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ORIGINAL RESEARCH

Attitude Towards Traditional Eye Medicine and Associated Factors Among Adult Ophthalmic Patients Attending University of Gondar Comprehensive Specialized Hospital-Tertiary Eye Care and Training Center, Northwest Ethiopia

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Correspondence: Mikias Mered Tilahun Department of Optometry, School of Medicine, University of Gondar, Comprehensive Specialized Hospital, PO Box: 196, Gondar, Ethiopia Tel +251 927270318 Fax +251 58-114 1240 Email mikiserke123@gmail.com **Background:** Traditional eye medicine is a form of biologically based therapies, practices, or partially processed organic or inorganic agents that can be applied to the eye and lead to a blinding complication. Attitude towards those medicines plays a pertinent role in the practice of those traditional eye medicines.

Objective: To determine attitude towards traditional eye medicine and associated factors among adult ophthalmic patients attending University of Gondar Comprehensive Specialized Hospital-Tertiary Eye Care and Training Center, Northwest Ethiopia, 2020.

Methods: A hospital-based cross-sectional study was conducted on 417 newly presenting adult ophthalmic patients who were selected by using a systematic random sampling method from June 22 to August 11, 2020. The data from the interview-based structured questionnaire were entered into Epi Info 7 and analyzed by SPSS 20. Frequency and cross-tabulations were used for descriptive analysis. Association between variables was analyzed using binary logistic regression through the enter method with a 95% confidence interval.

Results: A total of 417 subjects with a 98.8% response rate have participated in the study. Of the total study subjects, 60.7% (253) (95% CI: 19–26%) had a positive attitude towards traditional eye medicine. Residing in a rural area (AOR=6.46 (95% CI: 2.89–14.45)), positive family history of traditional eye medicine use (AOR=8.01 (95% CI: 4.17–15.37)) and availability of traditional healer (AOR=19.43 (95% CI: 12.06–31.64)) were significantly associated with a positive attitude towards traditional eye medicine.

Conclusion and Recommendation: Most adult ophthalmic patients had a positive attitude towards traditional eye medicine. Residing in a rural, availability of a traditional healer, and positive family history of traditional eye medicine use had a significant positive association with a positive attitude. Educating the traditional healers on safe practices is crucial in reducing the burden.

Keywords: attitude, traditional healer, traditional eye medicine, Ethiopia, Gondar

Introduction

World Health Organization (WHO) defines Traditional medicine (TM) as

the total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the

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maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental or social imbalance.¹

Traditional eye medicine (TEM) is a form of biologically based therapies, practices, or partially processed organic or inorganic agents that can be applied through different routes of administration to achieve a desired ocular therapeutic effect.²

Some 80% of the world's population meets their need for drugs with herbal drugs that support the estimated 80% of the developing nation population's dependency on herbal medicine.³ Likewise, an extremely large proportion of the East African and the Ethiopian population rely on traditional healers (TH).⁴ In our country Ethiopia, TEM use is a large carried out practice all over the country.⁵

Honey, human saliva, soil, breast milk, herbal extract, linseed (*Linum usitatissimum*), "damakesie" (*Ocimum species*), Potato (*Solanum tuberosum*), and Milk are among the most well-known forms of TEM in East Africa and Ethiopia as well.^{6–9}

Some plants might have a potential anti-biotic effect,¹⁰ few of the TEM are harmless and may be beneficial,^{11,12} whereas complications including keratitis, endophthalmitis, panophthalmitis, staphyloma, and visual reduction or loss have been revealed.^{7,13,14} People exposed to those complications will face visual disability causing a physical, economic, and psychological disturbance that compromises their quality of life.¹⁵

Despite progress seen on higher institutions of Ghana and South Africa in promoting the training of TM practitioners and the local cultivation of medicinal plants, the remaining African countries continue to stay with a scarcity of policies, their implementation, and inadequate research infrastructure.^{16,17} In some Asian nations and Malawi, THs practice supported by a well-developed training manual has been established and implemented in collaboration with modern medical practice.^{14,18,19}

By the year 1942, Ethiopia formally recognized TM and the legality of the practice was acknowledged. To bring traditional and modern medical practitioners together, Meetings and workshops have been organized, while there is no training program exists on TM and guidelines for training THs.⁵

Attitude towards TEM was a major modifiable factor to reduce this blinding phenomenon. Figure out of an attitude of adult ophthalmic patients towards TEM and factors that can associate with play a vital role in future longitudinal intervention in the aim of halting the burden of the practice of TEM.

In the country over 100 million and with limited eye care infrastructure, most population rely on TEM. So determining a major contributor factor towards TEM will play a significant role for decision-makers to make an evidence-based intervention. This study conducted on adult ophthalmic patients and socio-culturally diversified communities will probe all-inclusive results and impact.

Objectives Main Objective

To determine attitude towards traditional eye medicine and associated factors among adult ophthalmic patients attending University of Gondar Comprehensive Specialized Hospital-Tertiary Eye Care and Training Center, Northwest Ethiopia, 2020.

Specific Objectives

To determine attitude towards TEM among adult ophthalmic patients attending University of Gondar Comprehensive Specialized Hospital-Tertiary Eye Care and Training Center, Northwest Ethiopia, 2020.

To identify associated factors that influence attitude towards TEM among adult ophthalmic patients attending University of Gondar Comprehensive Specialized Hospital-Tertiary Eye Care and Training Center, Northwest Ethiopia, 2020.

Methodology Study Design

An institution-based cross-sectional study design was used to assess attitude towards traditional eye medicine and associated factors among adult ophthalmic patients.

Study Area and Period

The study was conducted at the University of Gondar Comprehensive Specialized Hospital-Tertiary Eye Care and Training Center from June 22 to August 11, 2020. It is located in Gondar city (738 kilometers away from Addis Ababa), which is the capital of the Central Gondar Zone of the Amhara Region, Northwest Ethiopia.

The center has been contributing to the reduction in blindness in Gondar and surrounding catchment areas by providing comprehensive eye care services for roughly 14 million people of 10 zones of Northwest Ethiopia covering North Gondar, West Gondar, Central Gondar, South Gondar, Gondar city, Bahir Dar city, West Gojam, Awi, Metekel, and Western Tigray. About 1496 new patients are being served in the outpatient department per month. And it is a training and research center. (Unpublished sources).

To address clients residing in remote areas, it provides health education, refraction (with spectacle provision), medical and surgical eye disease intervention with formal and outreach programs.

Source Population and Study Population

All-new adult ophthalmic patients presenting to UoGCSH-TECTC.

Inclusion Criteria

New adult ophthalmic patients presenting to UoGCSH-TECTC.

Exclusion Criteria

Patients who are unable to communicate.

Patients with serious illness.

Sample Size Determination

The Sample Size for First Objective

The sample size needed to assess attitude towards TEM is determined by using a single population proportion formula on the following assumption.

Level of significance (α): 5% (with a confidence level of 95%), Marginal error: 5% P: 0.487 (Attitude, practice and associated factors among adult residents towards traditional eye medicine in Gondar city, Northwest Ethiopia).⁹

The Z-value of 1.96 was used at 95% CI (n: sample size, P: proportion, d: marginal error).

n =
$$\frac{(Z_{a/2})^2 * P(1-P)}{d^2}$$

n = $\frac{(1.96)^2 * 0.487(0.513)}{0.05^2}$

n = 384

The total sample size (n) with a 10% nonresponse rate becomes 422.

The Sample Size for the Second Objective

By taking the above study conducted in Gondar, Ethiopia, again sex, TH availability, and family history of TEM use were considered as the main significant factors for TEM use.

The sample size needed to assess the associated factors was calculated separately by using EPI INFO 7 with the following assumptions.

Level of significance = 5%. Non-response rate = 10%. Power = 80%.

After comparing all the results above, 422 has taken as the final sample size to determine attitude towards TEM and associated factors (Table 1).

Sampling Techniques and Procedures

A systematic random sampling method was used to select the participants. The center has the potential to provide service for about 1496 new patients per month in the outpatient department, but the pandemic COVID-19 diminishes the average expected number of patients to be 530 in a month. The calculated "K" was 2 (N = averagely expected number of patients come to hospital per day 26, n = averagely expected number of samples to be collected per day 12; K = 26/12 = 2). The lottery method was used to draw the 1st sample of the first 2 samples and continues with every Kth interval for the sampling period.

Dependent Variable

Attitude towards traditional eye medicine.

Independent Variables

Socio-demographic variables: age, sex, occupation, educational status, religion, residence, income status, marital status, community leadership role.

Personal factors: Family history of TEM use, Knowledge of TEM.

Variable	TEM Use Good Poor		COR (95% CI)	Sample Size	
Sex					
Male Female	48 44	98 210	2.20 (1.23–2.68) I	233	
TH availabili	TH availability				
Yes No	104 188	39 269	3.82 (2.53–5.76) I	120	
Family history of TEM use					
Yes No	109 183	34 274	4.80 (3.13–7.37) I	92	

Table	L	Statistics	Considered	for	Calculating	Sample	Size	for
Objecti	ve	e Two						

Eye care-related factors: Distance from eye care service, Health insurance availability, time of presentation, History of MEM use.

Environmental factors: Availability of THs.

Operational Definition

Attitude towards TEM use: The total score was added up and a mean value was calculated. Participants who score the mean and greater than the mean were considered to have a good attitude towards TEM and participants who scored less than the mean were considered to have a poor attitude towards TEM.

Knowledge towards TEM: The total score was added up and a mean value was calculated. Participants who score the mean and greater than the mean were considered to have good knowledge about TEM and participants who scored less than the mean were considered as the ones who have poor knowledge regarding TEM.

Adult: Individuals with the age of 18 years and above. $^{\rm 20}$

Available TH: Participants report the presence of at least one TH around their residence or town.

Has community leadership role: The participant who is/part of leaders of social/governmental organizations like "Edit", "Ekub", "Mahiber", Elders, or Religious organizations.

Data Collection Procedures and Personnel

Data were collected through face-to-face interviews, using a standardized structured questionnaire containing information concerning socio-demographic characteristics, personal factors, eye care-related factors, and environmental factors. The questionnaire was prepared by reviewing related works of literature and scanning and considering the unique socio-cultural facts of the study population. The questionnaire was developed in English and then translated to Amharic and later translated back to English by language experts to ensure the accuracy and reliability of data. The interview was done by 5 trained optometrists.

Data Management and Analysis

Epi-info version 7 was used for data entry and every day at the end of data collection, every questionnaire was checked for completeness.

Data Quality Control

The Amharic translated version of the questionnaire was pretested at Felege Hiwot Referral Hospital, Bahir Dar by taking 5% of the total sample size and necessary correction has been done based on the result. The questionnaire was translated from English to Amharic and then back to English to ensure accuracy, reliability, as well as consistency. The training was given to data collectors and supervisors for two days to make them familiar with their tasks. The principal investigator and supervisor had checked out the completeness, accuracy, and clarity of collected data on daily basis throughout the data collection period.

Data Processing and Analysis

At the time of data entry, the collected data was coded and checked for completeness, missing value, and clarity by the principal investigator and supervisor.

The coded data were entered to Epi Info 7 and exported to, processed, and analyzed by using SPSS version 20. The analysis was done by the investigator using the same computer package. Frequency and cross-tabulations were used for descriptive analysis of data.

An adjusted odds ratio with a 95% confidence interval was used to measure the strength of association between outcome and explanatory variables.

Association between dependent and independent variables was analyzed by a binary logistic regression model. Model fitness was checked using the Hosmer and Lemeshow goodness-of-fit test and the result of its p-value was 0.437. Bivariable logistic regression of variables with a P-value of <0.2 was entered into multivariable analysis and those with the value of p <0.05 were taken as statistically significant. The final result was presented using tables, figures, and graphs accordingly.

Ethical Consideration

Ethical clearance was obtained from the University of Gondar, College of Medicine and Health Sciences, School of Medicine ethical review committee, before the data collection started. The ethical approval for verbal informed consent was obtained with a paper of Reference No 1992/05/20 from the ethical committee of the school. Full right to withdraw or refuse to participate in the study was respected. The study was conducted under the Declaration of Helsinki.

Respondent's data was collected without an identifier and confidentiality was maintained by locking it with a password.

Results

In this study, a total of 417 study participants gave valid and complete responses (response rate of 98.8%).

Sociodemographic Characteristics of Study Participants

The median age of the study participants was 37 with a range of 18–90 years. Among 417 eligible study participants, more than half of the participants were male 59.7% (249) (Table 2).

Attitude Towards Traditional Eye Medicine

From 417 total study participants, 60.7% (253) (95% CI: 19–26%) had good attitude regarding TEM. Among those who had a good attitude, above one-third 36.6% (41) had no any form of education so far and above half 56.1% (142) were male, 50.6% (128) were rural residents, 54.2% (137) were currently married and 51% (129) had poor knowledge about TEM (Table 3).

Factors Associated with Attitude Towards TEM

From the bivariable logistic regression analysis, age, sex, residence, occupation, educational status, average family monthly income, family history of TEM use, availability of TH, distance from eye care service, and time of presentation were selected and fitted into a multivariable logistic regression. On a multivariable logistic regression analysis residence, family history of TEM use, and availability of TH were found to be statistically significantly associated with attitude towards TEM.

To start from residence, the study participants living in rural areas were 6.46 times (AOR=6.46 (95% CI: 2.89–14.45)) more likely to have a good attitude towards TEM as compared to those residing in urban.

The odds of positive attitude towards TEM were 8 times (AOR=8.01 (95% CI: 4.17–15.37)) higher in study subjects with a positive family history of TEM use as compared to those who had no family history of TEM use.

Regarding TH availability, study participants who live in an area where traditional healers exist were 19.43 times (AOR=19.43 (95% CI: 12.06–31.64)) more likely to have a good attitude towards TEM than those who live in an area where traditional healers do not exist (Table 4). Table 2Sociodemographic Characteristics of Study ParticipantsRecruited to Study Attitude Towards TEM and AssociatedFactors Among Adult Ophthalmic Patients Attending UoGCSH-CECTC, Northwest Ethiopia, 2021 (n=417)

Variables	Category	Frequency	Percent				
Age in years							
	8–27	112	26.9				
	28–37	98	23.5				
	38–55	114	27.3				
	56–90	93	22.3				
Sex							
	Male	249	59.7				
	Female	168	40.3				
Residence							
	Urban	277	66.4				
	Rural	140	33.6				
Marital status							
	Currently unmarried	193	46.3				
	Currently married	224	53.7				
Educational st	atus						
	No formal education	110	26.4				
	Religious Education	13	3.1				
	Primary school	77	18.5				
	Secondary school	118	28.3				
	College/university	99	23.7				
Religion							
	Christian	367	88.0				
	Muslim	50	22.0				
Occupation							
	Government	86	20.6				
	Private	97	23.3				
	Housewife	70	16.8				
	Farmer	61	14.6				
	Student	63	15.1				
	Other	40	9.6				
Income							
	300-1500	111	26.6				
	1501-3200	100	24.0				
	3201-5000	109	26.1				
	5001-25,000	97	23.3				
Leadership ro	e						
	Has role	72	17.3				
	No role	345	82.7				

Table 3 Distribution of Attitude Towards TEM in StudyParticipants Among Adult Ophthalmic Patients AttendingUoGCSH-CECTC, Northwest Ethiopia, 2021 (n=417)

Variables	Attitude Towards TEM Use			
	Good (# and %) Total = 253	Poor (# and %) Total = 164		
Age in years				
18–27	54 (21.3%)	58 (35.4%)		
28–37	58 (22.9%)	40 (24.4%)		
38–55	71 (28.1%)	43 (26.2%)		
56–90	70 (27.7%)	23 (14.0%)		
Sex				
Male	142 (56.1%)	107 (65.2%)		
Female	(43.9%)	57 (34.8%)		
Residence				
Urban	125 (49.4%)	152 (92.7%)		
Rural	128 (50.6%)	12 (50.6%)		
Marital status				
Currently unmarried	116 (45.8%)	77 (47.0%)		
Currently married	137 (54.2%)	87 (53.0%)		
Educational status				
No formal education	89 (35.2%)	21 (12.8%)		
Religious Education	10 (4.0%)	3 (1.8%)		
Primary school	52 (20.6%)	25 (15.2%)		
Secondary school	59 (23.3%)	59 (36.0%)		
College/university	43 (17.0%)	56 (34.1%)		
Religion				
Christian	226 (89.3%)	141 (86.0%)		
Muslim	27 (10.7%)	23 (14.0%)		
Occupation				
Government	35 (13.8%)	51 (31.1%)		
Private	48 (19.0%)	49 (29.9%)		
Housewife	54 (21.3%)	16 (9.8%)		
Farmer	53 (20.9%)	8 (4.9%)		
Student	32 (12.6%)	31 (18.9%)		
Other	31 (12.3%)	9 (5.5%)		
Average family monthly				
income in ETB				
300-1500	92 (36.4%)	19 (11.6%)		
1501-3200	55 (21.7%)	45 (27.4%)		
3201-5000	64 (25.3%)	45 (27.4%)		
5001-25,000	42 (16.6%)	55 (33.5%)		
Leadership role				
Has role	45 (17.8%)	27 (16.5%)		
No role	208 (82.2%)	137 (83.5%)		
Family history of TEM				
use	150 (50 200	24 (15 000)		
Yes	150 (59.3%)	26 (15.9%)		

(Continued)

Table 3 (Continued).

Variables	Attitude Towards TEM Use			
	Good (# and %) Total = 253	Poor (# and %) Total = 164		
No	103 (40.7%)	138 (84.1%)		
Availability of TH				
Available	143 (56.5%)	12 (7.3%)		
Not available	110 (43.5%)	152 (92.7%)		
Health insurance				
Has	81 (32%)	45 (27.4%)		
No	172 (68%)	119 (72.6%)		
History of MEM use				
Yes	170 (67.2%)	(67.7%)		
No	83 (32.8%)	53 (32.3%)		
Distance from ECC in				
hr.(single trip)				
0.03-0.40	50 (19.8%)	64 (39.0%)		
0.41-1.00	73 (28.9%)	56 (34.1%)		
1.01-3.00	71 (28.1%)	25 (15.2%)		
3.01-29.00	59 (23.3%)	19 (11.6%)		
Time of presentation in				
weeks				
0.00-0.75	49 (19.4%)	58 (59.0%)		
0.76–7.00	61 (24.1%)	42 (25.6%)		
7.01–24.00	69 (27.3%)	36 (22.0%)		
24.01–600	74 (29.2%)	28 (17.1%)		
Knowledge				
Good	124 (49.0%)	79 (48.2%)		
Poor	129 (51.0%)	8551.8%)		

Abbreviations: ECC, eye care center; hr., hour; #, number.

Discussion

A positive attitude towards traditional eye medicine among adult ophthalmic patients attending UoGCSH-TECTC was (60.7%) (95% CI: 19–26%). This result was similar to a study conducted in China (63%).²¹

The result found in this study was lower than shreds evidence from Iran (75%),²² Singapore (92%),²³ Hong Kong (97%),²⁴ Eritrea (81%),²⁵ and Shopa Bultum, Ethiopia (92%).²⁶ This difference could be because of variation in the study setting. Those studies were conducted among hospital health care staff, medical students, and nurses, respectively.^{27,28} Besides, the higher familiarity of TM practice in a rural community like adults in Shopa Bultum could make the attitude positive.

Table 4 Factors Associated with Attitude Towards	Traditional Eye Medicine Among Adult	Ophthalmic Patients Attending UoGCSH-
CECTC, Northwest Ethiopia, 2021 (n=114)		

Image: set of the	Variable	Attitude Towards TEM Use Good (# and %) Poor (# and %)		COR (95% CI)	AOR (95% CI)	P value
Age in years 18–2754 (1.33) 58 (22.5%)59 (3.4%) 40 (24.4%)1 						
1B-27 54 (21.3%) 58 (35.4%) 1 1 1 1 2B-37 36 (22.9%) 40 (24.4%) 1.55 (0.90-2.6%) 1.55 (0.50-4.08) 0.374 3B-35 71 (28.1%) 43 (26.2%) 1.77 (1.04-3.01)* 1.26 (0.44-3.58) 0.656 5e-90 70 (27.7%) 23 (140%) 3.26 (1.79-5.59) ** 1.6 (0.40-4.59) 0.616 Sex Male 142 (56.1%) 107 (55.2%) 1.46 (0.97-2.20) 1.1 1.7 (0.88-3.56) 0.000 Residence 125 (9.4%) 152 (92.7%) 1.46 (0.97-2.20) 1.6 (4.289-14.45) 0.000 Marcial status 77 (77.0%) 77 (1.07.5%) 0.55 (0.47-14.1) 0.46 (2.28-14.45) 0.000 Currendy married 116 (45.8%) 77 (1.27.5%) 0.55 (0.27-10.25)** 0.85 (0.24-2.97) 0.85 (0.24-2.97) 0.85 (0.24-2.97) 0.80 (0.26-2.57) 0.21 (0.03-3.84) 0.21 (0.03-3.84) 0.21 (0.03-3.84) 0.21 (0.03-3.84) 0.21 (0.03-3.84) 0.21 (0.26-2.57) 0.21 (0.26-2.57) 0.21 (0.26-2.57) 0.21 (0.26-2.57) 0.21 (0.26-2.57) 0.21 (0.26-2.56) 0.21 (0.26-2.	Age in years					
28-37 38 40 (24.4%) 155 (0.90-2.6%) 155 (0.40-3.0%) 0.654 38-55 70 (27.7%) 23 (1.6%) 32 (1.0%) 32 (1.0%) 1.36 (0.40-3.5%) 0.654 Sex Male 12 (2.61.7%) 10 (0.52.5%) 1.4 (0.07-2.20) 1.77 (0.83-3.56) 0.018 Residence 111 (3.9%) 52 (0.27%) 1.4 (0.07-2.20) 1.7 (0.83-3.56) 0.019 Martal status 12 (9.4%) 12 (7.3%) 1.2 (2.7%) 1.2 (2.7%) 1.4 (0.97-2.20) 0.85 (0.24-1.97) 0.808 Currently unmarried 116 (4.58.5%) 77 (47.0%) 0.95 (0.64-1.41) 0.85 (0.24-2.97) 0.808 Autocutoni status 89 (35.23%) 21 (1.28%) 551 (2.97-10.25) ** 0.85 (0.24-2.97) 0.838 Primary school 52 (0.26%) 21 (1.28%) 551 (2.97-10.25) ** 0.85 (0.24-2.97) 0.338 Primary school 52 (0.26%) 21 (1.28%) 51 (2.97-10.25) ** 0.85 (0.24-2.97) 0.348 Cocupation 90 (3.16%) 21 (1.28%) 1.30 (0.72-229) 1.17 (0.48-2.85) 0.77	18–27	54 (21.3%)	58 (35.4%)	1	1	
38-55 56-90 71 (28.1%) 70 (27.7%) 42 (26.2%) 23 (14.0%) 1.77 (1.04-3.01) + 3.26 (1.79-5.95) +** 1.26 (0.44-3.58) (0.61 6.017) 0.656 6.017 Sex Male Female 142 (56.1%) 111 (43.9%) 107 (55.2%) 57 (3.48%) 1 1.66 (0.97-2.0) 1 1.77 (0.88-3.56) 0.108 Residence Urban 122 (94.4%) 128 (50.6%) 152 (92.7%) 12 (73%) 1 1.27 (45.52-433) +** 1 1.46 (0.29-1.445) +** 0.000 Maria status Currendy umarried 116 (45.8%) 137 (54.2%) 77 (47.0%) 97 (53.0%) 0.95 (0.4-1.41) 1 0.85 (0.24-2.97) 0.34 (0.03-2.84) 0.808 0.38 (0.24-2.97) 0.34 (0.03-2.84) 0.308 0.38 (0.24-2.97) 0.34 (0.03-2.84) 0.308 0.38 (0.24-2.97) 0.34 (0.03-2.84) 0.308 0.38 (0.24-2.97) 0.34 (0.03-2.84) 0.308 0.38 (0.24-2.97) 0.34 (0.03-2.84) 0.308 (0.24-2.97) 0.34 (0.25-2.97) 0.308 (0.24-2.97) 0.37 (0.42-1.94) 0.308 (0.24-2.97) 0.37 (0.42-1.94) <t< td=""><td>28–37</td><td>58 (22.9%)</td><td>40 (24.4%)</td><td>1.55 (0.90-2.69)</td><td>1.55 (0.58-4.08)</td><td>0.374</td></t<>	28–37	58 (22.9%)	40 (24.4%)	1.55 (0.90-2.69)	1.55 (0.58-4.08)	0.374
56-90 70 (27.7%) 23 (14.0%) 3.24 (1.79-59)*** 1.36 (0.40-4.54) 0.617 Sex Male 142 (56.1%) Female 142 (56.1%) 111 (143.5%) 77 (42.5%) 57 (34.8%) 1 (4.60.07-2.00) 1 (1.46 (0.27-2.05))*** 1 (1.66 (2.89-14.45) *** 0.010 Residence 128 (50.6%) 152 (92.7%) 1 (2.7 (5.85-24.53))** 1 (4.6 (2.89-14.45) *** 0.000 Martal status Currently unmarried 116 (45.8%) Currently unmarried 77 (47.0%) 137 (64.2%) 0.95 (0.64-1.41) 1 (4.6 (2.89-14.45) *** 0.88 (0.24-297) 0.800 0.385 No formal education 99 (35.2%) 21 (12.8%) 55 (12.97-10.25) ** 0.88 (0.24-297) 0.800 0.385 0.335 Secondary school 29 (23.3%) 39 (60.8%) 1 (1.45-60 **) 1.00 (0.2-22.1) 1.10 (0.26-2.57) 0.717 Collegiuniversity 3 (1.70%) 25 (16.8%) 1 (1.41 - 60.7) 1.10 (0.23-2-27) 0.766 Governmenc 35 (1.38%) 51 (3.11%) 1 (4.10 (0.79-2.56) 10.00 (0.32-72) 0.766 0.727 0.796 0.73 (0.40-132) 1.00 (0.32-72) 0.766 0.728 0.728	38–55	71 (28.1%)	43 (26.2%)	1.77 (1.04–3.01) *	1.26 (0.44-3.58)	0.656
Sex Male Female I42 (56.1%) I11 (43.9%) IO7 (65.2%) S7 (34.8%) I I.46 (0.97-2.0) I I.77 (0.88-3.56) 0.108 Residence Urban Rural I25 (49.4%) I28 (50.6%) IS2 (92.7%) I2 (73%) I I.277 (6.85-24.5.3) *** I 6.46 (2.89-14.45) *** 0.000 Marital status Currently umarried I16 (45.8%) I37 (54.2%) 77 (47.0%) 87 (53.0%) 0.95 (0.64-1.41) I I I I 6.46 (2.89-14.45) *** 0.000 Marital status Currently married I16 (45.8%) I37 (54.2%) 77 (47.0%) 87 (53.0%) 0.95 (0.64-1.41) I I I 0.85 (0.24-2.97) 0.83 (0.25-2.57) 0.808 0.385 0.385 (0.24-2.97) 0.808 0.385 (0.24-2.97) 0.77 Secondary school 52 (20.6%) 53 (0.5%) 1.00 (0.75-2.28) 0.81 (0.02-4.28) 0.77 0.717 Collegoruniversity 43 (17.0%) 56 (4.1%) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	56–90	70 (27.7%)	23 (14.0%)	3.26 (1.79–5.95) **	1.36 (0.40-4.54)	0.617
Male Female 142 (56.1%) 111 (143.9%) 107 (65.2%) 57 (34.8%) 1 (46 (0.97-2.0)) 1.77 (0.88-3.50) 0.108 Residence Urban 125 (49.4%) 128 (50.6%) 152 (92.7%) 12 (73%) 1 1 1.97 (0.88-3.50) 0.108 Marcial status Currently umarried 128 (50.6%) 77 (47.0%) 77 (47.0%) 0.95 (0.64-1.41) 1 0.46 (2.89-14.45) #* 0.009 Educational status Currently umarried 99 (55.2%) 97 (53.2%) 21 (128%) 25 (15.2%) 35 (12.7)-102.5) #* 0.85 (0.24-2.97) 0.34 (0.03-24.27) 0.808 0.308 (0.24-2.57) 0.308 0.308 (0.24-2.57) 0.308 0.308 (0.24-2.57) 0.376 0.316 (0.39.2) Religois cucacion 99 (55.2%) 9 (20.3%) 59 (20.4%) 1.30 (0.76-2.22) 1.17 (0.48-2.85) 0.717 College/university 43 (1.7%) 59 (20.4%) 1.30 (0.76-2.29) 1.02 (0.38-2.72) 0.396 Misin 226 (89.3%) 51 (3.1%) 1 1.42 (0.79-2.56) 1.02 (0.38-2.72) 0.996 Government 35 (13.8%) 51 (1.1%) 1 1.02 (0.38-2.72) 0.996 Housewife 53 (0.2%) 51 (1.1%) 1.42 (0.79-2.56) 1.08 (0.2	Sex					
Female 111 (43.9%) 57 (34.8%) 1.46 (0.97-2.0) 1.77 (0.88-3.5) 0.108 Residence Urban 125 (49.4%) 152 (92.7%) 1 1 1.27 (0.88-3.45) 1 6.46 (2.89-14.45) #* 0.000 Martal status 128 (50.6%) 12 (7.0%) 0.95 (0.64-1.41) 1 6.46 (2.89-14.45) #* 0.000 Educational status 89 (15.2%) 21 (12.8%) 5.51 (2.97-10.25) # 0.85 (0.24-2.97) 0.898 0.385 No formal deducation 99 (15.2%) 21 (12.8%) 5.51 (2.97-10.25) # 0.85 (0.24-2.97) 0.34 (0.03-3.84) 0.385 Secondary school 52 (20.6%) 25 (15.2%) 1.30 (0.76-2.22) 1.17 (0.48-2.85) 0.735 Secondary school 52 (26.8%) 141 (86.0%) 1 1.30 (0.76-2.22) 1.17 (0.48-2.85) 0.735 Religion 226 (89.3%) 141 (86.0%) 1 1.17 (0.48-2.85) 0.735 Muslim 21 (12.8%) 14 (2 (0.79) 1.42 (0.79-2.56) 1.08 (0.27-4.23) 0.796 Muslim 21 (12.8%) 13 (1.18%) 14 (2 (0.79-	Male	142 (56.1%)	107 (65.2%)	1	1	
Residence Urban L25 (49.4%) Iz (73%) I52 (92.7%) Iz (73%) Independent Iz (76,85-24.53) Independent Independent Iz (6,85-24.53) Independent Independent Iz (6,85-24.53) Independent Independent Iz (6,85-24.53) Independent Independent Iz (6,85-24.53) Independent Independent Iz (12,85%) Independent Iz (12,85%) Independent Iz (12,85%)	Female	(43.9%)	57 (34.8%)	1.46 (0.97–2.20)	1.77 (0.88–3.56)	0.108
Urban Rural 125 (49.4%) 128 (50.6%) 152 (92.7%) 12 (73%) 1 n 12.97 (685-24.53)** 1 n 6.46 (2.89-14.45)** 0.000 Marita Status Currently umarried 116 (45.8%) 137 (54.2%) 77 (47.0%) 87 (53.0%) 0.95 (0.64-1.41) 1 0.85 (0.24-2.97) 0.36 (0.03-3.84) 0.38 (0.24-2.97) 0.808 0.38 (0.24-2.97) 0.38 (0.33-3.84) 0.38 (0.33-3.84) 0.38 (0.26-2.57) 0.808 0.38 (0.26-2.57) 0.808 0.38 (0.26-2.57) 0.717 0.17 (0.48-2.85) 0.717 0.17 (0.48-2.85) 0.717 0.17 (0.48-2.85) 0.717 0.17 (0.48-2.85) 0.717 0.718 Religion Christian 226 (89.3%) 27 (10.7%) 141 (86.0%) 23 (14.0%) 1 1 0.10 (0.38-2.72) 1.17 (0.48-2.85) 0.717 0.718 Occupation Government 226 (89.3%) 27 (10.7%) 141 (86.0%) 23 (14.0%) 1 1 1 1 1 Private 48 (19.0%) 49 (29.9%) 1.42 (0.79-2.56) 1.42 (0.79-2.56) 1.02 (0.38-2.72) 1.02 (0.38-2.72) 0.966 0.900 (2.7-4.31) 0.905 0.905 0.923 (0.27-3.11) 0.905 0.923 (0.27-4.21) 0.905 0.923 (0.27-4.21) 0.905 0.923 (0.27-4.21) 0.905 0.923 (0.27-4.21) 0.905 0.923 (0.27-4.21)	Residence					
Rural 128 (50.5%) 12 (7.3%) 12.97 (6.85–24.5)** 6.46 (2.89–14.45)** 0.000 Marital status Currently ummaried 116 (45.8%) Currently ummaried 77 (7.0%) 77 (5.0%) 0.95 (0.64–1.41) 1 85 (0.24–2.97) 0.808 Educational status No formal education 89 (35.2%) 21 (12.8%) 5.51 (2.97–10.25)** 0.346 (0.92–3.97) 0.808 Primary school 52 (15.2%) 27 (1.45–5.04)* 0.346 (0.92–3.97) 0.308 Secondary school 59 (32.3%) 59 (36.0%) 1.30 (0.76–2.22) 0.34 (0.92–3.97) 0.385 College/university 43 (17.0%) 56 (34.1%) 1 1 0.240 (0.25–3.7) 0.775 Secondary school 226 (89.3%) 141 (86.0%) 1 1.00 (0.72–2.21) 1.17 (0.48–2.85) 0.717 Religon 226 (89.3%) 141 (86.0%) 1.42 (0.79–2.56) 1.02 (0.38–2.77) 0.966 Government 35 (1.3.8%) 51 (1.1.%) 1 1 1.02 (0.38–2.72) 0.956 Farmer 35 (0.2.9%) 13 (1.8.9%) 1.42 (0.79–2.56) 1.02 (0.38–2.72) 0.956 </td <td>Urban</td> <td>125 (49.4%)</td> <td>152 (92.7%)</td> <td>1</td> <td>1</td> <td></td>	Urban	125 (49.4%)	152 (92.7%)	1	1	
Marital status Currently unmarried I16 (45.8%) I37 (54.2%) 77 (47.0%) 87 (53.0%) 0.95 (0.64–1.41) 1 Image: Constraint of the constraint o	Rural	128 (50.6%)	12 (7.3%)	12.97 (6.85–24.53) **	6.46 (2.89–14.45) **	0.000
Currenty unmarried 116 (45.8%) 137 (54.2%) 77 (47.0%) 87 (53.0%) 0.95 (0.64-1.4) 1 Image and the second sec	Marital status					
Currently married 137 (54.2%) 87 (53.0%) 1 <th1< th=""> 1 1</th1<>	Currently unmarried	116 (45.8%)	77 (47.0%)	0.95 (0.64–1.41)		
Educational status No formal education 89 (35.2% 21 (12.8%) 5.51 (2.97-10.25) ** 4.85 (0.24-2.97) 0.808 0.338<	Currently married	137 (54.2%)	87 (53.0%)	1		
No formal education 99 (35.2%) 21 (12.8%) 5.51 (2.97-10.25)** 0.85 (0.24-2.97) 0.308 Religious education 10 (4.0%) 3 (1.8%) 4.34 (1.21-6.1)* 0.34 (0.03-3.84) 0.385 Primary school 52 (20.6%) 25 (15.2%) 2.71 (1.45-5.04)* 0.34 (0.03-2.57) 0.717 College/university 43 (17.0%) 56 (34.1%) 1 1 1 Religion 226 (89.3%) 23 (14.0%) 1.30 (0.76-2.20) 1.17 (0.48-2.85) 0.717 Occupation 226 (89.3%) 21 (14.8%) 1 1 1 1 Government 25 (13.8%) 51 (31.1%) 1 1 1 10 (0.38-2.72) 0.966 Housewrfe 48 (19.0%) 49 (29.9%) 1.42 (0.79-2.56) 1.02 (0.38-2.72) 0.905 Farmer 53 (20.9%) 8 (4.9%) 9.65 (4.08-2.94)** 1.08 (0.27-4.23) 0.905 Student 21 (2.4%) 31 (18.9%) 1.51 (0.78-2.89) 2.53 (0.55-11.68) 0.232 Student 21 (2.4%) 31 (12.3%) 9 (5.5%)	Educational status					
Religious education 10 (4.0%) 3 (1.8%) 4.34 (1.12-16.74)* 0.34 (0.03-3.84) 0.385 Primary school 52 (20.6%) 59 (35.0%) 130 (0.76-2.20) 1.17 (0.48-2.85) 0.735 Secondary school 34 (1.70%) 56 (34.1%) 1 1 1 Religion 226 (89.3%) 141 (86.0%) 1 1 1 1 Christian 226 (89.3%) 141 (86.0%) 1 1,73 (0.40-1.32) 1.41 (80.0%) 1 Government 25 (13.8%) 51 (31.1%) 1 1 1,000000000000000000000000000000000000	No formal education	89 (35.2%)	21 (12.8%)	5.51 (2.97-10.25) **	0.85 (0.24-2.97)	0.808
Primary school 52 (20.6%) 55 (15.2%) 2.71 (1.45-5.04)* 0.82 (0.26-2.57) 0.735 Secondary school 59 (23.3%) 59 (36.0%) 1.30 (0.76-2.22) 1.17 (0.48-2.85) 0.717 Religion 226 (89.3%) 141 (86.0%) 1 1 1 1 Occupation 226 (89.3%) 23 (14.0%) 10,73 (0.40-1.32) 1 1 1 Occupation 59 (32.3%) 51 (31.1%) 1 1 1 1 1 Government 35 (13.8%) 51 (31.1%) 1 41 (80.022-48) 1.02 (0.38-2.72) 0.966 Housewife 54 (21.3%) 16 (9.8%) 4.91 (2.43-9.94)*** 1.03 (0.27-4.23) 0.905 Student 32 (12.6%) 31 (18.9%) 1.50 (0.78-2.89) 0.92 (0.27-3.11) 0.905 Octra 31 (12.3%) 45 (9.7%) 6.34 (3.35-11.98)** 2.20 (0.82-5.86) 0.215 Other 31 (12.3%) 9 (5.5%) 5.01 (2.12-11.82)** 2.78 (6.4-11.94) 0.195 Jobi 1-3200 32 (2.6.4%) 19 (11.6%) 6.34	Religious education	10 (4.0%)	3 (1.8%)	4.34 (1.12–16.74) *	0.34 (0.03-3.84)	0.385
Secondary school College/university 59 (23.3%) 43 (17.0%) 59 (36.0%) 56 (34.1%) 1.30 (0.76-2.2) 1 1.17 (0.48-2.85) 1 0.717 Religion Christian 226 (89.3%) 27 (10.7%) 141 (86.0%) 23 (14.0%) 1 1 1 1 Occupation Government 35 (13.8%) 35 (13.8%) 141 (86.0%) 23 (14.0%) 1 1 1 1 Private 48 (19.0%) 48 (19.0%) 49 (29.9%) 142 (0.79-2.56) 1.02 (0.38-2.72) 10.08 (0.27-4.23) 0.906 0.905 Farmer 53 (20.9%) 32 (12.6%) 8 (4.9%) 31 (18.9%) 9.55 (4.08-22.78) 1.50 (0.78-2.89) 0.90 (0.27-3.11) 0.90 (0.27-3.11) 0.905 0.232 Other 31 (12.3%) 9 (5.5%) 5.10 (2.12-11.82)** 2.20 (0.82-5.86) 0.90 (0.27-3.11) 0.905 0.232 Student 300-1500 31 (12.3%) 19 (11.6%) 45 (27.4%) 6.34 (3.35-11.98)** 1.60 (0.91-2.80) 2.20 (0.82-5.86) 0.57 (0.23-1.42) 0.230 0.250 Average family monthy income in ETB 300-1500 92 (36.4%) 19 (11.6%) 45 (27.4%) 6.34 (3.35-11.98)** 1.60 (0.91-2.80) 2.20 (0.82-5.86) 0.57 (0.23-1.42) 0.230 0.250 Stool -125.000 45 (17.8%) 208 (62.2%) 2.7 (16.5%) 1.86 (1.07-3.24)* 1.9 (0.57 (Primary school	52 (20.6%)	25 (15.2%)	2.71 (1.45–5.04) *	0.82 (0.26-2.57)	0.735
College/university 43 (17.0%) 56 (34.1%) I <thi< th=""> I <thi< th=""></thi<></thi<>	Secondary school	59 (23.3%)	59 (36.0%)	1.30 (0.76-2.22)	1.17 (0.48-2.85)	0.717
Religion Christian Muslim 226 (89.3%) 27 (10.7%) 141 (86.0%) 23 (14.0%) 1 0,73 (0.40-1.32) Leader Leader Leadership role Has role Leader Leadership role Has role Leadership role Leadership role Has role Leadership role Leadership rolt Leadership role Leadership rolt Leadership rolt List (55.9%) Zi (15.9%) Zi (15.9%) Zi (15.9%) Zi (15.9%) Zi (15.9%) Zi (16.5%) Zi (15.9%) Zi (16.6%) Zi (16.6%) Zi (16.6%) Zi (16.5%) Zi (15.9%) Zi (16.6%) Zi (16.5%) Zi (16.5%) <thzi (16.6%)<="" th=""> Zi (16.6%) <thzi (16.6%)<="" td=""><td>College/university</td><td>43 (17.0%)</td><td>56 (34.1%)</td><td>1</td><td>1</td><td></td></thzi></thzi>	College/university	43 (17.0%)	56 (34.1%)	1	1	
Christian Muslim 226 (89.3%) 27 (10.7%) 141 (86.0%) 23 (14.0%) 1 I	Religion					
Muslim 27 (10.7%) 23 (14.0%) 0.73 (0.40–1.32) Image: Constraint of the state of the	Christian	226 (89.3%)	141 (86.0%)	1		
Occupation Government No No </td <td>Muslim</td> <td>27 (10.7%)</td> <td>23 (14.0%)</td> <td>0.73 (0.40–1.32)</td> <td></td> <td></td>	Muslim	27 (10.7%)	23 (14.0%)	0.73 (0.40–1.32)		
Government 35 (13.8%) 51 (31.1%) 1 1 1 Private 48 (19.0%) 49 (29.9%) 1.42 (0.79–2.56) 1.02 (0.38–2.72) 0.966 Housewife 54 (21.3%) 16 (9.8%) 4.91 (2.43–9.94)** 1.08 (0.27–4.23) 0.905 Farmer 53 (20.9%) 8 (4.9%) 9.65 (4.08–22.78)** 2.53 (0.55–11.68) 0.232 Student 32 (12.6%) 31 (18.9%) 1.50 (0.78–2.89) 0.92 (0.27–3.11) 0.905 Other 31 (12.3%) 9 (5.5%) 5.01 (2.12–11.82)** 2.78 (0.64–11.94) 0.169 Average family monthly income in ETB 92 (36.4%) 19 (11.6%) 6.34 (3.35–11.98)** 2.20 (0.82–5.86) 0.115 J501–3200 55 (21.7%) 45 (27.4%) 1.66 (0.91–2.80) 0.57 (0.23–1.42) 0.233 J201–5000 42 (16.6%) 55 (33.5%) 1 1 1 1 Leadership role 45 (17.8%) 27 (16.5%) 1 0.91 (0.54–1.53) 1.59 (0.71–3.55) 0.250 Family history of TEM use Yes 150 (59.3%) <td< td=""><td>Occupation</td><td></td><td></td><td></td><td></td><td></td></td<>	Occupation					
Private 48 (19.0%) 49 (29.9%) 1.42 (0.79-2.56) 1.02 (0.38-2.72) 0.966 Housewife 54 (21.3%) 16 (9.8%) 4.91 (2.43-9.94)** 1.08 (0.27-4.23) 0.905 Farmer 53 (20.9%) 8 (4.9%) 9.65 (4.08-22.78)** 2.53 (0.55-11.68) 0.232 Student 32 (12.6%) 31 (18.9%) 1.50 (0.78-2.89) 0.92 (0.27-3.11) 0.905 Other 31 (12.3%) 9 (55.%) 5.01 (2.12-11.82)** 2.78 (0.64-11.94) 0.169 Average family monthly income in ETB 300-1500 92 (36.4%) 19 (11.6%) 6.34 (3.35-11.98)** 2.20 (0.82-5.86) 0.115 J501-3200 55 (21.7%) 45 (27.4%) 1.66 (0.91-2.80) 0.57 (0.23-1.42) 0.233 J201-5000 64 (25.3%) 45 (27.4%) 1.86 (1.07-3.24)** 1.59 (0.71-3.55) 0.250 J201-25,000 42 (16.6%) 27 (16.5%) 1 1.60 (0.91-2.80) 0.57 (0.23-1.42) 0.233 J201-25,000 42 (16.6%) 27 (16.5%) 1.86 (1.07-3.24)** 1.59 (0.71-3.55) 0.250 Leadership role	Government	35 (13.8%)	51 (31.1%)	1	1	
Housewife 54 (21.3%) 16 (9.8%) 4.91 (2.43–9.94)*** 1.08 (0.27–4.23) 0.905 Farmer 53 (20.9%) 8 (4.9%) 9.65 (4.08–22.78)** 2.53 (0.55–11.68) 0.232 Student 32 (12.6%) 31 (18.9%) 1.50 (0.78–2.89) 0.92 (0.27–3.11) 0.905 Other 31 (12.3%) 9 (5.5%) 5.01 (2.12–11.82)** 2.20 (0.82–5.86) 0.115 Average family monthly income in ETB 92 (36.4%) 19 (11.6%) 6.34 (3.35–11.98)** 2.20 (0.82–5.86) 0.115 JS01–3200 55 (21.7%) 45 (27.4%) 1.60 (0.91–2.80) 0.57 (0.23–1.42) 0.233 J201–5000 64 (25.3%) 45 (27.4%) 1.86 (1.07–3.24) * 1.59 (0.71–3.55) 0.250 S001–25,000 42 (16.6%) 55 (33.5%) 1 1 1.59 (0.71–3.55) 0.250 Leadership role 45 (17.8%) 27 (16.5%) 1 0.91 (0.54–1.53) 1.59 (0.71–3.57) ** 0.000 Family history of TEM use Yes 150 (59.3%) 26 (15.9%) 7.73 (4.74–12.59) ** 8.01 (4.17–15.37) ** 0.000 <t< td=""><td>Private</td><td>48 (19.0%)</td><td>49 (29.9%)</td><td>1.42 (0.79–2.56)</td><td>1.02 (0.38-2.72)</td><td>0.966</td></t<>	Private	48 (19.0%)	49 (29.9%)	1.42 (0.79–2.56)	1.02 (0.38-2.72)	0.966
Farmer 53 (20.9%) 8 (4.9%) 9.65 (4.08–22.78)** 2.53 (0.55–11.68) 0.232 Student 32 (12.6%) 31 (18.9%) 1.50 (0.78–2.89) 0.92 (0.27–3.11) 0.905 Other 31 (12.3%) 9 (5.5%) 5.01 (2.12–11.82)*** 2.78 (0.64–11.94) 0.169 Average family monthly income in ETB 92 (36.4%) 19 (11.6%) 6.34 (3.35–11.98)** 2.20 (0.82–5.86) 0.115 300–1500 55 (21.7%) 45 (27.4%) 1.60 (0.91–2.80) 0.57 (0.23–1.42) 0.232 3201–5000 64 (25.3%) 45 (27.4%) 1.86 (1.07–3.24)** 1.59 (0.71–3.55) 0.250 5001–25,000 42 (16.6%) 55 (33.5%) 1 1	Housewife	54 (21.3%)	16 (9.8%)	4.91 (2.43–9.94) **	1.08 (0.27-4.23)	0.905
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Availability of TH Image: Available Image: Availabl	No	103 (40.7%)	138 (84.1%)	1	1	
Available 143 (56.5%) 12 (7.3%) 16.46 (8.69–35.17) ** 19.43 (12.06–31.64) ** 0.000	Availability of TH					
	Available	143 (56.5%)	12 (7.3%)	16.46 (8.69–35.17) **	19.43 (12.06–31.64) **	0.000

(Continued)

Variable	Attitude Towards TEM Use Good (# and %) Poor (# and %)		COR (95% CI)	AOR (95% CI)	P value
Not available	110 (43.5%)	152 (92.7%)	1	I	
Health insurance					
Has	81 (32%)	45 (27.4%)	1.24 (0.80–1.92)		
No	172 (68%)	119 (72.6%)	I		
History of MEM use					
Yes	170 (67.2%)	(67.7%)	0.97 (0.64–1.48)		
No	83 (32.8%)	53 (32.3%)	I		
Distance from ECC in hr.(single trip)					
0.03–0.40	50 (19.8%)	64 (39.0%)	1	1	
0.41-1.00	73 (28.9%)	56 (34.1%)	1.66 (1.00–2.77) *	1.28 (0.61–2.67)	0.506
1.01–3.00	71 (28.1%)	25 (15.2%)	3.63 (2.02-6.53) **	2.01 (0.85-4.74)	0.110
3.01–29.00	59 (23.3%)	19 (11.6%)	3.97 (2.10–7.50) **	1.14 (0.42–3.05)	0.794
Time of presentation in weeks					
0.00–0.75	49 (19.4%)	58 (59.0%)	1	1	
0.76–7.00	61 (24.1%)	42 (25.6%)	1.71 (0.99–2.97)	1.18 (0.52–2.67)	0.681
7.01–24.00	69 (27.3%)	36 (22.0%)	2.26 (1.30-3.94) *	0.88 (0.37-2.09)	0.773
24.01–600	74 (29.2%)	28 (17.1%)	3.12 (1.75–5.57) **	1.19 (0.49–2.84)	0.692
Knowledge					
Good	124 (49.0%)	79 (48.2%)	1		
Poor	129 (51.0%)	85 (51.8%)	0.96 (0.65–1.43)		

Table 4 (Continued).

Notes: *P- value <0.05, **P-value <0.001.

Abbreviations: ECC, eye care center; hr., hour; #, Number.

On the other hand, this result was higher than the studies from Iran (5% and $13\%)^{29,30}$ and Ethiopia $28.3\%,^{31}$ $38.8\%,^4$ and $48.7\%.^9$ It could be due to cultural, health status, and socioeconomic variation. This study was conducted on patients which concluded that a good attitude was discovered in the community exposed to TEM practice.

The rural residence had a significant association with a good attitude towards TEM. Many people in rural areas believe that diseases are caused by breaking taboos or not conforming to traditional societal rules, which led them to consult TH and had a positive attitude towards TEM.^{12,32}

On the other hand, positive family history of TEM use had a positive association with a good attitude towards TEM. This was consistent with the studies conducted in Malaysia,³³ Uganda,³⁴ and Ethiopia.⁹ Considering TEM use as a trend and passing it from parents to children to treat abnormal eye conditions and respecting the saw of older members of the community who carry a high level of respect might be accountable for having a positive attitude towards TEM.^{12,35}

Furthermore, the odds of a good attitude towards TEM were higher among study subjects living in TH available area than those who live in the area where TH did not exist. This was per the studies from India,¹⁹ Nigeria,^{36,37} and Ethiopia.⁹ The possible explanation for this might be due to direct or indirect influence and promotion done by traditional healers. Those individuals living around traditional healers might have an increased level of exposure to TEM-related practice. This could create a great opportunity to have a good attitude toward TEM and appreciate the activity of traditional healers.⁹

Limitation of the Study

It is known that patients tend to hide information they know causing social desirability bias. Due to the pandemic (COVID-19), patients with low income and from very remote areas may not come to the hospital that potentially causes selection bias.

Conclusion

Most adult ophthalmic patients had a positive attitude towards traditional eye medicine. Residing in rural area, availability of TH, and positive family history of TEM use had a positive significant association with a good attitude towards TEM. Educating the traditional healers on safe practices is crucial in reducing the burden.

Disclosure

The authors have no conflicts of interest for this work to declare.

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