		በጣምአልስማማም	አልስማማም	አላውቅም	እስማማለው	በጣምእስማማለው
1	ጫማስለብስምቾትአይሰማኝም።	1	2	3	4	5
2	ጫማመልበስለዕለትተዕለትሥራዎቼአለመመቸትያደርገኛል።	1	2	3	4	5
3	ለፖዶኮኒዮሲስመደበኛምርመራላደረግኩጫማማድረግአስፈላጊአይደለም	1	2	3	4	5
4	ጫማመግዛትአልችልም	1	2	3	4	5

5	ለቤቱቅርብየሆነየጫማ ሱቅየለም። (ለመንደራችንበቀላሉአይ ደረስም)	1	2	3	4	5
6	ሁሌጫማመልበስንደኞ ቼ/ቤተሰቦቼያፌዙብኛል	1	2	3	4	5
7	ጫማዎችንአዘውትሮመ ልበስአዲስልማድመጀመ ርንይጠይቃል፣ይህለእኔ ከባድነው።	1	2	3	4	5
8	ፖዶኮኒዮሲስ በቤተሰባችንታሪክ ውስጥ ካለጫማበማድረግመከላ ከልአየቻልም።	1	2	3	4	5

4.5. ጫማለማድረግ ስላለው ፍላጎት የሚያሳዩ ጥያቄዎች

S No	ጥያቄ	መልስ				
		በጣምአልስማማም	አልስማማም	አላውቅም	እስማማለው	በጣምእስማማለው
1	ለፖዶኮኒዮሲስአጋላጭየ ሆኑምክንያቶችንበራሴመ ቆጣጠርእችላለሁ	1	2	3	4	5
2	ጫማበመደበኛነትመልበስ እንደምችልእርግጠኛነኝ	1	2	3	4	5
3	ጫማ የምገዛበትን መንገድ አገኛለው	1	2	3	4	5
4	ፖዶኮኒዮሲስንየሚከላከል የጫማአይነትአውቃለሁ	1	2	3	4	5

4.6 ጫማን ለማድረግ የሚገፋፉ ነገሮች

S No	ጥያቄ	መልስ				
		በጣምአልስማማም	አልስማማም	አላውቅም	እስማማለው	በጣምእስማማለው
1	ፖዶኮኒዮሲስንለመከላከልጫማስለመ ልበስጥሩነገርሰምቻለሁ	1	2	3	4	5
2	በመደበኛነትጫማእንድለብስከቤተሰቦ ቼእናከጓደኞቼጥሩድጋፍአለኝ	1	2	3	4	5
3	ጓደኞቼናጎረቤቶቼሁሌምጫማሲያደር ጉአይቻለሁ	1	2	3	4	5
4	ስለፖዶኮኒያሲስበሚዲያሰምቻለው	1	2	3	4	5

ለተሳትፎዎ እናመሰግናለን!!

5. Wolaytegna version questionnaire

5.1 Pilgettaaba odiyaaya shiittiyaa

Ta sunttay …….. Taani bethelhem messele sunttan naqaasha shiishiyaaga.A cammaa wottiyoo eeshshaa xelliyaagan tohuwaa kixxatetta harggiya teqqiyoogan wolaiitta moottan ha harggee keehhi woraajjido heraatun Addisaba yuniverresttiyaappe "Health education and health promotion" kifiliyaappe pilgetta ootawusu. Ha pilgetta ano qofay asaa cammaa wotiyoo hanotaa xeelliyooga. Hegaa gishshawu, Ha pilggettay asaa cammaa wottiyoo eeshshaa pilgidi issi iissi madiyaaba imiddi tohuwaa kixaa harggiyaa teqanawu maddees.

Pilggettaa heeranne wodiyaa: - Ha pilggettay Arakka amban, Bolooso soore allanan sooddo yushuwaa alaanan boottatu qoodan february,2023 ppe marche2023yaa gakkanaashina.

Pilggeta go'aa: - Sitta go'ay neeyo baawashin ne immiyoo qofay pilggetassi keehi maaddees

Pilggetay gattiyooba:- Ha pilggetan hashetiyooge ayba qohokka neenan gattena. Ne eriyoobaa xalla odaasa mule tuma woykko worddo xallaa giyoobi baawa.
Maaran kalliyoobata:- Ne doreetidoy qaadana hegayo ne eenoota oychays. Neeni eeno giikko 15-20 daqiiqa gidiyaaga pilgetta oyshaa oychana.

Hashetiyooga:- Neeni hashetiyooy ubbatooka ne eenotaana hega gishshawu koyyike giikko ayba saatiyankka agada kiyana danddayaasa.

Xuuratetta: -Ne qofa oone demenna qosettes pilggiyaaga xallay demees.Ne qofay ayba haraa allaliyankka pe'enna.

Gayttiyoobata: - oyshay diikkoo

Bethelhem Messele- silkkiyaa: +251967217219Email: bethelehemmessle2014@gmail.com

5.2 Eenottaa formiyaa (Wolayitegna Version)

Taayyoo pilggettay ano qofay odettiis.Tanikka qaassi ha pilggetan ta eriyooba xalla odanawu ennota ekkass. Ta odiyoobay ubbay keehi qosetiyooganne taani koyyenan xayyiko ayba saatiyankka kiyanawu danddayiiyoga siyaas. Ta erenabaanzaaruwaaimenagaaka siyaa wursettan qaasi dommadakka ayba saatiyankka kiyana danddayiiyoga siyyaas. Ha bolaa eenotan ta hashetanawu doomaas.

1. Eeed_____ 2. Gidenna____

1. Oyshettiyaage eenotikko oyshaa doomma.

2.oychiyyaga paramay oyshettidaage enotogadan qonccissees..

Sunntta _____ paramaa_____ gallasa_____

Oyshaa gallasa _____ Doomido saatiya _____ wurido saatiya _____

3. Gelenabay de'ikko aybakka saatiyankka guyyee geenan oycha ne kaalliya

Kaali xeelliyaaga: supervisoriyaa:

Suntta_____ paramaa_____

5.3 Oyshaata (Wolayitegna version)

Kumettaa qofata		
Oyshata	Zaaruwanna& koodee shaahuwaa	Qonccisuwaa
Qofaa shiishiyoo gallasa	Galassa/agina/laytta	
Shishiyaagetu koodiyaa		
Woradatu kooddiyaa		
Oyshatu kooddiyaa		

Shaahuwaa1: socio Demograpikke oyshata

M.p	Oyshaa	Zaaruwa	qonccisuwa
1	Ne layttay wosee?	_____ (payduwan)	
2	Matumma	1. Attuma 2. Macca	
3	Awan de'aay?	1. Katama 2. Gaxaree	
4	Aginaa damozzayshin?	_____ birra	
5	Timirrttee xekkayshin?	1. Xaafuwanne nabbabuwadandayikke 2. Xaafuwanne nababuwa dandayays 3. Koyro xekkaa(0-8) 4. Na"antto xekkaa(9-12) 5. Xoqqaa xekkaa (>12)	
6	Ekkuwaa geluwaa hanotaa?	1. Ekaas/gelas 2. Tarkka 3. Hayqqis/hayqqasu 4. Shakketida	
7	Oosuwaa hanota?	1. Kaeo oosancha 2. Kawo gidena eqota oosancha 3. Zal'anchaa 4. Goshancha 5. Galasa osancha 6. Osoy baawa 7. Payyatetaa osancha Harasta(qonccissa)_	
8	Ammanuwaa hanotayshin?	1. Orthodoxiyaa 2. Muslimiya 3. Protestantiyaa 4. Catholiciya 5. Haraa(qonccisa)	
9	Ne deree aybee?	1. Wolayeta 2. Oromo 3. Amhara 4. Sidama 5. Gurage	

		6. Tigray 7. Haraa(qonccisa)	
10	So asaa qooda	----------payduwan xaafa	

Shaahuwa 2: oyshettiyaagetu tohuwaa kixxan de'iyaa eranne teqqiyo hillata xelliyaa oyshata

M.P	Oyshaata	Zaaruwaa	Qonccis suwaa
1	Tohuwaa kixatettaba siyaa eray?	1. Eee 2. Gidena	
2	zariyan isso gidiyooge tohuwaa kixawu gattiyaaba	1. Eee 2. Gidena	
3.	Tohuwaa kixxa harggiyaa Biitaa giddon de'iyaa mineraaleta	1.Eee 2. Gidena	
4.	Tohuwaa kixaa hargge teqettiyee?	1. Eee 2. Gidenna	
5.	Cammaa wottiyooge teqqii?	1. Eee 2.gidenna	
6	Hakkamoy de"ii?	1. Eee 2. Gidenna	

Shaahuwaa 3: Camaa wottiyo hanota

M.p	Oyshaa	Zaaruwaa	Qonccisuwaa
1	Camma wotta eray	Eee	
		Gidena	
2	Koyroo ne cammaa wotetta domido laytta	<20	
		21-30	
		31-40	
3	Eee gidikko	Ubbatoo	
		Issitoo isitoo	
4	Cegaa camaa laamiyo wodiyaa	Gal"anappe kase	
		Koshshoo saatiyan	
		Gal"iyoodee	
5	Cammay tohuwaa ubba kammii	Eee	
		Gidenna	
6	Ne ha'ii wottiyoo cammaa qooda	>=4	
		3	
		2	
		1	
		0	
7	Ha oyshaa saatiyan beetidda cammaa wottiyoo hanotaa	Ubbasara gordetida camaa	
		Peretida caama	
		Mela gediyan	

Shaahuwa 4: payyatettaa xeela modeliaa oyshata

4.1. Haggiyan gaytiyoo hanotatu xeela						
M.P	Oyshataa	Zaaruwaa				
		Mulekka eenotikkw	Eenotikke	Erikke	Eenotays	Keehi eenotays
1	I Taani wodeppe guyiyan ha harggiyan oyqetanaba milatees	1	2	3	4	5
2	Ta oyqettiyyo hanotay haraatuppe keehi daro milatees	1	2	3	4	5
3	lHa heeran de'iyooge ha harggiyan oyqetiyoo huneta gujjees	1	2	3	4	5
4	Ta so asan de'iyoo gishshawu tanakka oyqanawu dandayees	1	2	3	4	5
4.2. Hargiyaa iitatetaaba xeelliyagan						
M.p	Oyshaa	Zaaruwaa				
		Mulekka enootikke	Eeenotikke	Erikke	Eeenotays	Keehi eenotays
1	Tohuwaa kixatetaan oyqettiyooge keehi qohuwaa ehees giidii sirissees	1	2	3	4	5
2	Taani tohuwaa kixatettay kehi qohuwaa ehees gaada amanettays	1	2	3	4	5
3	Ta tohuwaa kixaa harggiyaa keehi yayyayiis	1	2	3	4	5
4	Tana oyqqikko, haraa harggeppe keehi metees.	1	2	3	4	5
5	Ha hargee asaara de'iyoo duussaka morana dandayees	1	2	3	4	5
4.3. Ha harggiyaaba eriyooga maadota						
M.p	Oyshaa	Zaaruwa				
		Keehi enotays	Eenotikke	Ta erikke	Enotays	Keehi enotays
1	Cammaa ubbato wottiyooge tana ha harggiyaappe naagees	1	2	3	4	5
2	Camaa wottiiyooge ha harggiyan oyqqetiyooga guuttees	1	2	3	4	5
3	Taani ubbato wottiko, ta h harggiyan oyqetiyooga guuttays	1	2	3	4	5
4	Ta cammaa wottiko ha harggiyaawu mule qoppikke	1	2	3	4	5
5	Camaa wottiyooge tawu asaara de'iyaa dusaawukka lo'o	1	2	3	4	5
4.4 Ha harggiyan de'iyaa xella xubbiyabata						
M.p	Oyshaa	Zaaruwaa				

		Mulekka eenotikke	Enotikke	Ta erikke	Eeno tays	Keehi eenotays
1	Tana caama wottiyoode un"ettees	1	2	3	4	5
2	Cammaa wottiyooge ta gallasaa osuwaara beenna	1	2	3	4	5
3	Ta caama wottiyooge koshshiyaba malatena tohuwaa kixxa akimiyan be'etikko	1	2	3	4	5
4	Ta camaa shammiyoo wolqay baawa	1	2	3	4	5
5	Nu heeran camaa shamiyoosi baawa	1	2	3	4	5
6	Ta laggeti ta bolli ubbato ta caama wotiyoode miccoosona	1	2	3	4	5
7	Cammaa wottiyooge taayyo oratta laame milatees hegaa gishshawu tawu deexxees.	1	2	3	4	5
8	Taayyo so asan de'ikko, cammaa wottiyoogan teqana danddayikke	1	2	3	4	5
4.5. Ba abbiyaa xeelliyaaga						
M.p	Oyshaa	Zaaruwaa				
		Mule eenotikke	Eenotikke	Erikke	Eeno tays	Keehi eenotays
1	Taani ha harggiyaan gattiyabata tarkkka eqetana danddayays	1	2	3	4	5
2	Taani tanan amanettays caamma ubbato wottays	1	2	3	4	5
3	Taani cammaa shamiyoo ogiyaa demanna danddayayiis	1	2	3	4	5
4	Taani ha harggiyaa teqqiyaa caamma qomuwaa erays	1	2	3	4	5
4.6. Poluwaa madiyaabata						
M.p	Oyshaa	Zaaruwaa				
		Mule eenktikke	Eenotikke	Ta eikke	Eeno tays	Keehi eenotays
1	Taani cammaa wottiyooge tohuwaa kixxatettaa teqiyoogan daroba siyaas.	1	2	3	4	5
2	Taayo ubbato camaa wottanatan lagetinne so asay maduwaa imoosona.	1	2	3	4	5
3	Taani daro laggetanne so asaa ubbato cammaa wottiyaageeta be"aas	1	2	3	4	5
4	Taani ha harggiyaa teqqiyoo ogeta coora gattiyaabatuppe siyaas	1	2	3	4	5

Ne hashetaayyo keehi galatttays!

6. Assurance of the principal investigator

I, the undersigned agree to accept all responsibilities for the scientific and ethical conduct of the research project. I will provide a timely progress report to my advisor and seek the necessary advice and approval from my primary advisors in the course of the research. I will communicate timely to my advisors all stakeholders involved in the study including any source of funding for this research.

Name of the student: Bethelhem Messele

Date: _____

Signature: _____

Approval of the primary Advisor

Name of the primary advisor: _____

Date: _____

Signature: _____

7. Curriculum vitae

1. Personal Information

- Name: BETHELHEM
- Father's Name: MESSELE
- Last Name: TAKELE
- Date of birth: July 22, 1997 G.C
- Place of birth: DILLA, Ethiopia.
- Nationality: Ethiopian
- Marital Status: MARRIED
- Address: Mobile: +251967217219 email: bethelehemmessle2014@gmail.com

2 Work experience and activities:

#1 Assistant Lecturer at Dilla University (08 Feb 2021- 11 October 2021)

I. Was giving lecture classes

II. Worked as academic advisor

III. Assisting some work in the office

#2 Currently, I am the student of Masters of Public Health in Health promotion and Health Education at Addis Ababa University (starting from October 2021) - present).

3. Personal skills, competences and language proficiency

Language	**Listening**	**Speaking**	**Reading**	**Writing**
Afaan Oromo	Excellent	Excellent	Excellent	Very Good
Amharic	Excellent	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent	Excellent

4. Educational background and Training

Year in E.C	Level of education	Name of institution	Awarded
2006-2012	Primary School (Grade 1-8)	Woyneshet Primary School	Grade 8 Regional Examination Certificate
2013-2014	Secondary School (Grade 9-10)	Donbosco Secondary School	Ethiopian General Secondary Education Certificate (EGSEC)
2015-2016	Preparatory School (Grade 11-12)	Donbosco Preparatory School	Ethiopian University Entrance Certificate (EUEC)
2017-2021	Higher education	Dilla University	Bachelor of degree in Public Health

5. Key skills

***Summary**: Ability to manage time and prioritize workload to ensure efficient delivery of all aspects* of tasks

- ✓ 30 words per minute typing
- ✓ Regular user of Microsoft Office
- ✓ Excellent communication skills
- ✓ Polite and professional manner
- ✓ Always open to learn and ready to listen.
- ✓ Adaptable to challenges and new environment
- ✓ Excellent in team work skills
- ✓ Work effectively with diverse group of people
- ✓ Excellence respect for others

6. Certificate Awarded

1. Certificate of Appreciation awarded by Dilla University, College of Health Science and Medicine, Community Based Education Office for active participation and outstanding performance in community-based education in Bule town, Gedio Zone 2021..

7. References

1. Mr. Daniel Sisay Epidemiology department head in Dilla University. Tel:+251 92 168 0206
2. Dr Negassa Eshete School of public health head in Dilla University. Tel:+251 91 760 4224