



Assessment of Knowledge, Attitude and Practices on Rabies among Communities of Atsbi Wonberta District, Tigray, Northern Ethiopia

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ABSTRACT

A cross-sectional questionnaire-based survey was conducted on randomly selected 399 individuals to assess the knowledge, attitude, and practices of rabies among communities in Atsbi Wonberta district Tigray, Northern Ethiopia. Accordingly, the majority (98%) of the study participants had heard about rabies from different sources. There were significant differences in knowledge between dog owners and non-dog owners concerning had heard of rabies ($P=0.000$). Among the interviewed participants, 85% mentioned that bite by a rabid dog and/other animals is the primary mode of transmission of the disease. But few had lower knowledge about key practices, such as the need for wound cleansing, which could prevent unnecessary deaths from the disease instead most respondents preferred taking the victim to a hospital as soon as possible; and some preferred to visit traditional healers. There were significant differences in attitudes between dog owners and non-dog owners to all dogs are dangerous ($p=0.001$), and rabies is a fatal disease ($p=0.015$). Generally, the overall KAP assessment recorded in this study is an indication that some works are still left to create awareness among the communities. Thus, close collaboration and integration of veterinary professionals, public health experts, and local authorities should stand together to fight the disease as they are the key elements for preventing and control of this very serious and fatal disease.

Keywords: Attitude, Dog, Knowledge, Medebay-Zana, Practices, Rabies

INTRODUCTION

Rabies is a viral zoonosis and human infection usually occurs following a transdermal bite or scratch by an infected animal (Bourhy et al., 2010; Yalembrat et al., 2016). It is considered as the most dreadful fatal disease worldwide which causes acute fatal encephalitis, with almost 100% case fatality rate. The etiologic

agent of this disease is the rabies virus belonging to the genus Lyssavirus and family Rhabdoviridae (World Health Organization, 2005) with clinical signs include sudden behavioral change, hypersalivation paralysis, hydro and photophobia, and restlessness (Hemachudha et al., 2002; Manning et al., 2008).

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Despite the disease is 100% preventable by effective vaccination, and timely and appropriate post-exposure prophylaxis (PEP) (Subramaniam, 2016), it remains the most deadly neglected disease in developing countries. The disease causes an estimated 59,000 people to death every year which is mostly in Africa, Asia, and South America (Hampson et al., 2015; Jackson, 2013), even though it is a vaccine-preventable disease.

Rabies is primarily a problem in areas troubled with poverty and with a lack of economic resources (Dyer et al., 2014; Jackson, 2013). Hence, the disease is among the top list of neglected tropical diseases that mostly affect poor communities, where children and elderly people suffering from inequitable health care facilities (Tefera et al., 2002). Africa is the second continent most affected by rabies next to Asia; for which the disease has been recognized for many centuries in Ethiopian society as “Mad Dog Disease”. In Ethiopia, the disease is recorded by the scientific communities in 1903, and it remains as an important zoonotic disease both in humans and animals to date (Gebrehiwot et al., 2016; Tschopp et al., 2016).

The highest recorded human death (43%) due to rabies for the year 1998 was reported from Ethiopia, and the magnitude was associated mainly with the presence of a large population of stray dogs and other associated factors (Deressa et al., 2010; Yimer et al., 2012). In Ethiopia, as in many other countries across the developing world, the dog is the species most responsible for human exposure; it also true that this animal is responsible for over 94% of the total rabies cases in other animals (Tefera et al., 2002).

Although means of control and preventions are available through mass dog vaccination and provision of post-exposure prophylaxis to people exposed to bites by suspect rabid animals; rabies remains as a major public health problem particularly in resource-poor communities. However, poor surveillance and unreliable statistics on rabies incidence make it very difficult to attract policy-makers, to invest in the control and prevention of rabies disease (Knobel et al., 2005).

All over the world, the knowledge of rabies differs among groups of people depending on various factors (Palamar et al., 2013). Creating community awareness about rabies is very critical for the prevention and control of rabies. In Ethiopia, poor public awareness towards rabies is considered as one of the most challenging issues for the prevention and control of the disease particularly in areas where canine rabies is endemic among most rural communities. Thus, the knowledge, attitude and practices analysis in this study was aimed at generating information to identify knowledge gaps, behavioral patterns and practices hindering rabies control and exacerbating disease burden in the study area. Thus, this study was designed to assess the knowledge, attitude, and practices of rabies among communities in Atsbi Womberta district Tigray, Northern Ethiopia.

MATERIALS AND METHODS

2.1 Study Area

Atsbi Womberta district is found in the eastern zone of the Tigray region at about 65 Km from Mekelle regional city. The district is bordered in the north by Saese Tsaedaemba district, in the south by Enderta district, in the east by Afar regional state and in the west by Kilteawlaelo district. It has an altitude at Dega (high land), which ranges from 2400 m to 3000 m and at Weynadega (midland) ranging from 1800 m to 2400 m above sea level. The district has a total area of about 1223 sq Km. Generally, the district has 70% and 30% Dega and Weynadega, respectively. According to the information from the district Agricultural and Rural Development Office (2006), Atsbi Womberta District has a total population of 112,639, of which 55,359 (49.15%) are males and 57,280 (50.85%) are females. Urban and rural population is 9,609 and 103,030 respectively (Misgina et al., 2016).

2.2. Study Design

A cross-sectional questionnaire-based survey study was conducted from November 2018 to January 2019. A standard questionnaire was designed and employing face to face interview on assessing knowledge, attitude, and practices

among communities living in Atsbi Wonberta district.

2.3 Study Population and Sampling

Procedures

The study population includes simple randomly selected individuals with the age of above eighteen years who came to the different veterinary clinics seeking treatments for their animals, and also people at different activities. The questionnaire was semi-structured with both open and closed-ended questions and captured details of household characteristics that were used to assess socioeconomic status and knowledge, attitudes and practices on rabies.

2.4. Sample Determination

The required sample size for this study was calculated using a single population proportion formula as described by (Yamane, 1967), using 5% absolute precision.

$$n = \frac{N}{1 + N(e^2)}$$

Where n = is the required size of the sample,
N = Size of the population of the study area, and
e² = Level of precision
Accordingly, 399 study participants were included in the survey study.

2.5 Data Management and Analysis

All collected data were entered into Microsoft Excel spreadsheet. The data from the

questionnaires were entered into software for data cleaning and analyzed using STATA version 13 for windows. Accordingly, descriptive statistics such as frequency distribution and percentages were used to summarize the findings.

RESULTS

3.1 Socio-Demographic Characteristics of Respondents

Out of the total 399 study participants, the majority 83% (331) were males and the remaining 17% (68) were females. The majority of the respondents' age group lied in the range between the age of (36-55 years old) which accounts for 44.6% (178), followed by a range of age the groups (56-85 years old) and (18-35 years) with 27.8% and 27.6%, respectively. Participants were mostly with no formal education (53.9%) and followed by those with primary education (34.8%), and secondary education and above (11.3%). Concerning occupation, the majority of the respondents were peasants (60.4%), and 24.3%, 8.0%, 7.3% were engaged in small and medium businesses, government employees and others, respectively. More than 95% of the respondents were Christians. The majority of participants (72.4%) owned dogs, and more than 85% of the respondents were claiming to possess domestic animals other than dogs (Table 1).

Table 1: Socio-demographic characteristics of the study participants (n= 399)

Socio-demographic characteristics	Frequency	Percent
Sex		
Female	68	17
Male	331	83
Age (years)		
18-35	110	27.6
36-55	178	44.6
56-85	111	27.8
Marital status		
Married	370	92.7
Single	29	7.3
Respondents' address		
Rural	233	58.4

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Urban	166	41.6
Level of education		
No formal education	215	53.9
Primary education	139	34.8
Secondary school and above	45	11.3
Respondent's occupation		
Peasant	241	60.4
Small & Medium business	97	24.3
Government employee	32	8.0
Others	29	7.3
Religion of respondents		
Christians	380	95.2
Muslims	19	4.8
Dog ownership		
Yes	289	72.4
No	110	27.6
Domestic animal ownership other than dog		
Yes	342	85.7
No	57	14.3

3.2 Knowledge Indicator Responses about Rabies

The vast majority of the respondents (98%) have ever heard of the disease and more than 80% of the respondents indicated that the local communities (parent/neighbor/friend) were their source of information about the disease. The remaining respondents were heard about rabies from media, school, government meetings, and other sources. When asked about the causes of the disease more than, half of the respondents, 51.6%, reported starvation and thirst; which is followed by 33.6%, 9.8%, 2.3%, and 2%, mentioned germs, spiritual, hereditary, and others as causes of rabies infection respectively.

About 45.6%, 28.6%, 18.8%, and 7% of the respondents were indicated that refuse to eat and drink, salivation, behavioral change, and paralysis known to be signs of rabies in an infected animal, respectively. About 85% of the interviewed participants mentioned that bite with a rabid dog and/other animals is the primary mode of transmission of the disease, and the remaining 15% do not have an idea about its mode of transmission. It is worthy enough to mention that, more than 80% of

participants identified that dogs, cats, hyenas, and fox are species of animals that play a vital role in transmitting rabies from animal to animal, and animal to human.

While about 4.3% of respondents don't know which animal, species transmits the disease. Among the 399 study participants, about 32.3% were bitten by dog at least ones in their lifetime, and 77% of respondents reported that rabies is not curable once the clinical signs of the disease have started to develop. When asked to mention which groups of people are at higher risk of getting the infection, about 52.6%, 30.8%, and 16.5% of respondents indicated that children, older persons, and veterinarians are at higher risk of rabies, respectively.

There were significant differences of knowledge between dog owners and non-dog owners for had heard of rabies ($p=0.000$), causes of rabies infection ($p=0.004$), and clinical signs of rabid animals ($p=0.016$). Similarly, there was a significant difference ($p=0.034$) between the response of the participants from urban and rural areas concerning the knowledge on which group of people at higher risk of exposure to rabies.

Table 2: Knowledge on rabies, comparing responses b/n dog owner & non-dog owner, and respondents' area of residency

Variables	n(%)	Dog ownership		p-value	Residency [n (%)]		p-value
		Yes n(%)	No [n(%)]		Rural	Urban	
Heard about rabies							
Yes	391(98)	289(72.4)	102(25.6)	0.000	229(57.4)	162(4.6)	0.626
No	8(2)	0(0)	8(2)		4(1.0)	4(1.0)	
Causes of rabies infection							
Germes	134(33.6)	81(20.3)	53(13.3)	0.004	69(17.3)	65(16.3)	0.279
Starvation and thirst	206(51.6)	165(41.4)	41(10.3)		130(32.6)	76(19.0)	
Spiritual	39(9.8)	29(7.3)	10(2.5)		22(5.5)	17(4.3)	
Hereditary	9(2.3)	6(1.5)	3(0.8)		4(1.0)	5(1.3)	
Others	8(2.0)	5(1.3)	3(0.8)		6(1.5)	2(0.5)	
I don't know	3(0.8)	3(0.8)	0(0.0)		2(0.5)	1(0.3)	
Clinical sign of rabid animal							
Paralysis	28 (7.0)	24(6.0)	4(1.0)	0.016	15(3.8)	13(3.3)	0.550
Salivation	114(28.6)	92(23.1)	22(5.5)		68(17.0)	46(11.5)	
Behavioral change	75(18.8)	48(12.0)	27(6.8)		39(9.8)	36(9.0)	
Refuse to eat and drink	182(45.6)	125(31.3)	57(14.3)		111(27.8)	71(17.8)	
Mode of transmission of rabies							
Bite	338(84.7)	250(62.7)	88(22.1)	0.139	198(49.6)	140(35.1)	0.962
Don't know	59(14.8)	37(9.3)	22(5.5)		34(8.5)	25(6.3)	
Others	2(0.5)	2(0.5)	0(0.0)		1(0.3)	1(0.3)	
Animal can transmit rabies							
Humans	11(2.8)	8(2.0)	3(0.8)	0.817	8(2.0)	3(0.8)	0.275
Dogs, Cats, Hyenas, Fox	333(83.5)	244(61.2)	89(22.3)		195(48.9)	138(34.6)	
Cattle, Goats, Sheep	38(9.5)	26(6.5)	12(3.0)		18(4.5)	20(5.0)	
Don't know	17(4.3)	11(2.8)	6(1.5)		12(3.0)	5(1.3)	
Curable after showing clinical signs							
Yes	153(38.4)	120(30.1)	33(8.3)	0.034	86(21.6)	67(16.8)	0.485
No	246(61.7)	169(42.4)	77(19.3)		147(36.8)	99(24.8)	
Group of people at higher risk							
Older persons	123(30.8)	92(23.1)	31(7.8)	0.652	70(17.5)	53(13.3)	0.034
Children	210(52.6)	148(37.1)	62(15.5)		133(33.3)	77(19.3)	
Veterinarian	66(16.5)	49(12.3)	17(4.3)		30(7.5)	36(9.0)	

3.3 Attitude Responses towards Rabies

The majority of the respondents (92.7%) were agreed that stray dogs are dangerous. On the other hand, about half (49%) of respondents did not agree that all dogs are dangerous. In general majority of respondents (94%) agreed that rabies is a fatal disease and believed that the disease is a major public health problem in the study area, with 68% of participants agreed children are at higher risk of getting rabies infection. A considerable proportion of respondents (75%) were agreed that rabies can be prevented by vaccinating dogs, while about 7.3% don't agree with vaccination and 17.8% of respondents were not sure that vaccination can be used as means of prevention.

About 85% of participants also agreed that rabies can be prevented by killing of stray dogs, but the remaining 13% don't agree on killings of stray dogs and about 5% were not sure about the issue. Educating people towards

rabies prevention mechanisms, about 55% of respondents agreed upon it, but about 36% of respondents were not sure whether educating people can solve rabies-related problems. When asked about dog registration, only about 37% of respondents agreed registration can help in the prevention of the disease. In general, about 95% of respondents indicated that being bitten by a rabid animal is the scariest than having malarial infection.

There were significant differences in attitudes between dog owners and non-dog owners with respect to all dogs are dangerous ($p=0.001$), and rabies is a fatal disease ($p=0.015$). However, there were no significant differences between the response of the participants from urban and rural areas to all the questions related to attitude responses.

3.4 Practices towards Rabies

In this study, among the 399 respondents, about 35% of them would like to control their dogs in secured cage/ tie in their compound, while the other 65% would not like to control their dogs and lie free. About 28% of respondents mentioned that they vaccinated their dogs regularly, and the remaining 72% were reported that they do not have such practices. Concerning the importance of washing dog bite wounds with soap as a good practice, the majority (81%), did not believe and practiced as a means of good procedure. About 55.6% of respondents indicated that rabies suspected dog bite can be managed by going to the hospital for post-exposure prophylaxis; while 31.6%, and 7.3%, managed such cases by visiting traditional

healers and using holy water, respectively. Out of the total respondents, about 95% of respondents took killing actions in case of facing rabid dogs.

There were significant differences of practices applied among dog owners and non-dog owners with respect to management/handling of rabies suspected dog bites ($p=0.040$), controlling their dogs in cages/tie in their compound ($p=0.000$), and experience of vaccinating their dogs ($p=0.000$). Similarly, there were significant differences of practices applied between the response of the participants from urban and rural areas to the registration of dogs which they believe can help in the prevention and control of rabies ($p=0.016$), and actions taken to rabies suspected animals (0.026).

Table 3: Comparing community attitude and practices of rabies between a dog owner and non-dog owner as well as respondents' area of living (rural and urban areas)

Variables	n (%)	Dog ownership [n (%)]		p-value	Area of residency [n (%)]		p-value
		yes	no		Rural	Urban	
All dogs are dangerous							
Agree	196(49.1)	156(39.1)	40(10.0)	0.001	117(29.3)	79(19.8)	0.822
Don't agree	142(35.6)	99(24.8)	43(10.8)		80(20.1)	62(15.5)	
Not sure	61(15.3)	34(8.5)	27(6.8)		36(9.0)	25(6.3)	
Stray dogs are dangerous							
Agree	370(92.7)	272(68.2)	98(24.6)	0.116	218(54.6)	152(38.1)	0.170
Don't agree	13(3.3)	9(2.3)	4(1.0)		9(2.3)	4(1.0)	
Not sure	16(4.0)	8(2.0)	8(2.0)		6(1.5)	10(2.5)	
Rabies is a fatal disease							
Agree	375(94.0)	277(69.4)	98(24.6)	0.015	217(54.4)	158(39.6)	0.484
Don't agree	9(2.3)	6(1.5)	3(0.8)		7(1.8)	2(0.5)	
Not sure	15(3.8)	6(1.5)	9(2.3)		9(2.3)	6(1.5)	
Children are at higher risk							
Agree	272(68.2)	201(50.4)	71(17.8)	0.383	157(39.3)	115(28.8)	0.655
Don't agree	35(8.8)	22(5.5)	13(3.3)		23(5.8)	12(3.0)	
Not sure	92(23.1)	66(16.5)	26(6.5)		53(13.3)	39(9.8)	
Which would you fear							
Having malaria	20(5.0)	14(3.5)	6(1.5)	0.803	13(3.3)	7(1.8)	0.539
Being bitten by a rabid dog	379(95.0)	275(68.9)	104(26.1)		220(55.1)	159(39.8)	
Rabies: prevented by							
Agree	299(74.9)	221(55.4)	78(19.5)	0.056	170(42.6)	129(32.3)	0.334
Don't agree	29(7.3)	24(6.0)	5(1.3)		16(4.0)	13(3.3)	
Not sure	71(17.8)	44(11.0)	27(6.8)		47(11.8)	24(6.0)	
Rabies: prevented by							
Agree	325(81.5)	236(59.1)	89(22.3)	0.898	195(48.9)	130(32.6)	0.196
Don't agree	52(13.0)	38(9.5)	14(3.5)		29(7.3)	23(5.8)	

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Not sure	22(5.5)	15(3.8)	7(1.8)		9(2.3)	13(3.3)	
Prevented by educating							
Agree	219(54.9)	165(41.4)	54(13.5)	0.269	128(32.1)	91(22.8)	0.751
Don't agree	36(9.0)	23(5.8)	13(3.3)		23(5.8)	13(3.3)	
Not sure	144(36.1)	101(25.3)	43(10.8)		82(20.6)	62(15.5)	
Dog registration is helping							
Yes	148(37.1)	110(27.6)	38(9.5)	0.516	75(18.8)	73(18.3)	0.016
No	251(62.9)	179(44.9)	72(18.0)		158(39.6)	93(23.3)	
Washing dogs' bite with							
Yes	76(19.0)	54(13.5)	22(5.5)	0.765	37(9.3)	39(9.8)	0.056
No	323(81.0)	235(58.9)	88(22.1)		196(49.1)	127(31.8)	
Mgt of rabies suspected							
Traditional medicine	126(31.6)	100(25.1)	26(6.5)	0.040	79(19.8)	47(11.8)	0.540
Post exposure prophylaxis	222(55.6)	152(38.1)	70(17.5)		125(31.3)	97(24.3)	
Holy water	29(7.3)	24(6.0)	5(1.3)		18(4.5)	11(2.8)	
No action	22(5.5)	13(3.3)	9(2.3)		11(2.8)	11(2.8)	
Do you control your dog							
Yes	141(35.3)	120(30.1)	21(5.3)	0.000	77(19.3)	64(16.0)	0.257
No	258(64.7)	169(42.4)	89(22.3)		156(39.1)	102(64.7)	
Do know ways to control							
Yes	269(67.4)	197(49.4)	72(18.0)	0.606	156(39.1)	113(28.3)	0.814
No	130(32.6)	92(23.1)	38(9.5)		77(19.3)	53(13.3)	
Dog been vaccinated							
Yes	184(46.1)	154(38.6)	30(7.5)	0.000	105(26.3)	79(19.8)	0.618
No	215(53.9)	135(33.8)	80(20.1)		128(32.1)	87(21.8)	
Action taken to rabies							
Immediately kill that animal	379(95.0)	274(68.7)	105(26.3)	0.709	225(56.4)	154(38.6)	0.026
Report to veterinary office	13(3.3)	9(2.3)	4(1.0)		3(0.8)	10(2.5)	
No action	7(1.8)	6(1.5)	1(0.3)		5(1.3)	2(0.5)	

DISCUSSION

The findings of this cross-sectional study were served as baseline data for planning, implementation, and evaluation of public awareness and rabies control programs; as community awareness is crucial in rabies prevention and control. Knowledge, Attitude, and Practices studies have been used widely to increase community knowledge and change attitudes and improve practices that aid in disease prevention and control (Sambo *et al.* (2014) and Tiembre *et al.* (2014))

The present study indicated that the vast majority (98%) of respondents had previously heard about rabies disease via different means of communication channels, mainly about 84% of the respondents mentioned that local communities (parents, neighbors, friends) were the main sources of information to know about

rabies. The finding of this study was in line with a study conducted in different parts of Gondar and its surroundings with the report of 98% (Jemberu *et al.*, 2013), and 96.4% ((Serebe *et al.*, 2014) in which respondents were aware of rabies and heard about the disease.

A similar study from Bahir Dar (Guadu *et al.*, 2014), indicated that about 99% of respondents had previous information related rabies, and is consistent with the present finding. In a study conducted to assess knowledge, attitudes and practices of animal bite victims attending an anti-rabies health center in Jimma town, Ethiopia, 91.7% of respondents had heard of rabies. Another study with a similar finding was reported from a rural community in India indicated that 98.6% of respondents were aware of rabies (Singh

and Choudhary, 2005). This current finding is also slightly comparable with reports from Addis Ababa (Ali et al., 2013) in which about 83% of study respondents heard about rabies through similar communication channels as indicated by the current study participants.

However, this finding was higher when compared with that reported lower proportion (68.7%) in a survey of knowledge, attitudes, and practices about the animal bite and rabies in general community in India (Ichhpujani et al., 2006). It is noted that the current study also identified some knowledge gaps in that some respondents had not heard of rabies and its transmission, indicating that continuous rabies awareness creation programs are still important in the study area

In this study, the bite was mentioned as a mode of transmission for rabies to humans by the majority of the respondents (85%). However, lower responses than the current finding also reported in a study on the assessment of community KAP from Gondar (Serebe et al., 2014), Bahir Dar (Guadu et al., 2014), and New Delhi (Lai et al., 2005) reported that 46.8%, 45%, 52.2%, 49.2% of respondents, respectively knew the mode of rabies transmission in both humans and animals. There was also a considerable percentage of participants (15%) mentioned that they had no idea about the mode of transmission of rabies in both humans and animals. It is, therefore, advisable that contacts with any form of infected saliva should be avoided.

In the current assessment, dogs and cats were mentioned (83.7%) as primary animal hosts that transmit the infection to humans when bitten, scratched or licked. About 10% of respondents also indicated that other animals such as Cattle, Goats, and Sheep were involved in transmitting the disease to human beings and other animals. Similar findings were also explained by (Bingham, 2005; Joo et al., 2011; Kabeta et al., 2014). It is true that, in many parts of the world, particularly in Africa and Asia about 85-95% of human rabies cases being caused by dog bite (Deressa et al., 2010; Fitzpatrick et al., 2012).

The KAP analysis of the present study revealed that 94% of the respondents reported that rabies as a fatal disease. Thus, this current finding is consistent with a previous study conducted in New York City, reported that 94.1% of the interviewed individuals know the disease is fatal (Edison et al., 2004). However, compared to the present study, only less than half of the study participants mentioned rabies as a fatal disease in reports by (Khokhar et al., 2003) and (Ali et al., 2013) with about 38.9% and 31%, respectively.

In the present study, (52.6%) respondents reported that children were a riskier group to rabies than other groups of people which is in agreement with the finding of (Wassihune et al., 2017), who reported that 52.8% group of riskier to rabies were children. Contrary to the current finding, higher responses (98.6%) reported in a study from Gondar by (Serebe et al., 2014), indicated that children were the riskier group of people than other groups.

In the present study, among the 399 respondents, about 51.6% had a misunderstanding on the cause of the rabies they believed that the disease is caused by starvation and thirst. This is in line with the result from the study conducted in and around Dessie town, reported 49.6% (Gebeyaw and Teshome, 2016). But the current result is lower when compared to reports from Gondar by (Jemberu et al., 2013). The differences among the results obtained from the different studies could be differences among community awareness.

This study showed good treatment-seeking behaviors as more than half of the respondents (55.6%) would report to the hospital for animal bite wound treatment. This indicated that community attitude and practices on understanding for post-exposure treatment-seeking behaviors would be important for rabies prevention in humans. In a similar study by (Digafe et al., 2015), slightly lower responses (38.8%) were reported from Gondar town and (Yalemebrat et al., 2016) with (42.1%), as most of the study participants prefer to go traditional medicine and other practices than for post-exposure prophylaxis.

In the present finding, about 39% of respondents prefer traditional medicine and holy water as a primary choice of treatment than visiting the hospital for post-exposure treatment. Similar KAP study from Addis Ababa, reported (58.3%) that the study participants had strong beliefs in traditional medicine. Another study from Bangladesh showed 59%, of dog bite victims first seek treatment from traditional healers instead of visiting the hospitals (Ghosh et al., 2016). Even a higher number of responses (84%), that prefer traditional medicine was reported by (Jemberu et al., 2013), indicated that strong preferences on using traditional treatments against rabies.

The possible reason why these respondents still preferred traditional medicine to post-exposure treatment could be due to several factors including lack of awareness, easy access to traditional medicine, and long duration of the post-exposure treatment. However, it should be noted that, once exposure to rabies virus is confirmed, immediate use of efficient anti-rabies vaccine with proper wound management and simultaneous administration of rabies immunoglobulin is almost invariably effective in preventing the disease.

In this present finding, surprisingly, only 19% of respondents agreed that wound washing with soap/detergent is immediate action after the rabid dog or animal bite. Our finding is highly lower when compared to the study conducted by (Dhand et al., 2012) from Bhutan, and (Guadu et al., 2014) from Bahir Dar, in which 85% and 70.8%, of the respondents, practiced washing of animal bite wound with soap/detergents, respectively. The differences could be the differences in providing awareness creation programs on prevention remedies and treatments of rabid animal bites in the study sites.

CONCLUSION AND RECOMMENDATIONS

Rabies is the most serious and fatal disease of animals and humans, which is endemic in poor resource countries. Accordingly, the level of

knowledge about the main mode of transmission (animal bite) and source animal (dog, cat, hyena, and fox) for rabies is high. But, there is a low level of understanding about the potential source of infection and the majority of the respondents consider dog, cat, hyena, and fox only source of infection. Besides, there is a lower knowledge about what to do after exposure, like wound washing, while a considerable number of respondents prefer immediate visits to health facilities; and also a higher proportion of respondents (had a good knowledge about the control mechanisms of rabies. Furthermore, considerable proportions of participants had vaccinated their dogs against rabies which is a good practice. Even though most of the respondents knew about the transmission of rabies and active immunization against it, attitude towards proper wound management, immediate active and passive immunization, and traditional treatment have to be early and regularly manage. Thus, the deadly nature of rabies and the availability of preventive measures like vaccinations both for human and dogs should be explained using mass media and education campaigns with emphasis on mode of transmission, clinical signs, wound management, and need for anti-rabies vaccine following a dog bite

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