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Research Article

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A Retrospective Study on Rabies and Assessment of community awareness, attitude and practices in and around Asella town, Ethiopia

Adugna Geresu Wake[1], Takele Tesgera Hurisa[2], Yonas Gizaw Habtemichael[2] and Teshale Sori[3]

[1]*National Veterinary Institute, Bishoftu, Ethiopia*

[2]*Arsi University College of Veterinary Medicine and Environmental Science, Asella, Ethiopia*

[3]*Addis Ababa University College of Veterinary Medicine and Agriculture, Department of Clinical Studies, Bishoftu, Ethiopia*

***Corresponding Author**
Adugna Geresu Wake, National Veterinary Institute, Bishoftu, Ethiopia.

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Abstract

Rabies is one of the major public health problems in most parts of the developing world, where the domestic dogs and other animals play a principal role as a reservoir and transmitter of the disease to humans. This study aimed at retrospectively investigating occurrence human exposure to suspected rabid animals in Asella and surrounding. In addition, a questionnaire was used to assess the knowledge, attitudes and practices (KAP) of the community about the rabies from February 2022 to June 2022. A total of 634 human bite cases were recorded from 2020 to 2022. Of these, 261 (41.17%; 95% CI: 37.31 – 45.11) were female while the remaining 373 (58.83%; 95% CI: 54.89 – 62.69) were male. The majority of the victims (55.05%; 95% CI: 51.08 – 58.97) were children less than 15 years of age followed by youth aged 16 – 30 years (26.66%; 95% CI: 23.25 – 30.28), individuals aged 31 – 45 years (11.83%; 95% CI: 9.41 – 14.60), those aged 46 – 60 years (5.52%; 95% CI: 3.87 – 7.59) and those older than 65 years (0.95%; 95% CI: 0.35 – 2.05). Among the 634 people bitten and started post-exposure anti-rabies vaccination, only 61.19% (95% CI: 57.28 – 65.01) of them received full doses (administration of post-exposure vaccine for 17 days). The participants have some knowledge about rabies such as its prevention by vaccine, the host species affected, the availability of vaccines for immunization and the fatal nature of the disease.

The majority of the respondents (85.00%) identified stray dogs as the main source of rabies. Thirty-four percent of the interviewees disclosed that rabies can be prevented by eliminating stray dogs while 34.00% claim that eliminating stray dogs cannot prevent it. Only 19.00% of the study participants had their pets vaccinated against rabies and among these, only 18.00% had vaccination certificate; 38.00% of them restrict their dogs inside their home compound either in cages or by tying. Of those participants who did not vaccinate their dogs, 64.00% disclosed lack of awareness on the availability of vaccine as the underlying reason while few of them did not do so because they did not suspect occurrence of rabies in their dogs. The present study revealed that rabies remains important disease in the area mostly affecting young individuals aged less than 30 years. The post-exposure anti-rabies treatment is not strictly followed. There are still KAP gaps regarding the mode of transmission, clinical signs, the deadly nature of the disease, and lack of awareness on the first aid measures to be taken after a case of suspected rabid animal bite.

Keywords: Asella town, Ethiopia, Attitude, Community, Knowledge, Practice, Rabies

Abbreviation

APEDO = African Private Enterprise Development Organization.
KAP = Knowledge Attitudes and Practice.
OIE = World Organization for Animal Health.
PEP = Post exposure prophylaxis, RABV = Rabies virus.
SE2 = Standard error, WHO = World Health Organization.

1. Introduction

Rabies is a zoonotic disease caused by rabies virus which belongs to the order Mononegavirales, family Rhabdoviridae, and genus lyssavirus and infects warm-blooded animals and humans [1]. The virus causes incurable viral encephalitis that is invariably fatal once clinical signs develop [2-4]. Infected animals often manifest behavioural changes, which can cause an unusual excitement or uncharacteristic affection, hyperreactivity to stimuli, and excessive salivation [5]. In cattle, strange attentiveness, facial paralysis with a dropping of the lower jaw and isolation from the herd are signs [6,7]. The virus is transmitted to susceptible hosts from rabid animals through a bite, via contamination of broken skin and mucous membranes by saliva or neurological tissues transplant and sometimes by scratches [8]. Pre-exposure vaccination is the most widely used prevention strategy in animals. In humans both pre-exposure and post-exposure vaccination are used following the recommendations of WHO for category II and III exposures.

Regardless of the invention and application of the first rabies vaccine by Louis Pasteur in 1885, human rabies remains a deadly disease worldwide [9]. Globally, about 60,000 people are estimated to die each year due to endemic canine rabies, of which the highest death is in Asia and Africa where dogs (almost 99%) constitute the major animal reservoirs [10]. About 24,000 and 30,000 human deaths occur per year in Africa and Asia, respectively due to rabies [11]. Rabies was first reported in Ethiopia (Addis Ababa) in 1903 and became a reportable disease [12]. A retrospective data showed during 1990-2000, an average of about 2200 people received post-exposure anti- rabies treatments, of which 96.2 % were bitten by dogs. In addition, 322 fatal human rabies cases were registered during the same period; 95% of which were acquired from dogs [13]. During, 2001-2009, 386 fatal human cases of rabies were registered, ranging from 35 to 58 per year. The number of post-exposure anti- rabies treatments increased to 17,204. During these later years, 3,460 brains were examined from animals involved in human bites and 75% of them were rabies positive. According to this study, 130,673 and 85,055 doses of rabies vaccine were used for humans and animals, respectively [14].

Previous studies carried out in Ethiopia showed that out of 1,088 dogs and cats examined for rabies, 73.62% of dogs and 5.1% of cats were found positive. The occurrence of rabies was highest in stray dogs [15]. About 10,000 people are expected to die of rabies each year in Ethiopia, making the country to be one of the worst affected countries in the world [16]. Although incidence of rabies was registered in various regional states of Ethiopia such as Tigray (11.4 cases per 100,000), Oromia (3.5 cases per 100,000), Benshangul (3.3 cases per 100,000), Amhara (1.5 cases per 100,000), SNNPR (1.2 cases per 100,000) and Addis Ababa (0.8 cases per 100,000) with a national average of 2.6 cases per 100,000 people, only those cases submitted to the sole laboratory in Addis Ababa have been reported [17].

The actual numbers of rabies cases and death tolls are expected to be higher as many cases remain unreported. The magnitude of human rabies cases in the country signals the need for rigorous epidemiological studies, especially in areas further away from Addis Ababa such as Asella. Poor public awareness is hypothesized to contribute to the rising magnitude of rabies cases in canine rabies-endemic areas such as Asella. Hence, up-to-date and reliable information about rabies is required for effective control and prevention of the disease. Moreover, an assessment of the knowledge, attitude and practices of the community is needed for effective prevention and control. Therefore, the objectives of this study were 1) to generate information on the status of rabies using retrospective data obtained from records of health care centres and 2) to assess the Knowledge, Attitude and Practices of community in Asella.

2. Materials & Methods

2.1. Description of the Study Area

This study was conducted in Asella town from February 2022 to June 2022. The Asella hospital and health care centers provide services for people from various districts surrounding the town. Asella town is located in East Arsi Zone of the Oromia National Regional State, Ethiopia. Asella is approximately 175 km southeast of Addis Ababa (Figure 1). East Arsi zone is located between 6º59 and 8º49 N altitudes and 38º41 and 40º44 E longitudes. The area receives a mean annual rainfall of 1200 mm; has a minimum and maximum temperature of 5ºC and 28ºC, respectively, with an altitude of 2500 meters above sea level [18]. East Arsi zone is one the agricultural zones of Oromia Regional State where a large number of livestock and wildlife are found. There are parks and conservation areas where wild animals, including, carnivores are harboured. There are several stray dogs in the area and even those which were owned roam freely since they were not restricted.

2.2. Sample Size Estimation

The sample size for assessment of the Knowledge, Attitude and Practices of the community regarding rabies was computed using sample size estimation formula described by considering standard error (SE) of 5% [19]. Hence, using the formula N = 0.25/SE2, = 0.25/(0.05*0.05) =0.25/0.0025 = 100 individuals were needed.

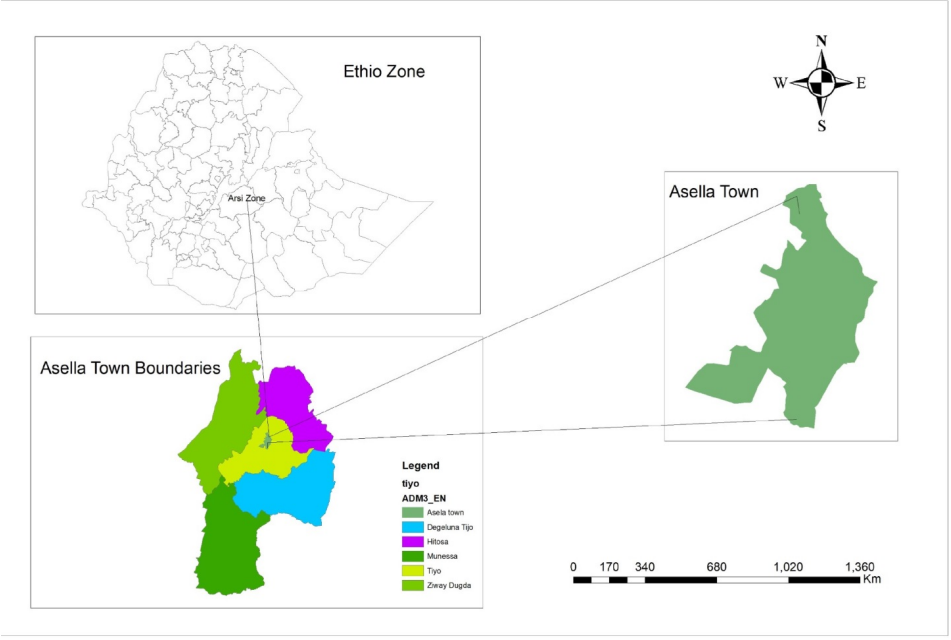

Figure 1: Map of Ethiopia And Aris Zone Depicting the Location of The Current Study Area Asella

2.3. Study Design and Sampling Method

Two study designs were used. First, a retrospective study was conducted to assess the incidence of human bite cases by rabid or suspected animals and identify factors associated with the bite. For this, case book of post-exposure prophylactic treatment against rabies during 2020 – 2022 was used at Arsi University Teaching and Referral Hospital. Second, a cross-sectional study was employed to assess the Knowledge, Attitude and Practices (KAP) of the community about rabies using multi-stage sampling method. First, districts in the vicinity of Asella town were selected, where the teaching and referral hospital was located. Second, the smallest administrative units, called Kebeles (Kebeles are equivalent to peasant associations) were randomly selected using lottery system. The list of all Kebeles was obtained from the district administrative offices and five Kebeles were then drawn from each district. Third, households were selected systematically. The list of the household was obtained from Kebele administration office. The first household was selected using random numbers and every 20th household were selected for Asella and every 16th households were selected for Tiyo. Totally, ten Kebeles (five from each district) were selected from Asella having 13 Kebeles and Tiyo having 18 Kebeles. Ten households were selected from each of the ten Kebeles. In each of the household selected, adult household members (older than 18 years) who had been living in the area for at least six months were included.

2.4. Data Collection

For the retrospective study data on the occurrence of human bite by rabies suspected animals was collected from the record book of Arsi University Teaching and Referential Hospital. A three year data (2020-2022) on humans who received post-exposure prophylactic treatment against rabies was collected. The information included the date of admission, patient name, sex, vaccine administered and its dose, duration of vaccine administration, and the health care institution where the vaccine was administered.

For the KAP study, a pre-tested structured questionnaire was employed. The questionnaire was prepared in English and translated into Afan Oromo. The questionnaire focused on the Knowledge, Attitude and Practices of the community. In addition, data was collected on demographic attributes of the respondents and variables such as age, sex Kebele, religion and others which are of thought to affect their KAP.

2.5. Data Management and Statistical Analysis

The collected data was entered into Microsoft Excel version 2013 spread Sheet, and transferred to Statistical Package for Social Sciences (SPSS) version 2024 for statistical analysis. Statistical tools such as chi-squared tests was used to assess the occurrence of association among variables such as age groups, sex, district, Kebele, occupation, marital status, religion and educational levels of the respondents and their KAP. For statistical significance, $p < 0.05$ was used at 95% Confidence level.

3. Results

3.1. Retrospective Study

Retrospective data obtained from the record books of Arsi University Teaching and Referral Hospital during the years 2020 – 2022 revealed that 634 individuals were bitten by rabies-suspected animals and received anti-rabies post-exposure vaccine. For the year 2020, data was available only for July and August during which 61 human bite cases were recorded. In the year 2021, 428 people were bitten by rabies-suspected animals and received post-exposure treatment whereas, in 2022, 145 human bite cases was recorded over 9 months). Of the total of 634 human bite cases, 261 (41.17%; 95% CI: 37.31 – 45.11) were female while the remaining

373 (58.83%; 95% CI: 54.89 – 62.69) were male. The majority of the victims (55.05%; 95% CI: 51.08 – 58.97) were children less than 15 years of age followed by youth aged 16 – 30 years (26.66%; 95% CI: 23.25 – 30.28), individuals aged 31 – 45 years (11.83%; 95% CI: 9.41 – 14.60), those aged 46 – 60 years (5.52%; 95% CI: 3.87 – 7.59) and elderly people or those older than 65 years (0.95%; 95% CI: 0.35 – 2.05). Among the 634 people bitten and started post-exposure anti-rabies vaccination, only 388 (61.19%; 95% CI: 57.28 – 65.01) of them received full doses (administration of post-exposure vaccine for 17 days).

4. Results of Questionnaire Survey

➢ Socio-Demographic Characteristics of The Respondents

A total of 100 respondents interviewed during the questionnaire survey, 54.00% were male; 39.00% of them were in the age range of 18-30 years; half of the respondents (50.00%) were orthodox Christians and 30.00% of them had a tertiary level education. The majority of the respondents (89.00%) own pets. The participants had various occupations with the majority being farmers (31.00%) (Table 1).

Variable		Frequency	Percentage (%)
Gender	Male Female	54 46	54.00 46.00
Age	18-30 years 31-45 years >45 years	39 37 24	39.00 37.00 24.00
Religion	Muslim Orthodox Protestant Other	34 50 10 6	34.00 50.00 10.00 6.00
Level of Education	Illiterate Read and write Primary Secondary Tertiary	21 21 10 18 30	21.00 21.00 10.00 18.00 30.00
Occupation	Government employee Private business Merchant House wife Farmer Student Unemployed	18 10 7 15 31 13 6	18.00 10.00 7.00 15.00 31.00 13.00 6.00

Table 1: Socio-Demographic Characteristics of The Study Participants (N = 100)

➢ Knowledge of the Respondents About Rabies

The majority (96.00%) of the respondents had heard about rabies, stating its name in the local language and linking it with dogs. The important sources of information about the disease as disclosed by the respondents include: the community members (informal source), mass media such as TV, radio, and others. The majority of the respondents knew that rabies could be prevented by vaccination; the fatal nature of rabies was also known among the community. The majority of the respondents were aware of the clinical signs of rabies in dogs and the main source of rabies to humans is dogs. The details of the results of assessment of the knowledge of the community about rabies are given in Table 2.

Variable	Response	Frequency	Percentage (%)
Heard about rabies	Yes No	96 4	96.00 4.00
Rabies can be prevented by vaccine	Yes No Don't know	78 11 11	78.00 11.00 11.00
Rabies is 100% fatal	Yes No Don't know	48 32 20	48.00 32.00 20.00
Source of information	Mass media Community Both Unheard	13 62 21 4	13.00 62.00 21.00 4.00

Cause of rabies	Psychological problem Bacterium Virus Lack of Food and Water Do not know Others Lack of food and water	13 6 28 29 19 1 4	13.00 6.00 28.00 16.70 19.00 1.00 4.0
Source of rabies	Dogs Cats Bats Other Domestic Animals Wild animals Dogs and cats Dogs and bats Dogs and wild Animals	76 4 6 1 4 3 1 5	76.00 4.00 6.00 1.00 4.00 3.00 1.00 5.00
Transmission to humans	Bite Don't Know Other means Bite and licking intact skin Bite and Others	44 6 2 8 40	44.00 6.00 2.00 8.00 40.00
Clinical signs in dogs	Mania Mania and salivation Mania, salivation & aimless movement Mania, salivation, pica, aimless movement, difficulty in swallowing & change in voice Mania, salivation, pica, aimless movement, difficulty in swallowing, change in voice & dropping of jaw	6 10 21 27 36	6.00 10.00 21.00 27.00 36.0
Better time for PEP	Immediately Later At any time Do not know	91 2 1 6	91.00 2.00 1.00 6.00
Access to training	Yes No	11 89	11.00 89.00
Availability of vaccine	Yes No	95 5	95.00 5.00
Clinical signs in humans	No eating and drinking Madness Biting and behavioural change Salivation Don't know Madness, salivation & hydrophobia Impedance, biting, madness, hydrophobia Biting, paralysis, madness, salivation, hydrophobia	7 9 8 4 16 20 31 5	7.00 9.00 8.00 4.00 16.00 20.00 31.00 5.00
Aware of diagnosis	Yes No	23 77	23.00 77.00
Effect of wound dressing	Yes No	40 60	40.00 60.00
Person at risk of rabies	Children Adult Male Female Don't know Children, Adult Child, Female All group	51 8 1 4 10 4 6 16	51.00 8.00 1.00 4.00 10.00 4.00 6.00 16.00

Table 2: Knowledge of The Community About Rabies (n = 100)

➢ Attitudes of The Community Towards Rabies

The majority of the respondents (85.00%) rated stray dogs as vehicles for rabies to humans. 34 % of the interviewees disclosed that rabies can be prevented by elimination of stray dogs while 34.00% did not agree. Fifty-three % of the community agreed with the occurrence of rabies cases in their villages; 73.00% were willing to register their dogs; 42.00% believed that spiritual activities such as the use of holly water can cure rabies and almost all of the respondents mentioned the importance of education to prevent rabies. About one-third (33.00%) of the community pointed out the need for urgent report to health care centres when humans are bitten by rabies-suspected animals; 23.00% prefer immediate wound dressing (washing with water and soap) while 13.00% revealed the use of bandages over the wound (Table 3).

Variable	Response	Frequency	Percentage (%)
Rabies is a problem in village	Strongly agree Agree No opinion Disagree	18 35 31 16	18.00 35.00 31.00 16.00
Stray dogs create danger	Strongly agree Agree No opinion Disagree	42 43 8 7	42.00 43.00 8.00 7.00
Prevention by elimination of stray dogs	Strongly agree Agree No opinion Disagree Strongly disagree	16 18 32 33 1	16.00 18.00 32.00 33.00 1.00
Willingness to register dogs	Willing Not willing	73 27	73.00 27.00
Rabies prevented by sprit	Agree No opinion Disagree	42 22 36	42.00 22.00 36.00
Responsibility to control rabies	Government Community All	19 36 45	19.00 36.00 45.00
Actions on dogs that bite humans	No action Elimination Keep for 10 days and check	19 49 32	19.00 49.00 32.00
Action on humans bitten by animals	Wash by water and soap Bandage the wound Apply salt Do nothing Apply 70% alcohol Wound dressing % bandage Apply salt and bandage	23 13 6 33 14 6 5	23.00 13.00 6.00 33.00 14.00 6.00 5.00
Control options	Vaccination of dogs Restriction of dogs Public education Elimination of stray dogs Vaccination of people at risk Post exposure vaccination Vaccination & restriction of dogs Vaccination of dogs & public education Restriction of dogs & public education	33 13 8 2 3 3 14 14 10	33.00 13.00 8.00 2.00 3.00 3.00 14.00 14.00 10.00

Table 3: Attitudes of The Community Towards Rabies in The Study Area

➢ Practices of Community

Only 19.00% of the study participants had their pets vaccinated against rabies although only 1.00% those who get their dogs vaccinated had vaccination certificate; 38.00% of them restrict their dogs inside their home compound either in cages or by tying. Of those participants who did not vaccinate their dogs 64.00% disclosed lack of awareness on the availability of vaccine as the underlying reason while few of them did not do so because they did not suspect occurrence of rabies in their dogs. The majority of the study participants revealed practice of killing of rabid animals by

the community and 69.00% of them indicated immediate seeking for medical care at nearby health institutions when bitten by rabid animals. The interviewees also revealed the practice of regular vaccination of dogs and public education among the community to control rabies (Table 4).

Variables	Response	Frequency	Percentage (%)
Vaccination of dogs	Yes No Have no pet	19 70 11	19.00 70.00 11.00
Contact with pets	Yes No	54 46	54.00 46.00
Hand washing when contact with pet	Yes No No pet contact	24 30 46	24.00 30.00 46.00
Pet management	In cages in the home compound Tied in the compound Free roaming Do not own dog	13 25 51 11	13.00 25.00 51.00 11.00
Dog bite history	Yes No	33 67	33.00 67.00
Action after bite	Stay home Report to health institution Use spiritual treatment Seek traditional medicine	3 69 15 11	3.00 69.00 15.00 11.00
Dog vaccination certificate	Yes No Not vaccinated Do not own dog	1 18 70 11	1.00 18.00 70.00 11.00
Reason for not vaccinating dogs	No rabies cases Vaccine not available Not aware of vaccines	6 64 30	6.00 64.00 30.00
Report bite cases to authorities	Yes No	31 69	31.00 69.00
Means of vaccine delivery	Through campaign Home-to-home vaccinations No vaccination	9 10 81	9.00 10.00 81.00

Table 4: Practice of The Community Towards Rabies in The Study Area

➢ Factors Affecting KAPs of the Community

Composite scores were given to the KAP questions the participants who provided correct answers, received a score of 1 and when they provided wrong answer, score of 0 was given. The number of correct answers was counted and pooled together and the range interval score was computed to obtain the overall KAP scores of the participants. Scores with mean range interval values ≥0.05 were categorized as Good KAP score while with mean range interval score ≤0.01 were categorized as poor KAP. More than half of the respondents had good KAP scores (Table 5).

Variable		Poor (%)	Good (%)	X^2	*P*- value
District	Tiyo Asella	19 17	31 33	0.1736	0.048
Sex	Female Male	18 18	28 36	0.3623	0.547
Kebele	Kebele 1 Kebele 4 Kebele 7 Kebele 10 Kebele 13 Shala cabeti	3 4 3 3 4 2	7 6 7 7 6 8	3.6458	

	Oda dawata Tulu dimtu Dankaka konicha Burka cilalo	3 5 4 5	7 5 6 5		
Religion	Muslim Orthodox Protestant Others	9 19 5 3	25 31 10 6	2.788	0.425
Marital status	Married Unmarried Divorce Widow	21 9 4 2	48 13 1 2	7.1461	0.645
Education	Not read and write Read and write Primary school Secondary Higher education	10 6 5 4 11	11 15 5 14 19	4.0730	0.396
Occupation	Government work Private Merchant Housewife Farmer Student Unemployed	6 4 2 4 13 5 2	12 6 5 11 18 8 4	1.9652	0.962
Age	18-30 31-45 >46	13 16 7	26 21 17	1.4493	0.484

- KAP (Knowledge, Attitude, and Practice)

Table 5: Results of Chi-Squared Analysis of Factors Associated with Knowledge, Attitudes and Practices (Kap) Scores of The Participants

5. Discussion

Rabies remains an important disease of both humans and animals in the study area. In Ethiopia, the Fermi type vaccine has been widely used, which is less efficacious than the cell culture derived vaccines. This vaccine is also known for its fatality and disability due to post vaccinal reactions. The situation seems worse in Asella and its surrounding as a result the distance away from the diagnostic and treatment center and the presence of large number of pets and wild carnivores. Thus, the magnitude of cases of rabies in humans and animals calls for rigorous epidemiological studies to have up-to-date and reliable information about the disease. To this end, the KAP study of the community investigated and the results would greatly help the health and veterinary authorities in their plan to prevent or control the occurrence of rabies.

The results of retrospective data showed a total of 634 human rabies exposure cases recorded at Arsi University Teaching and Referential Hospital between 2020 and 2022, of which 388 (61.19%; 95% CI: 57.28 - 6501) completed their PEP anti-rabies vaccination. This might be because they came to the hospital from distant villages; had poor awareness about the vaccination scheme and reluctance of health workers to stick to the treatment regimen. The number of human rabies exposure cases was highest during 2021 (67.5%). It is difficult to interpret this figure as a result of incompleteness of the data available at the hospital. For instance, data on human rabies exposure cases was available only for two months for the year 2020 and only for nine months for the year 2022. However, looking at the number of recorded cases, it seems that the number of monthly cases registered in 2020is comparable to comparable to that of 2021 (37/month in 2021 and 35/month in 2020). This underscores the constant threat to the community throughout
the year.

In the current study, the exposure to rabies suspected animals in Asella was highest in individuals aged less than 15 years followed by those aged 16-30 years, , therefore individuals aged less than 30 years were the most affected. This is in agreement with the study conducted in Bishoftu, Lemuna-bilbilo, Yabelo in Tigray and elsewhere in East African region [20-22]. In the present investigation, males were shown to be at higher risk of exposure to rabies than females. This could be due to the socio-cultural influence of allocating most of the outdoor activities to males while females mostly work indoors. Similar findings were observed by the different studies in Ethiopia [23-25]. The study performed by revealed higher prevalence exposure to rabies-suspected animals in individuals younger than 15 years in Western Ethiopia. This could be due to higher activity of younger individuals and their close intimacy with dogs and cats [25,26].

In this study, 63% of the respondents mentioned the host range of the disease, as humans and other domestic animals can be infected by rabies. This result was consistent with that of [27]. This suggests that all domestic animals and humans should be considered in rabies prevention and control programs. More than 87% of respondents in this study obtained information from informal sources. Similarly, respondents from Addis Ababa city indicated informal sources as major sources of information [28]. This might be due to the frequent contact of the community with each other and the culture of discussing issues occurring in their locality. In this study, bites were mentioned as a mode of transmission for rabies to humans by the majority of the respondents, which is consistent with the findings of and a considerable percentage of participants mentioned contact with open wounds via saliva as a mode of transmission. Inhalation and scratching of teeth were also considered means of transmission by a few of the respondents [29].

More than half of the respondents indicated that regular vaccination of dogs was an effective measure for the control of rabies, but the depopulation of stray dogs was reported to be an effective control measure from Bahir Dar, Ethiopia, and from Sir Lanka. Both vaccination and depopulation will play pivotal roles in prevention and control programs, but in this community, vaccination might be preferable [30,31]. A total of 77% of respondents were aware of post-exposure prophylaxis. In the current study, only 19 (19.0%) of the study participants used the rabies vaccine for their dogs. These findings are similar to those of studies performed in and around South Gondar, Northwest Ethiopia while higher in Indonesia (74%), Sri Lanka (76%), Kenya (35%) and Gondar (42%), and [32-35]. However, these results was greater than those of studies conducted in Jimma (4.8%), which indicates a gap between the supply and demand of the rabies vaccine [36].

Most of the respondents (69.0%) in this study preferred health institutions, but studies conducted in Addis Ababa, Ethiopia, reported that 58.3% of the participants had strong beliefs about traditional healers in and around Dessie city, in Araba Minch and in Abia state, Nigeria these studies reported the reliance of the community on traditional practices [27,36,37]. The preference for traditional practices might arise from many factors, including easy access to traditional medicine and lack of awareness.

Approximately 74.2% of respondents said that rabies affected all warm-blooded animals, including humans, and 66.8% of participants said that the dog rabies vaccine could be obtained from authorized governmental institutions. Most of the respondents were able to identify the typical clinical signs of rabies for both animals and humans and were aware that rabies is transmitted via bites or licks from rabid dogs, cats and other domestic animals. This finding is consistent with previous reports from Ethiopia and other countries [25,31].

6. Conclusion

In conclusion, rabies remains an important disease in the area and mostly affects young individuals who are less than 30 years. The post-exposure anti-rabies treatment is not strictly followed. Although the community has some knowledge and attitude and practice towards rabies, which was gained from the informal sources, there is still KAP gaps regarding the mode of transmission, clinical signs, deadly nature of the disease, and lack of awareness on the first aid measures to be taken after a case of rabies suspected animal bite.

Limitations of the study

The retrospective data used in this study was obtained from records of individuals bitten by rabies suspected animals. The data spans a duration of three years, however, records of bite cases were obtained for few months and were incomplete. Thus, the findings do not provide representative evidence for the prevalence of post-exposure prophylaxis.

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