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Podoconiosis Prevalence and Its Associated Factors in Soddo Zuria District, Wolaita Zone, South Ethiopia

Alemtsehay Elias Hana Yemane Mengistu Meskele
Wolaita Soddo Univeristy, Ethiopia

Yibeltal Kassa
Wolaita Soddo Univeristy, Ethiopia

Abstract
Background: Podoconiosis (endemic non-filarial elephantiasis of the lower legs) have been linked with barefoot exposure to red clay soils of volcanic origin. In endemic areas including Wolaita zone, it is a public health problem. Podoconiosis is unique in being an entirely preventable, non-communicable tropical disease with the potential for eradication. Low-cost preventive measures are a simple but effective solution. However, so far it has received little attention from health care policy makes at different levels. The previous study on prevalence of Podoconiosis is out dated which were done before 12 years ago and was not included about associated factors. Therefore this study answered these limitations.**Objective:** The objective of this study is to determine the Podoconiosis prevalence and its associated factors in Soddo Zuria Woreda, Wolaita Zone South Ethiopia.**Method:** Community-based cross-sectional study was conducted on 703 households (1483 Participants) in selected 3 kebeles from January 25- February 20, 2015. The head of the households were interviewed by using structured questionnaire and every member above two years within the house during data collection examined for the signs of Podoconiosis by experienced trained data collectors. Binary & multiple Logistic regression analysis were done.**Result:** Eighty (5.4%) of study participants were affected by the disease. The significantly contributed factors for prevalence of Podoconiosis in the study area were age above 26 years (AOR=4.15, 95% CI=1.50-11.51), washing practice only by water (AOR=1.86, 95% CI=1.08-3.81), regular walking for different social purpose on barefoot (AOR=4.18, 95% CI=1.84-9.46), time spent on farming above mean hour in farming on barefoot (AOR=2.23, 95% CI=1.31-3.80) , educational level of being illiterate (AOR=10.14, 95% CI=1.37-77.00) and age of first shoes wearing (AOR=8.14, 95% CI=2.61-25.40) of the participants.**Conclusion:** according to this finding, the current prevalence of Podoconiosis was 5.4% and it was not decreased in last 12 years. The identified predictors that increased the risk for the development of Podoconiosis were Age, Educational status, washing practice, age of first shoes wearing, regular walking on barefoot for social purpose and time spent on farming activities on bare foot. Frontline health workers, programmers, coordinators and different concerned bodies need to scale up education programs on prevention of Podoconiosis.
Keywords: Podoconiosis, mossy foot disease, neglected tropical disease, non-filarial elephantiasis

Introduction

Podoconiosis (Non-filarial elephantiasis) is a non-infectious geochemical disease among barefoot subsistence farmers who have long-term contact with irritant red-clay soil of volcanic origins. Podoconiosis occurs in the absence of parasitic infection and is therefore also known as 'endemic non-filarial elephantiasis'; it's an entirely preventable non communicable tropical disease. The disease caus*es* progressive bilateral swelling of the lower legs. [1], [2], [3], [4]

It is estimated that 4 million people are affected by Podoconiosis worldwide and 5 to 10% of the population in endemic areas where the use of footwear is uncommon. It is found in highland areas of tropical Africa, Central and South America and Asia. [2], [5].

As documented in previous studies there are significant association of temperature, altitude, rainfall precipitation, topography of the land and soil texture with occurrence of Podoconiosis [16]. High prevalence of Podoconiosis was documented in areas with altitude of >1500 masl, mean annual rainfall of >1500 mm and mean annual LST of 19–21°C. The altitude in study area, Soddo Zuria selected kebeles, is ranged from 1600 to 2200ms above sea level. This is an indication of prevalence of Podoconiosis in addition to different literature [18]. At an individual level the factors will be classified into four main categories: socio-demographic, behavioral, history of the disease and history of foot-soil exposure [19].

Podoconiosis is one of the most neglected tropical diseases, which untreated, cause's considerable physical disability and stigma for affected individuals [20].Podoconiosis has enormous social, psychological and economic implications for affected individuals. Social stigmatization of people with the disease is widespread and patients are banned from schools, local meetings and churches, and not allowed to marry unaffected families [21].

The impact of public health interventions for tropical diseases is limited by lack of understanding of the socio-cultural context into which these interventions are delivered. As marking an important step in the fight

against the disease, WHO in February 2011, designated Podoconiosis as one of the 20 neglected tropical diseases and the Ethiopian Federal Ministry of Health In December 2010, agreed to prioritize Podoconiosis control and Subsequently, included in the National Master Plan for NTDs and in the modules prepared by the Open University for the upgrading of Ethiopian Health Extension Workers [22], [23]. However, the disease still didn't get attention and which become the responsibility of the patient themselves. Podoconiosis is an important chronic public health problem affecting both men and women in areas of irritant red clay soil. It is neglect by global health advocates of non-infectious and non-fatal, but socio-economically devastating, diseases of the poor, which are necessary for negotiating funding and delivery of treatment and intervention. Further research is necessary to establish the comprehensive data on the distribution and burden of Podoconiosis (i.e., for disease mapping).

Podoconiosis has a curable pre-elephantiasis phase. However, once elephantiasis is established, Podoconiosis persists and may cause lifelong disability. The disease is associated with living in low-income countries in the tropics in regions with high altitude and high seasonal rainfall including Ethiopia as well as the study area. Different studies takes place at different time but study in prevalence conducted before 12 years ago **[2], [15].**

As stated in different literatures, it is a public health problem in more than ten African countries including Uganda**[6],** Tanzania**[7]**, Rwanda and Burundi[9], Sudan, Ethiopia**[8],[11]**, Kenya **[17],**Cameroon **[1],[26]**, and Equatorial Guinea**[27].**The prevalence of the disease varies from country to country. Earlier nationwide surveys documented an average prevalence of 1% (range: 0% to 2.07%) in Burundi and 0.6% (range: 0.1% to 1.7%) in Rwanda **[9].** More recent studies in Ethiopia estimated a prevalence of, 5.2% in southwestern Ethiopia **[28], [13]** 7.4% in central Ethiopia **[29],** 3.3% in northern Ethiopia **[30]** and5.5% in Southern Ethiopia **[15].**

As indicated in different literature, it is estimated that the total number of cases per country is highest in Ethiopia **[4], [8], [10], [32].** In Ethiopia the basalt area covers more than 200,000 km2 which is approximately one-fifth of the land surface, and the fertility of the soil in such areas attracts an agricultural population of 20.5 million people **[33].** Eleven million Ethiopians (18% of the population) are at risk through exposure to the irritant soil, and estimate based on prevalence data from an endemic area in southern Ethiopia suggests that between 500,000 and 1 million people are affected.

As studies indicated, in Wolaita zone, southern Ethiopia the prevalence of Podoconiosis is 5.5% **[15], [34]**, and people with Podoconiosis are half as productive as controls, costing the zone more than US$16million annually **[35].** Furthermore, Podoconiosis is one of the most stigmatizing health problems in the zone **[36], [37].**

The consistently higher prevalence of Podoconiosis among barefoot individuals, typically working on farmland, corroborates this fact **[9], [30]** as does the effectiveness of Podoconiosis prevention and control measures that include shoe wearing **[19], [24], [25].** Familial clustering of Podoconiosis, when more than one family member appeared for treatment in elephantiasis clinics in, Rwanda, Burundi and Ethiopia, raised the possibility of a genetic factor important in the development of Podoconiosis **[9], [33].** A recent genome-wide association study identified genetic loci that confer susceptibility for the development of Podoconiosis **[38].**

Prevalence of Podoconiosis is determined by Socio-demographic variables of the cases. As previous study indicated in Wolaita**,** most of cases (64%) occurred in the economically productive age groups (16_45years). As identified in this study, Podoconiosis is an important chronic public health problem affecting both men and women in areas of irritant soil. The male to female ratio was 1:0.98**[15].** The prevalence of Podoconiosis was higher among females than males similar to the studies in Ocholo (1:4.2) **[13],** Pawe (1:1.4) **[14]** and Wolaita (1:1.4) **[4].**

Methodology

The study area and Design

The study was conducted in Soddo Zuria, Wolaita zone; Southern region of Ethiopia with an estimated population of is 202,912 people, which is located 330km south of Addis Ababa. This Woreda is one of the 12 Woreda and 3 reform towns of Wolaita Zone. This study focused on three kebeles of Soddo Zuria Woreda in Wolaita Zone. They are Gillo Bissare, Tome Gerrera and Offa Sere. The total number of the target population was 6183, 7535 and 8681 respectively or 22,399. The total number of households in 3 kebeles was 4573. Across sectional study was conducted from January25/2015 – February20/2015.

Study Population and Sampling

The source population was the total populations in the Soddo Zuria Woreda. The study population were all members of the selected households that where found during data collection.

All members in the selected above the age of two years and available during the time of data collection were included. The guest who is there at the study time, the family members who were not found at home and those who are critically ill were excluded.

Sample size determined by using single population proportion formula with the proportion of prevalence of Podoconiosis in Wolaita 5.5%; expected margin of error 2.5%; Confidence level of 95% which indicate parameter is within certain specified limits of the true value; the design effect is 2 and 10% non-response rate. Total sample size for this was 703 households

To obtain selected household, Multi stage systematic random sampling was applied. Three Kebeles out of the total 31 Kebeles found in Soddo Zuria Woreda were selected in simple random Sampling. Then, Kebeles stratified in to "Gots"/sub areas in the Kebele. Proportional allocation was made to each Kebele, and then to each "Gots." Systematic random sample was employed to select households from each "Got." Got center was used as a starting point and pen was pinned to identify the beginning direction. Then after every 6th households were selected. Whenever the selected households were not available next household was replaced. K value was calculated dividing total number of households in three Kebeles to total sample size. Finally, convenience sampling was also applied to select and interview individuals in each household.

Data collection instrument and procedure

The data collected by using interview by trained and experienced Diploma holder Nurse Data collectors through structured questionnaires and observation checklist. Questionnaire was adapted and prepared from related literatures with modification to local context. The questionnaire prepared in English and then translated into local language, Wolaita Donaa, and back to English to ensure consistency. Observation through observation check list was done for all members in the household that exist during data collection. An experienced BSc holder professional in diagnosing and treating the disease was recruited to train for three days and supervise the data collectors. The training was given by higher professionals from mossy foot International, two data collectors were assigned at each Got and frequent supervision was done by two supervisors to increase validity of the data. Therefore, maximum effort was made to minimize inter observer bias during diagnosing presence of Podoconiosis. Pretest was conducted in the non-selected Kebele to ensure validity of data collection tool.

Data quality control

After data collection, questionnaires were cheeked for completeness and consistency by supervisors and principal investigator and code was given before data entry. Then the data were initially entered into EPI Info version 3.5.4

Ethical Consideration

Written informed consent obtained from each respondent after explaining the objective and significance of the study .To maintain confidentiality, names of the informant were not written across the study. Informants' involvement in the study was on voluntary basis and those who wish to quit their participation at any stage informed to do so without any restriction. In study process, all records coded and accessed by the research team only. Those untreated 6 respondents out of 80 who found with disease immediately referred to local clinics to get an appropriate treatment.

Result

Socio-demographic characters

The study subjects consisted of 708 (47.7%) females and 775(52.3%) males in 703 households. The age range of the study subjects was 2 up to95 years. The mean ages of the respondents were 26.16with standard deviation of +12.36years. The median age of the respondents was 20. Regarding marital status of the respondents, majority were currently married 625 (88.9%). About 60% of them had primary level education. The majority 481 (68.4%) of 703 study participants were Protestant Christian religion followers. A significant number 729(49.2%) out of 1483 study subjects were farmers.

Table 1- Socio-demographic Characteristic of the study subjects Soddo Zuria Woreda, Wolaita Zone Southern Ethiopia May 2015.

Variable	Frequency	Percent %
Age		
2-5	125	8.4
6-15	298	20.1
16-20	156	10.5
21-30	393	26.5
31-45	364	24.5
>45	147	9.9
Total	1483	100%
Sex		
Female	708	47.7
Male	775	52.3
Total	1483	100
Education		
Illiterate	306	20.6
Read and write only	48	3.2
Grade 1-8	872	58.8
Grade 9-12	86	5.8
Certificate & above	28	1.9
NA	143	9.6
Total	1483	100
Residence		
Rural	702	99.9
Urban	1	0.1
Total	703	100%
Occupation		
Farmer	729	49.2
Unemployed	145	9.8
Student	379	25.6
Employee	17	1.1
Merchant	57	3.8
Daily laborer	11	0.7
Other	7	0.5
NA	138	9.3
Total	1483	100
Religion		
Protestant	481	68.4
Orthodox	200	28.5
Catholic	22	3.1
Total	703	100

NA=Not applicable

History of disease

The prevalence of Podoconiosis in Soddo Zuria Woreda was found to be 80 (5.4%). And the most prevalent age group was 16-20 years while the least prevalent age group was ranged 2-5 years. Majority (36.2%) of diagnosed Podoconiosis patients were identified as they were at initial stage of the disease whereas (3.8%) were at final stage of the disease. Regarding the age group at which they got first treatment, most of the patients received their first treatment at the age group of 21-30 years which was 28.4%. Among total of 80 patients diagnosed only 3 patients were identified with open wound on their leg and 12 patients were with mossy foot. Frequency of acute Lymphadenitis was 2 times per year on 38.8% of the cases.

Behavioral aspects

A total of 1483 study subjects were assessed, 1241subjects wore shoe. From those, the majority 602(48.5%) of study subjects wore their first shoe at age of 6-15 years. Whereas, the least (0.6%) of the study subjects wore shoe above 45 years old. Regarding Frequency of feet washing, Out of 14 83, the majority1217 (82.2%) of the

study subjects washed once per day. Most 885(59.7%) of the study subjects were washed their foot by using water and soap. Some victim respondents were reported their daily use of other detergents which supplied by Mossy Foot International. The type of shoes that the study subjects wore was classified into protective (wearing closed shoes) and non-protective (wearing open shoes or barefoot). During interview, about 1425(96.1%) study subjects were wore shoe. From those subjects about 1192(83.2%) were wore protective Shoe whereas 241 (16.8%) subjects were not wore protective shoe.

Foot-soil exposure

Out of the 1483, majority1417 (95.5%) of participants that had travelled for social purposes with shoe however very few 66(4.5%) of study subjects were travelled on barefoot. However 691(46.6%) of the study subjects were spent their times on different activities of farming on barefoot.

Characteristics of knowledge related aspects

Out of 703participants, only199 (28.3%) of the subjects were heard about the Podoconiosis. From those 199 heard study subjects, about 188(94.5%) of the respondents were know some signs and symptoms of the disease. The most frequent reported agent of the disease were soil particles 156(78.4%), Poverty 10(5%), Malnutrition 6(3%), living with sick 3(1.5%) and other17 (8.5%).Here, most respondents were reported as Snake biting as well as frog vomit is one of the causative agent of the disease. One hundred twenty three (61.8%) of the subjects were reported as the disease is not communicable as well as few 25 (12.6%) of the study subjects were responded that Podoconiosis is not curable.

Associated factors

In this study: Age, education, occupation, income, age of wearing first shoe wearing, status of feet at interview, washing practice, regular walking for different social purpose on barefoot and time spent on different farming activities on barefoot were the variables associated in the bivariate analysis

After checking for socio-demographic, history of disease, economic aspects, behavioral and feet-soil exposure, the participants who had the age below 26 (the mean age) years were found to be 11.12 times more likely to develop Podoconiosis than those who found above 26 years old (COR=11.12, 95% CI=5.08-24.32, p=0.00). Moreover, the study subjects who found under illiterate were 11.25 times more likely to develop Podoconiosis than those who were secondary and above education level (COR=11.25, 95% CI 1.53-82.49, p=0.017). The participants, who work on farm, were 3.57 times more likely to develop Podoconiosis than those work other activities (COR=3.57, 95%CI=1.81-7.04,p=0.00) and the students were 7.32 times more likely to develop Podoconiosis than those work other activities (COR=7.32,95%CI=2.92-18.34,p=0.00) . Those participants who have low income were 4.16 times more likely to develop Podoconiosis than those who had high income (COR=4.16, 95% CI=2.43-7.14, p=0.00). The study subjects who have dirty and cracked status of feet were 2.77 times more likely to develop Podoconiosis than those who have clean and intact feet status (COR=2.77, 95% CI=1.75-4.37, p=0.00). On other hand the participants washing practice dependent on only by water were 1.73 times more likely to develop

Podoconiosis than who washed by water and soap (COR=1.73, 95%CI= 1.06-2.84, p=0.03). The participant who travelled regularly for social purpose were 3.44 times more likely to develop Podoconiosis than those who not travelled (COR=3.44, 95% CI=1.68-7.02, p=0.01).

Likewise, the participant who were spent above the mean hour on the farm were 1.68 times more likely to develop- Podoconiosis than those who spent bellow the mean hour on the farm (COR=1.68, 95% CI= 1.06-2.65, p=0.026).

According to this study, Age, educational status, age of first shoes wearing, feet washing practice, regular walking on bare foot and time spent on farming on barefoot were the independent variables which found in this study as predictors of Podoconiosis. 80(5.4%) of study participants had affected by the disease. The significant contributed factors for prevalence of Podoconiosis in study area were age above 26 years (AOR=4.15, 95% CI=1.50-11.51), washing practice only by water (AOR=1.86, 95% CI=1.08-3.81), regular walking on barefoot for different social purpose (AOR=4.18, 95% CI=1.84-9.46), time spent on farming on barefoot who travelled above mean hour (AOR=2.23, 95% CI=1.31-3.80),the educational status who were illiterate (AOR=9.74, 95% CI=1.29-73.53) and primary level (AOR=2.23, 95% C=1.33-3.73) and age of first shoes wearing (AOR=8.14, 95% CI=2.61-25.40)

Table2. Factors associated with Podoconiosis in Soddo Zuria Woreda, Wolaita Zone

Characteristics	Podoconiosis		COR(95%CI)	P value	AOR(95%CI)	p value
	Yes# (%)	No # (%)				
Age						
2-26	7(1.0)	724(99.0)	1		1	
>26	73(9.7)	679(90.3)	11.12(5.08-24.32)	**0.00***	4.15(1.50-11.51)	**0.006****
Sex						
Female	33(4.7)	675(95.3)	0.76(0.48-1.20)	0.233	0.82(0.48-1.39)	0.457
Male	47(6.1)	728(93.9)	1		1	
Education						
Illiterate	45(9.0)	452(90.9)	11.25(1.53-82.49)	**0.017***	10.14(1.37-77.00)	**0.025****
Primary	34(3.9)	838(96.1)	4.59(0.62-3.82)	0.135	4.50(0.60-33.95)	0.145
Secondary and above	1(0.9)	113(99.1)	1		1	
Occupation						
Farmer	65(89)	664(91.1)	3.57(1.81-7.04)	**0.00***	1.51(0.72-3.20)	0.279
Student	5(1.3)	374(98.7)	7.32(2.92-18.34)	**0.00***	2.86(0.81-10.12)	0.104
Others	10(2.7)	365(97.3)	1		1	
Income						
Lower	30(11.1)	241(88.9)	**4.16(2.43-7.14)**	**0.00***	1.48(0.77-2.82)	0.238
Moderate	23(8.2)	259(91.8)	**2.97(1.67-5.27)**	**0.00***	1.33(0.68-2.62)	0.41
Higher	27(2.4)	903(97.1)	1		1	
Age of first shoes wearing						
2-26	76(95)	742(52.9)	1		1	
>26	4(5)	661(47.1)	**16.93(6.16-46.51)**	**0.00***	8.14(2.61-25.40)	**0.00****
Status of feet at interview						
Clean and intact	46(9.1)	461(90.6)	2.77(1.75-4.37)	**0.00***	1.5(0.84-2.67)	0.169
Others	34(3.5)	942(96.5)	1		1	
Frequency of feet washing						
Twice per day	61(5.0)	1155(95.0)	1		1	
Others	19(7.1)	248(92.9)	1.45(0.41-1.18)	0.171	1.03(0.57-1.86	0.924
Washing practice						
By water only	23(3.8)	577(96.2)	**1.73(1.06-2.84)**	**0.03***	1.86(1.08-3.81)	**0.025****
By water and soap	57(6.5)	826(93.5)	1		1	
Regular bare foot walking						
Yes	10(15.2)	56(84.8)	**3.44(1.68-7.02)**	**0.01***	4.18 (1.84-9.46)	**0.001****
No	70(4.9)	1347(95.1)	1		1	
Time spent on farming						
Travel below mean hour (<2.44)	33(4.2)	759(95.8)	1		**1**	
Travel above mean (>2.44)	47(6.8)	644(93)	**1.68(1.06-2.65)**	**0.026***	2.23(1.31-3.80)	**0.003****

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Discussion

This community-based study attempted to assess the prevalence of Podoconiosis and associated factors in Soddo Zuria Woreda, Wolaita Zone, South Ethiopia. So far, few current studies were done only among Economic Burden and Social Stigma of Podoconiosis in Wolaita Zone. Whereas, concerning prevalence of Podoconiosis is out dated.

Age and sex were grouped under potential factors for the development of Podoconiosis. Level of education, income, age for first shoe, feet washing practice, shoe owner ship, history of farming and walking were grouped as both risks for, and outcomes of, Podoconiosis. History of the disease was as outcomes of Podoconiosis.

The finding of this study was indicated that the current prevalence of Podoconiosis (5.4%). As indicated there the study identified six predictors of Podoconiosis in Multiple Logistic regression analysis. The risk of developing Podoconiosis was affected by Age, educational status, age of first shoes wearing, foot washing practice, regular walking on bare foot and time spent on farming activities on barefoot.

The study identified 80(5.4%) of Podoconiosis patients. This finding was almost similar with a study before in Wolaita Zone, southern Ethiopia that is 5.5% **[15], [34]** and was less than a study in central Ethiopia 7.4% (31) how ever greater than the study in south western Ethiopia 5.2% **[13],[28]**, and in northern Ethiopia 3.3% **[30]**. The prevalence of Podoconiosis associated among barefoot or non-protective shoes, typically working on farm land and high foot soil exposure individuals **[9], [12]**. This finding was also consistent with those studies.

In this study the mean age of the study subjects were almost equal with the average age for the development of Podoconiosis. The participants whose age above 26 years were 4.15 times more likely to develop Podoconiosis than whose age below 26 years (AOR=4.15, 95% CI=1.50-11.51). Similarly with this study, previous studies have indicated that most Podoconiosis developed people are in the productive age group **[15], [19], [28], [30],** and [34]. Sex of the subjects in this study was not significantly associated with the

development of Podoconiosis consistent with the finding in Wolaita South Ethiopia(15) Pawe north-west Ethiopia , east & west Gojam, and in area varying indemicity **[15], [19], [21] ,[30].** However other studies have indicated that females have higher odds of being affected (30), where as in another study indicated males have higher odds of being affected **[31].** This may be due to different confounding factors.

Income is a prior risks as well as an outcome of Podoconiosis. This study assessed the household income however the study acknowledge that the reported income may be biased because of different cultural and other barriers including estimation of the income made by the subjects.

In this finding, the educational level of the study subjects was significantly associated with Podoconiosis. Study subjects who were illiterate 10.14 times more likely to develop Podoconiosis than those who attended secondary and above (AOR=10.14, 95% CI=1.37- 77.00, p=0.025). Educational level is a prior risk factor and outcome of Podoconiosis. This means, when educational level of an individual the chance of getting the disease increases and people tend to stop their education after the disease onset [19].

The majority of the patients started wearing shoes after disease onset, and wore more protective shoes. As previous study in Wolaita zone, south Ethiopia indicated that difference in physical and financial access to treatment including starting to wear shoe between urban and rural residents [39]. On average, patients began wearing shoes when they were in their late 20s (mean=26.16, SD=12.036). Age of wearing first shoe was significantly associated with the age of onset of Podoconiosis. The study subjects who wore their first shoes above 26 were 8.14 times more likely to develop Podoconiosis than below 26 years of age (AOR=8.14, 95% CI= 2.61 25.40, p=0.00). This finding consistent with the previous finding on west Ethiopia, East and West Gojam, [19], [28], [30] indicating that most patients might have started wearing shoe after the development of Podoconiosis.

The study subject who travelled on barefoot regularly for social purpose were found 4.18 times more likely to develop Podoconiosis than those who did not travelled regularly (AOR=4.18, 95% CI=1.84-9.46, p=0.001). This finding was similar with a study done in Northern Ethiopia with varying indemicity [19].

On other hand the study subjects who were spent above the mean hour on the farm were 2.23 times more likely to develop Podoconiosis than those who spent below the mean hour on the farm (AOR=2.23, 95% CI=1.31-3.80, p=0.003). This finding was inconsistent with the study in Northern Ethiopia with various indemicity. [19]

And also the disease significantly associated with foot washing practice. The participants who washed their foot only by water were 1.86 times more likely to develop Podoconiosis than those who washed by water and soap (AOR=1.86, 95% CI=1.08-3.81, p=0.025). The above findings indicated that some factors of Podoconiosis were similarly associated with of some previous findings for example (age, sex, age of fist shoes wearing, regular walking on barefoot) whereas the other factors are inconsistently associated with some of other studies for example (sex and time spent on farming on barefoot).

Conclusion and Recommendation

In this study finding, the prevalence of Podoconiosis in the study area was 5.4%. The prevalence was not decreased when compared with the study done before 12 years ago in Wolaita zone which was 5.5%. The community awareness towards the disease is still low. Almost all participants who heard about disease were patients and even the non-patient participants heard from patients themselves. And the findings still shows that the disease is among the neglected diseases. Podoconiosis is the disease of all age groups and both sex but it showed significant difference below mean age. However, the onset of diseases is not limited on age as well as sex but which is based on prolonged soil-foot exposure on both factors. According to this finding, Age, educational level, age of first shoes wearing, washing practice, regular bare foot walking and time spent on farming activities on bare foot were increased the risk for the development of Podoconiosis. Late use of shoe, usually after the onset of Podoconiosis was observed. Prolonged barefoot walking & washing practice were strongly associated with Podoconiosis. About 95.5% of participants that had travelled for different social purpose with shoes but about 46.6% of the study subjects were spent their time on different farming activities. This implies the gap on shoes function concerning the prevention of Podoconiosis.

Intervention effort should focus to address the community, the policy makers and other concerned bodies on education & awareness creation. By using as opportunity on observed increased shoe wearing practice educating of the community is needed. Effective prevention could be possible based on early age shoe wearing, foot washing practice and appropriate utilization of shoes. Establishing anti-Podoconiosis club in school is needed. Considering integrating Podoconiosis into primary health care (PHC) program is required.

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