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ORIGINAL RESEARCH

Knowledge, Attitude, Practices and Associated Factors Towards Trachoma Among People Living in Arba Minch Zuria District, Gamo Zone, Southern Ethiopia

Chuchu Churko [1]
Mekuria Asnakew Asfaw [1]
Zerihun Zerdo [2]

[1]Department of Public Health, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Southern Nation Nationality of People Region, Ethiopia; [2]Department of Medical Laboratory Science, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Southern Nation Nationality of People Region, Ethiopia

Background: Trachoma is the second leading cause of blindness in the world affecting the poorest communities. Despite many interventions undertaken on prevention and control for trachoma, Ethiopia has failed to achieve the 2020 elimination goal.

Objective: To assess knowledge, attitude, practice and its associated factors toward trachoma infection among people living in Arba Minch Zuria district Gamo zone, Southern Ethiopia.

Methods: A community-based cross-sectional study was conducted from December 2019 to June 2020. Data were collected using a pretested interviewer-administered questionnaire from 796 randomly selected individuals. Epi Info version 7 was used to enter and clean the data and exported to SPSS V20 for analysis. A multivariable logistic regression analysis model was fitted to identify factors associated with the outcome variables.

Findings: Among 796 interviewed participants, 611 (76.8%) had inadequate knowledge toward trachoma infection and 244 (30.7%) had unfavorable attitude. Individuals who had no formal education (AOR=0.365, 95%CI: 0.212–0.626) and primary education (AOR=0.58, 95%CI: 0.35–0.962) were negatively associated with adequate knowledge towards trachoma infection. Being a farmer (AOR=0.063, 95%CI: 0.008–0.52), merchant (AOR=0.022, 95% CI: 0.003–0.194), student (AOR=0.026, 95%CI: 0.003–0.225) or housewife (AOR=0.03, 95%CI: 0.004–0.256) were negatively associated with adequate knowledge. Those study subjects whose wealth index were lowest (AOR=0.49, 95%CI: 0.27–0.878), second (AOR=0.38, 95%CI: 0.21–0.69) and middle (AOR=0.36, 95%CI: 0.199–0.658) percentiles negatively associated with adequate knowledge. A short distance to fetch water (AOR=2.53, 95%CI: 1.18–5.415) was positively associated with adequate knowledge about trachoma infection. Environmental cleanliness (AOR=2.224, 95%CI: 1.518–3.257), being male (AOR=1.848, 95%CI: 1.332–2.565) and distance from home to health facility (AOR=1.845, 95%CI: 1.308–2.600) were significantly associated with attitude status.

Conclusion: Considerable numbers of people have unfavorable attitude and inadequate knowledge about trachoma infection. Awareness creation through community mobilization and sensitization should be strengthened.

Keywords: trachoma, Arba Minch Zuria, trichiasis, Ethiopia

Introduction

Trachoma is a preventable and treatable disease and the second leading cause of preventable blindness in the world affecting mostly the poorest communities. Repeated infection of children with *Chlamydia trachomatis* can lead to scarring

Correspondence: Chuchu Churko
Email churkochuchu2005@gmail.com

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of the conjunctiva, causing entropion in adults as the eyelid turns inward, and trichiasis as the eyelashes deviate inward and touch the globe. Damage to the cornea from trichiasis, as well as abnormal conjunctiva, can result in vision loss.[1]

The World Health Organization (WHO) simplified classification of trachoma infection as follicular trachoma (TF), inflammatory trachoma (TI), trachomatous scarring (TS), trachomatous trichiasis (TT) and corneal opacity (CO). TF is described as of at least 0.5 mm in the upper tarsal conjunctiva; pronounced inflammatory thickening of the tarsal. TI is when the conjunctiva obscures more than half of the deep normal tarsal vessels. TS is described as the presence of scarring in the tarsal conjunctiva and CO means the presence of easily visible corneal opacity which obscures at least some of the pupil.[2]

The WHO had launched an initiative to eliminate blinding trachoma by the year 2020 using the SAFE strategy: Surgery, Antibiotic, Facial cleanliness and Environmental improvement.[3] Surgical correction of the upper eyelid using tarsal rotation procedure is the most effective intervention for trichiasis. Trachomatous trichiasis surgery treatment is provided free or subsidized in most trachoma endemic settings.[4]

Trachoma remains a problem in the poorest societies of the world. As of 2014, an estimated 21 million people were afflicted with active trachoma, 7.3 million of whom have trichiasis and 2.2 million of whom are either completely blind or severely visually impaired. The majority of this blinding trachoma occurs in African countries.[5] According to the WHO weekly epidemiological record 2019, 142.2 million people live in trachoma endemic areas and 2.5 million people require urgent surgery to trachomatous trichiasis, the late stage of blinding trachoma.[6]

In 2017, 70 million people lived in trachoma-endemic areas in Ethiopia; that is 44% of the global burden of active trachoma.[7] Trachoma is the second most common cause of blindness in Ethiopia exceeded only by trachoma where trichiasis affects 3% of people above 14 years of age.[8] According to the national survey conducted in 2006, trachoma accounts for 11.5% of all blindness and 7.7% of people with low vision. It is estimated that over 138,000 people in Ethiopia are already blinded by this disease.[9]

In the Southern Nations, Nationalities and People's Region (SNNPR), where ORBIS implements its rural program and trachoma control initiatives, the prevalence is even higher. Based on evidence generated from district baseline trachoma surveys in ORBIS supported rural project areas, the prevalence of active trachoma ranges from 22% to 56% and that of trachomatous trichiasis from 1.1% to 6.4%.[10] More recent evidence showed that the Arba Minch Zuria district has the highest TT backlog in Gamo zone, Southern Ethiopia.[10]

Despite the scale-up of different interventions done in Ethiopia like annual and biannual mass drug administration for trachoma and surgical services in recent years, the disease is still a public health problem affecting the people living remote kebeles and who have a poor economic status. We hypothesized that the disease is still a public health problem because of inadequate knowledge and attitude toward trachoma prevention and control measures. Therefore, the aim of this study was to assess knowledge and attitude among communities living in Arba Minch Zuria district, Gamo zone, Southern Ethiopia.

Methods and Materials

Study Setting and Design

A community-based cross-sectional study was conducted from December 2019 to June 2020 in Arba Minch Zuria district in Gamo zone. The district has a high prevalence of TT backlog. According to the ORBIS international Ethiopia report, the district has an estimated TT backlog of 511. Gamo zone is one of the zones in the SNNP region of Ethiopia. The zone is located 505 km south from Addis Ababa, having 13 districts and four city administrations. According to the 2007 Ethiopian central statistics agency census, the zone had a total population of 1,341,901 of which 668,230 were men and 673,671 were women. Majority of the population 1,292,653 (96.33%) live in rural area. The current profile indicated that there are five hospitals, 33 private clinics and 53 health centers in the recently formed Gamo zone.

Source and Study Population

Source population: all individuals who were aged 18 years and above in the selected district.

Study population: randomly selected individuals who were aged 18 years and above in the selected district.

Eligibility Criteria

Inclusion criteria: all individuals who were aged 18 years old or above in randomly selected kebeles were eligible population for this study. They could be healthy volunteers

who were clinically diagnosed and treated trachoma cases or status unknown.

Exclusion criteria: those individuals who were severely ill and absent after two visits during the data collection period.

Sample Size

Sample size was determined using standard procedures by considering the following assumptions: $Z_{\alpha/2}$=significance level at 95% confidence interval=1.96; *P*=60% proportion people who had adequate knowledge towards trachoma;[11] degree of margin=5%; design effect of 2 and 10% non-response rate, the final sample size was 811.

Sampling Procedure

Multistage sampling technique was used in this study. Five out of the total 18 kebeles found in the district were selected randomly. The total sample size was allocated proportionally to the size of households in each of the selected kebeles. The sampling frame was obtained from health extension workers for selection of households. Systematic sampling technique was employed to select 811 study participants from five kebeles of the district. The sampling interval was calculated by dividing the total number of households in each kebele with the total number of households selected from each kebele. A fixed starting point was selected in each kebele to have first household for interview and then direction was randomly selected to proceed to the next house. Then, every Kth household was selected until the required sample size was obtained from each selected kebele. If there were more than one eligible individual in the selected house, only one participant was selected by using the lottery method (Figure 1).

Data Quality Control

To maintain data quality, the data collection tool was pretested with 5% of the sample size. Initially a semistructured questionnaire with closed and open-ended questions was prepared in English, and then translated to Amharic and back to English to check consistency. Two-day intensive training was given for data collectors and supervisors who had previous experience in data collection. Daily supervision was carried out to check the completeness and consistency of the questionnaire.

Operational Definition

Knowledge: 18 questions were used to assess knowledge of the participants regarding trachoma infection. A score of 1 was given for correct answers and 0 for incorrect answers. If the study subjects scored the mean or more of

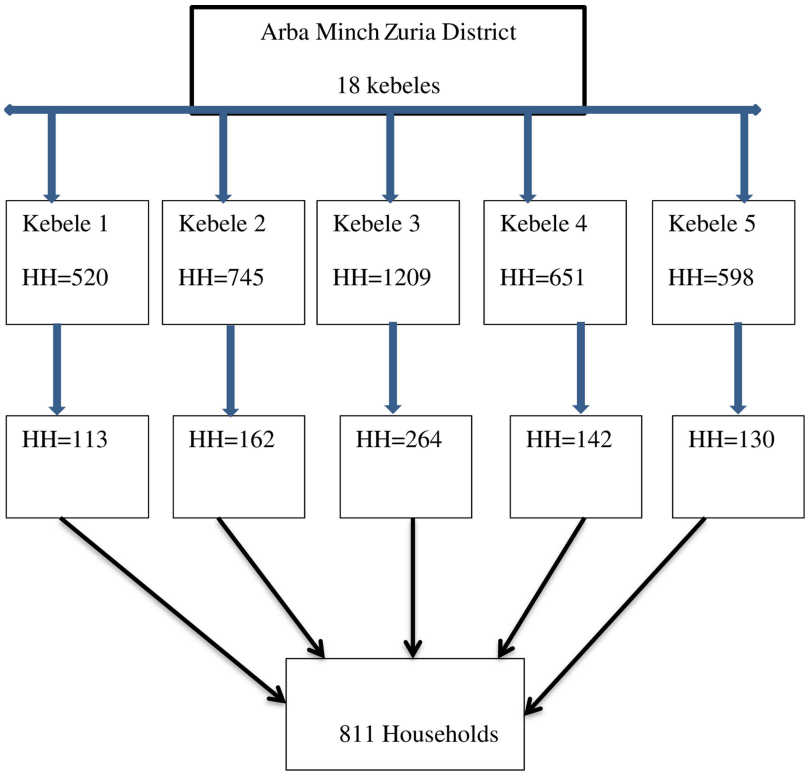

Figure 1 Schematic presentation of sampling procedure of the study participants.
Note: HH means households.

correct knowledge questions, then he/she had adequate knowledge. A person has inadequate knowledge when he/she responded below the mean of knowledge questions.

Attitude: in this study attitude was categorized as favorable and unfavorable attitude based on eight attitude questions. Code 1 was given for correct answers and code of 0 for incorrect answers. Individuals who scored the mean or more of the attitude question were categorized as having favorable attitude and score below the mean were categorized as unfavorable attitude.

Study Variables

Dependent variables

- Knowledge
- Attitude

Independent variables

- Sociodemographic variables
- Personal hygiene factors
- Environmental sanitation factors
- Health system related factors

Data Collection

A pretested, semi-structured interviewer-administered questionnaire was prepared for data collection. The questionnaire contained variables on sociodemographic, clinical characteristics, personal hygiene, and environmental sanitation factors. Individuals who fulfill the inclusion criteria were identified by trained data collectors. Sixteen data collectors whose professions were health background and had experience in data collection were recruited for this study. Then, the data collectors visited house-to-house and interviewed the study subjects using the pretested tool.

Data Processing and Analysis

Epi Info version 7 was used for coding, entering and cleaning the collected data and the data were imported and analyzed using SPSS version 20. Bivariate analysis was done to determine the associations between each independent variables and outcome variables. All associated factors with *P*-value less than 0.25 during bivariate analysis were entered into a multivariable logistic regression model. Odds ratio with 95% confidence intervals were used to see the strength of association between different variables. *P*-value and 95% confidence interval (CI) for odds ratio (OR) were used in deciding the significance of the associations. Before inclusion of independent factors, multicollinearity was checked using cutoff points variance inflation factor (VIF) <10 and normality was checked by Q-Q probability plots. Hosmer–Lemeshow goodness of fit was also checked for the model at *P*-value >0.05.

Results

Sociodemographic Characteristics of the Study Subjects

A total of 796 study participants from five kebeles of Arba Minch Zuria district were interviewed with a response rate of 98.2%. The mean age of the study subjects was 38.9 with standard deviation of ±11.6 years. The minimum and maximum ages were 18 and 90 years old, respectively. Most 462 (58%) of the respondents were males. More than half of the participants were Protestant religion, followed by Orthodox, 459 (57.7%) and 333 (41.8%) respectively. Regarding level of education, 345 (43.3%) of the study subjects had no formal education. Most, 666 (83.7%) of the respondents, were married whereas only 10.7% were single in their marital status (Table 1).

Clinical Characteristics, Personal and Environmental Hygiene Practice of Study Subjects

Of the total respondents, 58 (7.3%) and 56 (7%) experienced eyelashe epilation and discharge present in their eyes. Regarding personal hygiene, 329 (41.3%) of the study subjects washed their face once per day and 109 (13.7%) did not use soaps while washing face. One hundred and thirty (16.3%) of the participants had the habit of sharing clothes. In contrast, feces were present in the environment of 63 (7.9%) of the study participants. Forty-two (5.3%) of the study subjects said that they had no latrine at all. More than half 459 (57.7%) of the study subjects spent more than one hour walking distance to reach a health facility. Eighty-five (10.7%) the participants spent more than 30 minutes fetching clean water (Table 2).

Knowledge of Community Towards Trachoma and Trichiasis

All 796 (100%) of the study subjects had heard about trachoma. However, 366 (46%) and 436 (54.8%) of them had not heard about trichiasis and trichiasis surgery, respectively. Two hundred and sixty-three (33%) of the

Table 1 Sociodemographic Characteristics of the Study Subjects, (N=796)

Variables	Category	Frequency	Percentage
Age	19 years old or less	9	1.1
	20–29 years old	152	19.1
	30–39 years old	305	38.3
	40–49 years old	194	24.4
	50 years old and above	136	17.1
Gender	Male	462	58
	Female	334	42
Religion	Orthodox	333	41.8
	Protestant	459	57.7
	Others[a]	4	0.5
Ethnicity	Gamo	751	94.3
	Wolayta	27	3.4
	Others[b]	18	2.3
Educational status	No formal education	345	43.3
	Grade 1–8	321	40.3
	9 grades and above	130	16.3
Marital status	Married	666	83.7
	Divorced	5	0.6
	Single	85	10.7
	Widowed	40	5
Occupation	Farmer	445	55.9
	Merchant	104	13
	Student	63	7.9
	Housewife	159	20
	Day laborer	10	1.3
	Others[c]	15	1.9
Family size	4 or less	308	38.7
	Above 4	488	61.3
Wealth index	Lowest percentile	155	19.5
	Second percentile	161	20.2
	Middle percentile	164	20.6
	Fourth percentile	160	20.1
	Highest percentile	156	19.6

Notes: [a]Catholic and Adventist; [b]Amhara and Goffa; [c]NGO, Government.

Table 2 Clinical, Personal and Environmental Characteristics of the Study Participants, 2019

Variables	Category	Frequency	Percentage
Experiencing eyelashes epilation	Yes	58	7.3
	No	738	92.7
Presence of discharge from the eyes	Yes	56	7
	No	740	93
Frequency of washing face	Once per day	329	41.3
	Twice per day	289	36.3
	Three times per day	178	22.4
Use soaps while washing face	Yes	687	86.3
	No	109	13.7
Habit of sharing clothes	Yes	130	16.3
	No	666	83.7
Environmental cleanliness	Feces present on the ground	63	7.9
	Flies present in the environment	490	61.6
	Clean environment	243	30.5
Latrine conditions	No latrine	42	5.3
	Pit latrine	749	94.1
	VIP latrine	5	0.6
Walking distance from home to health facility	One hour or less	337	42.3
	Above one hour	459	57.7
Walking distance from home to clean water source	30 minutes or below	711	89.3
	Above 30 minutes	85	10.7

respondents correctly answered the cause of trachoma. Regarding transmission of trachoma, 167 (21%), 160 (20.1%), and 592 (74.4%) of the study subjects correctly responded that contact with discharges, sharing clothes or fomites and unhygienic environment were roots of transmission for trachoma, respectively. Less than one quarter, 185 (23.2%) of the study subjects had adequate knowledge toward trachoma (Table 3).

The sources of information for trachoma infection were health professionals 447 (56.2%), radio/TV 203 (25.5%), friends/neighbors 164 (20.6%) and others 95 (11.9%) (Figure 2).

Attitude of Study Participants About Trachoma and Trichiasis Surgery

Five hundred and fifty-two (69.3%) of the study participants had a favorable attitude toward trachoma infection (Figure 3). According to this study, 148 (18.6%) strongly agreed that trachoma could be transmitted through hereditary. Conversely, 240 (30.1%) were neutral and 144

Table 3 Knowledge of Community Toward Trachoma and Trichiasis in Arba Minch Zuria District, Gamo Zone, Southern Ethiopia, 2019

Variables	Category	Frequency	Percentage %
Heard about trachoma	Yes	796	100
Cause of trachoma	Bacteria	263	33
	Dust	400	50.3
	Curse	72	9.1
	Virus	55	6.9
	Others[a]	6	0.8
Signs and symptoms	Tearing of the eye	337	42.3
	Redness of the eye	375	47.1
	Scratching of the eyelashes	146	18.3
	Photophobia	156	19.6
	Itching	284	35.7
Transmission of trachoma	Contact with nasal or eye discharges	167	21
	Sharing clothes or fomites	160	20.1
	Unhygienic environment	592	74.4
Prevention	Use medicine	452	56.8
	Daily hand wash with water and soap	448	56.3
	Avoid contact with nasal or eye discharges	159	20
	Avoid sharing clothes	69	8.7
Consequences	Vision loss	476	60
	Scarring of the eye	142	17.8
Ever heard about trichiasis	Yes	430	54
	No	366	46
Ever heard about TT surgery	Yes	360	45.2
	No	436	54.8
Knowledge status of patient	Adequate	185	23.2
	Inadequate	611	76.8

Notes: [a]Contaminated water, do not know.

(18.1%) disagreed that trichiasis patients might lose vision if not operated upon. Half, 398 (50%) of the study subjects disagreed that people with trichiasis could perform work like anyone without trichiasis. Ninety-three (11.7%) and 185 (23.2%) of the respondents strongly agreed and agreed that they feared that trichiasis surgery by itself caused blindness, respectively (Table 4).

Factors Associated with Knowledge of Study Participants

In multivariable logistic regression analysis, education, occupation, walking distance from home to clean water source and wealth index were significantly associated with knowledge status of the participants. Study subjects who had no formal education and grade 1–8 were 36.5% and 58% less likely to have adequate knowledge when compared to the counterpart, respectively.

Study subjects who had no formal education (AOR=0.365, 95%CI: 0.212–0.626) and primary grade level (AOR=0.58, 95%CI: 0.35–0.962) were lower chance of having adequate knowledge towards trachoma infection than those who were grade 9 and above educational background. Similarly those who were farmers (AOR=0.063, 95%CI: 0.008–0.52), merchants (AOR=0.022, 95%CI: 0.003–0.194), students (AOR=0.026, 95%CI: 0.003–0.225) and housewife (AOR=0.03, 95%CI: 0.004–0.256) were less likely to have adequate knowledge than others (government or NGO workers). The study subjects who fetch clean water by walking 30 minutes or less were 2.5 times more likely to have adequate knowledge than their counterparts, (AOR=2.531, 95%CI: 1.183–5.4150) (Table 5).

The study participants who were in the category of lowest (AOR=0.49, 95%CI: 0.27–0.878), second (AOR=0.38, 95%CI: 0.21–0.69) and middle (AOR=0.36, 95%CI: 0.199–0.658) percentiles had less probability of having adequate knowledge when compared to highest wealth index (Table 5).

Factors Associated with Attitude of Study Participants

In multivariable logistic regression analysis, home environment cleanliness, sex, age and distance from home to health facility were significantly associated with attitude of the study subjects toward trachoma infection. Those individuals who had a clean home environment (AOR=2.224, 95%CI: 1.518–3.257) were twice as likely to have favorable attitude when compared to others. Males (AOR=1.848, 95%CI: 1.332–2.565) had 1.8 times more chance of having favorable attitude than females. Younger age groups (20 years old or below

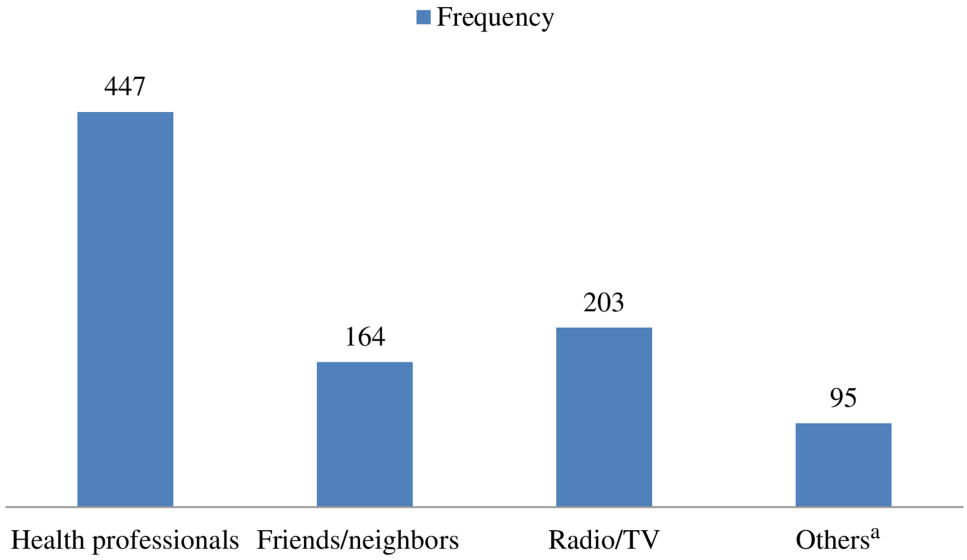

Figure 2 Sources of knowledge of study subjects toward trachoma in Arba Minch Zuria district, Gamo zone, Southern Ethiopia, 2019.
Note: [a]Local meetings, churches/mosques.

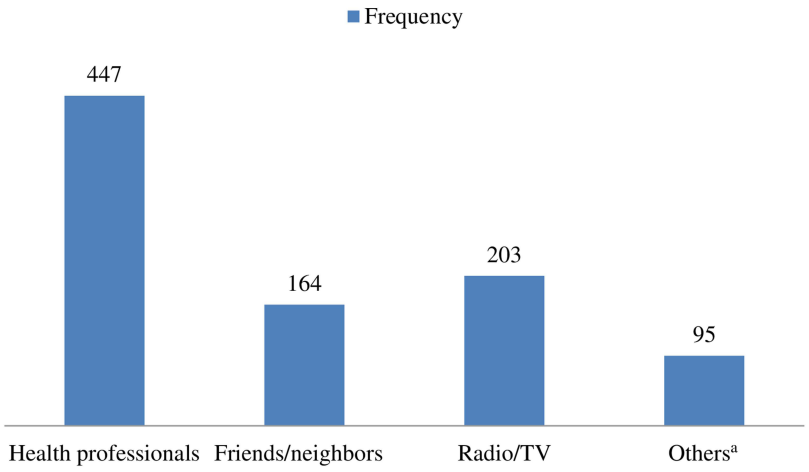

Figure 3 Attitude status of the study participants towards trachoma and trichiasis surgery in Arba Minch Zuria district, Gamo zone, Southern Ethiopia, 2019.
Note: [a]Local meetings, churches/mosques.

(AOR= 2.746, 95%CI: 1.052–7.167), 21–30 years old (AOR=3.019, 95%CI: 1.782–5.114), 31–40 years old (AOR=2.341, 95%CI: 1.468–3.731) were positively significantly associated with favorable attitude than older people. Walking distance from home to health facility was significantly associated with attitude status of the study subjects. The study subjects whose walking distance from home to a health facility was one hour or less (AOR=1.845, 95%CI: 1.308–2.60) were 1.845 times more chance of having favorable attitude than those individuals who walk more than one hour to reach a health facility (Table 6).

Discussion

In the current study all of the respondents had ever heard about trachoma infection. This result was almost similar with studies conducted in Northern Ethiopia (89.2%), Southern Ethiopia (92.6%), and Bangladesh (86%).[11–13] However, it is much higher than the research report from Kenya in which about 65.7% of the respondents had ever heard about trachoma.[14] This might indicate that community mobilization and sensitization has been conducted in the study sites.

Findings of this study have shown that only 23.2% of the study subjects had adequate knowledge about

Table 4 Attitude of Study Subjects Toward Trachoma and Trichiasis in Arba Minch Zuria District, Gamo Zone, Southern Ethiopia, 2019

Variables	Likert Scale				
	Strongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly Disagree (5)
Trachoma can be transmitted through genes	148 (18.6%)	82 (10.3%)	204 (25.6%)	316 (39.7%)	46 (5.8%)
Trichiasis patients may lose vision if not operated	100 (12.6%)	305 (38.3%)	240 (30.1%)	144 (18.1%)	7 (0.9%)
People with trichiasis can perform work like anyone without trichiasis	69 (8.7%)	149 (18.7%)	157 (19.7%)	398 (50%)	23 (2.9%)
I am willing to undergo surgery if I have trichiasis	87 (10.9%)	354 (44.5%)	166 (20.8%)	167 (21%)	22 (2.8%)
I will not prefer epilation of inwarded eye lashes rather than surgery	155 (19.5%)	384 (48.2%)	122 (15.3%)	120 (15.1%)	15 (1.9%)
I believe that trichiasis can be prevented	184 (23.1)	420 (52.8%)	142 (17.8%)	40 (5%)	10 (1.3%)
Trachoma can be transmitted from one person to another	152 (19.1%)	311 (39.1%)	233 (29.3%)	78 (9.8%)	22 (2.8%)
I fear that trichiasis surgery by itself causes blindness	93 (11.7%)	185 (23.2%)	221 (27.8%)	240 (30.2%)	57 (7.2%)

Table 5 Multivariable Logistic Regression Analysis for Factors Associated with Knowledge of Study Participants Toward Trachoma and Trichiasis in Arba Minch Zuria District, Gamo Zone, SNNPR, Ethiopia, 2019

Variables	Category	Knowledge Status		AOR, 95%CI	*P*-value
		Adequate	Inadequate		
Gender	Male	121	341	1.174 (0.73–1.88)	0.506
	Female	64	270	Reference	
Education	No formal education	60	285	0.365 (0.212–0.626)	0.001**
	Grade 1–8 (primary school)	75	246	0.58 (0.35–0.962)	0.035*
	Grade 9 and above	50	80	Reference	
Marital status	Married	159	507	2.056 (0.697–6.064)	0.191
	Divorced	0	5	0.0 (0.0)	0.99
	Single	22	63	2.444 (0.660–9.054)	0.181
	Widowed	4	36	Reference	
Family size	4 or less	79	229	1.225 (0.845–1.776)	0.284
	Above 4	106	382	Reference	
Occupation	Farmer	113	332	0.063 (0.008–0.52)	0.01*
	Merchant	16	88	0.022 (0.003–0.194)	0.001**
	Student	16	47	0.026 (0.003–0.225)	0.001**
	Housewife	26	133	0.03 (0.004–0.256)	0.001**
	Day laborer	0	10	0.0 (0.0)	0.999
	Others[a]	14	1	Reference	
Distance from home to health facility	One hour or below	70	267	0.915 (0.623–1.344)	0.650
	Above one hour	115	344	Reference	
Walking distance from home to clean water source	30 minutes or below	176	535	2.531 (1.183–5.4150)	0.017*
	Above 30 minutes	9	76	Reference	
Wealth index	Lowest	30	125	0.49 (0.27–0.878)	0.016*
	Second	29	132	0.38 (0.21–0.69)	0.001**
	Middle	27	137	0.36 (0.199–0.658)	0.001**
	Fourth	51	109	1.0 (0.59–1.69)	0.99
	Highest	48	108	Reference	

Notes: [a]NGO and governmentt workers; *statistically significant association; **strongly significantly associated.

Table 6 Multivariable Logistic Regression Analysis of Factors Associated with Attitude of the Study Participants Toward Trachoma and Trichiasis Surgery in Arba Minch Zuria District, Gamo Zone, Southern Ethiopia, 2019

Variables	Category	Attitude Status		AOR, 95%CI	*P*-value
		Favorable	Unfavorable		
Environmental cleanliness	Clean Unclean	187 365	56 188	2.224, (1.518–3.257) Reference	0.001**
Sex	Male Female	338 214	124 120	1.848 (1.332–2.565) Reference	0.001**
Age group in years	20 or below 21–30 31–40 41–50 51 and above	20 143 216 112 61	7 44 36 55 52	2.746 (1.052–7.167) 3.019 (1.782–5.114) 2.341 (1.468–3.731) 1.609 (0.972–2.663) Reference	0.039* 0.001** 0.001** 0.064
Distance from home to health facility (walking distance in hour)	One hour or below Above one hour	250 302	87 157	1.845 (1.308–2.600) Reference	0.001**

Notes: *Indicates significantly associated; **indicates strongly associated with outcome variable.

trachoma infection. Only 33% of the subjects correctly answered the cause of trachoma. Significant number of the respondents (46%) and (54.8%) had not ever heard about trichiasis and trichiasis surgery, respectively. This result is much lower than a study done in Zala district in which about 60% of the households had adequate knowledge toward trachoma.[11] The possible explanation for this finding might be community-based trachoma intervention especially on the awareness creation has been decreased from time-to-time and concerned bodies have changed their duties to other issues.

The present study revealed that 21%, 20.1%, and 74.4% of the respondents reported correctly that trachoma can be transmitted through contact with discharges, sharing clothes or fomites and unhygienic environment, respectively. This finding is in line with a study done in Kenya in that only one third and 35% of the participants correctly knew that flies and not washing your face were important predictors for the transmission of trachoma disease, respectively.[15]

According to this study, 18.6% strongly agreed and more than 25% were unsure that trachoma can be transmitted through genes. In contrast, 11.7% and 23.2% of the respondents strongly agreed and agreed that they feared that trichiasis surgery by itself caused blindness, respectively. The likely reason would be lack of awareness of the participants towardtrachoma and trichiasis.

The present study showed that education of the respondents was significantly associated with knowledge on trachoma. Those study subjects who had no formal education and grade 1–8 were 36.5% and 58% less likely to have adequate knowledge when compared to their counterparts, respectively. This result is consistent with a study done in Kenya in which a significant proportion of individuals who had no formal or primary education had inadequate knowledge regarding trachoma.[15] The possible explanation of this finding would be the fact that people who had a higher educational background had better exposure to different media and information.

Those respondents who were working in nongovernmental or governmental organizations had significantly adequate knowledge on trachoma than others. Being a farmer, merchant, student or housewife were negatively associated with adequate knowledge. Although these are the most at-risk groups for trachoma infection, they had inadequate knowledge toward the disease.

The study subjects who fetch clean water by walking 30 minutes or less were 2.5 times more likely to have adequate knowledge than those who fetch water from above 30 minutes walking distance. This might be due to people who had no access to clean water supply might also be far away from social media accessibility. They might have poor infrastructures including health service, information, education, and communications (IECs) might be inadequate in the area.

Individuals with the highest wealth percentiles had a positively higher chance of having adequate knowledge than other percentiles. People who have better economic status will have better opportunities of access to social media and communication with educated persons.

According to this study about 69% of the study subjects had favorable attitude toward trachoma infection. This finding is consistent with studies done in India and other areas.[16,17] The possible explanation might be awareness creations in the study area were given previously by different organization.

Presence of clean environment was positively associated with favorable attitude of the study subjects. People who had a clean environment were twice as likely to have favorable attitude than those who have an unclean environment. Similarly, a study in Kenya showed that most of the respondents linked a dirty environment with trachoma.[18] That is why in this study individuals with a favorable attitude make their environment clean.

The present study revealed that male individuals had 1.8 times more chance of having favorable attitude than females. This finding might indicate that in the rural settings females were busier in home duties and had awareness gap than males. Conversely, younger study participants were positively significantly associated with favorable attitude. The reason might be because younger people were closer to social media and acquire more recent scientific information about diseases.

In the current study, the study subjects who were living in areas where the health facility is not more than one hour away had positive association with favorable attitude. This might indicate that people who live in far distance from health facility get inadequate information, education and communication towards trachoma infection.

Conclusion and Recommendation

In this study, despite high favorable attitude toward trachoma infection, the proportion of people who had adequate knowledge about trachoma was low. Education, occupation, walking distance from home to clean water source and wealth index were significantly associated with knowledge status of the participants. In contrast, environmental cleanliness, sex, younger age, and distance from home to health facility were significantly associated with favorable attitude of the study subjects toward trachoma infection. Awareness creation through community mobilization and sensitization should be strengthened to increase knowledge and attitude of residents on trachoma infection. Special attention should be given on treatment and other prevention measures of trachoma to those residents who live a far distance from health facilities.

Abbreviations

AMU, Arba Minch University; AOR, adjusted odds ratio; CI, confidence interval; CO, corneal opacity; IECs, information, education and communication; IRB, Institute Research Review Board; NGO, nongovernmental organization; OR, odds ratio; SAFE, Surgery, Antibiotic, Facial cleanliness, Environmental hygiene; SNNPR, Southern Nations Nationalities and People's Region; SPSS, Statistical Package for Social Sciences; TF, trachomatous follicular; TI, trachomatous intense; TS, trachomatous scarring; trachomatous trichiasis; VIF, variance inflation factor; WHO, World Health Organization.

Data Sharing Statement

The datasets during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethical Approval and Consent to Participate

This study was conducted in accordance with the Declaration of Helsinki. Ethical approval was obtained from Arba Minch University (AMU) Institute Research Review Board (IRB). Support letter was obtained from the district health offices to facilitate the data collection. Informed verbal consent was obtained from each study participants before proceeding to data collection. The objective of the study was explained for each selected kebele administration. All individuals were advised about the disease complication and its prevention measures after data collection.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to

which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors report no conflicts of interest in this work.

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