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Assessment of the Community's Knowledge, Attitudes, And Practices Towards Common Zoonotic Diseases And Their Prevention And Control Measures In Kellem Wollega Zone, Western Ethiopia

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Abstract

A cross-sectional study using a structured and semi-structured questionnaire was conducted from July 15 to September 30, 2022, in Kellem Wollega Zone, with the main goal of determining the community's knowledge, attitudes, and practices (KAPs) regarding common zoonotic diseases (Anthrax, Brucellosis, and Rabies) and their prevention and control measures. A total of 392 (267 male and 125 female) respondents were interviewed face to face that includes 50 (12.8%) degree and above, 66 (16.8%) diplomas, 99 (25.3%) grade 1-8, 48 (12.2%) learning or completed high school and 129 (32.9%) uneducated respondents. With respect to occupation, 46 (11.7%) animal health and human health professionals, 66 (16.8%) other experts, 56 (14.3%) students, 34 (3.6%) merchants, and 190 (48.5%) farmers were contacted for interviews. The community's Knowledge, attitudes, and practices of the study area regarding zoonotic diseases were 221 (56.4%), 317 (80.8%), and 219 (55.8%), respectively. From the total of 263 educated respondents, 178(67.7%) have good knowledge, good perceptions, and practices regarding common zoonotic diseases, while only 85 (32.3%) of them have no information about zoonotic diseases. But, of the total 129 uneducated respondents, only 51(39.5%) have general knowledge, good perceptions, and practices on these diseases, and 78(60.5%) of them heard nothing about zoonotic diseases. In general, out of 392 respondents, 186 (47.5%) have general information on all common zoonotic diseases in the study area (Anthrax, Brucellosis, and Rabies). More respondents have awareness of Rabies 213 (54.3%), followed by Anthrax 201 (51.3%) and Brucellosis 90 (22.9%) as indicated in **Table 2 and Figure 3**. Statistically, sex, educational level, and type of occupation have a significant impact ($P<0.05$) on the knowledge, attitudes, and practices of the community on zoonotic diseases **(Table 3)**. This indicates that females, uneducated respondents, and those respondents with non-related occupations to the health profession were found to have less awareness of zoonotic diseases. It may be due to a lack of training or education, the presence of a knowledge gap from person to person, and differences in circumstances of awareness creation from place to place on zoonotic diseases. Therefore, designing a strategic and continuous health education is mandatory and all concerned professionals need to be committed to creating awareness for the community on zoonotic diseases.

Key words: Zoonoses, KAPs, Kellem Wollega, Community, questionnaires, respondents.

Introduction

Zoonotic diseases (also called zoonoses) are infectious diseases that can spread between animals and humans by direct or indirect contact of animals harboring the diseases, through food, water, airborne, arthropods, or the environment **[27]**. The term "zoonoses" is derived from the Greek words "zoon", which means animal, and "noses", which means illness **[9,3]**. The World Health Organization (WHO) estimates that 75% of human diseases are zoonotic in origin **[9,36,35,32,37,19]** and also emphasizes that two-thirds of human infectious diseases exert a heavy public health and economic burden on the global community originating from animals. There are so many common zoonotic diseases that are widely distributed in the world. Anthrax, Rabies, Brucellosis, Zoonotic avian influenza or bird flu, bovine tuberculosis, cat scratch fever, Ebola, West Nile virus, Hansen's disease (leprosy), Zika fever, trichinosis, swine influenza, and histoplasmosis **[16,17]**.

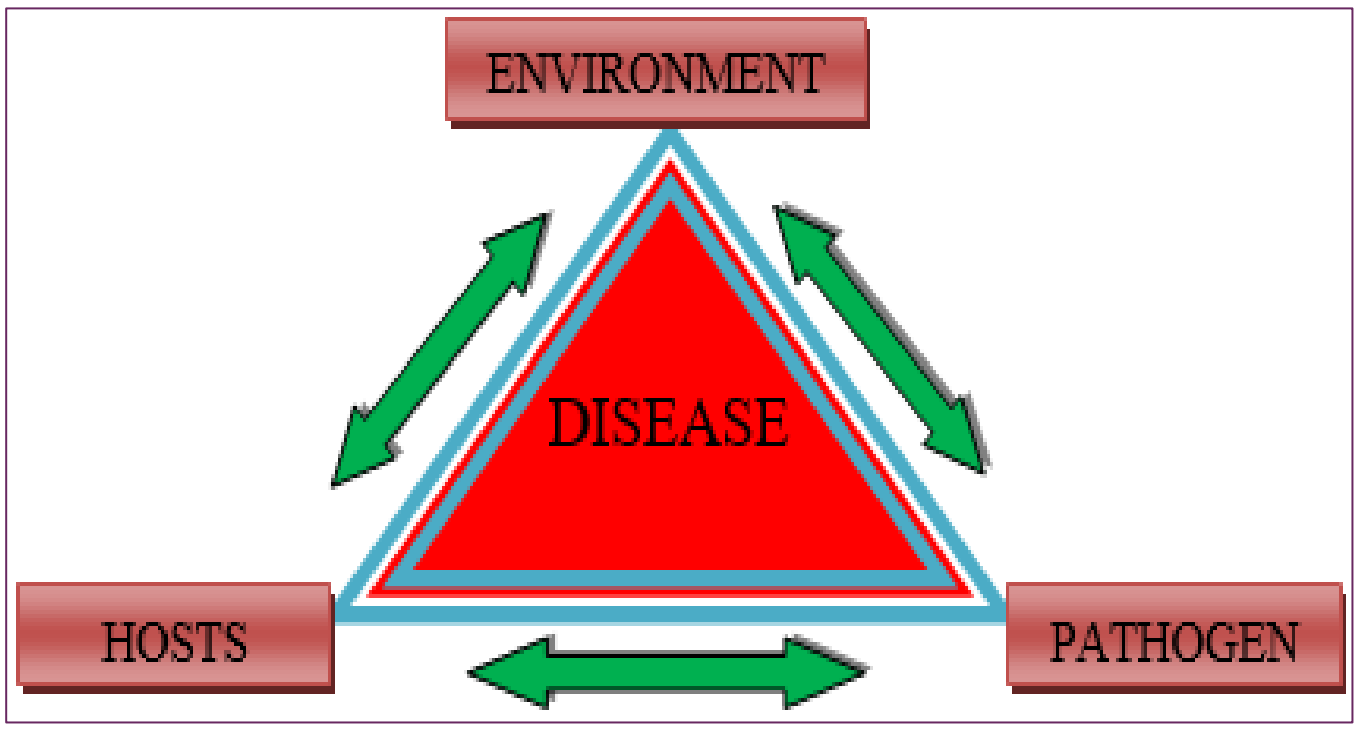
Zoonotic diseases continue to be a threat to global health, causing millions of deaths and economic losses every year and representing a major public health problem around the world due to our close relationship with animals in agriculture, as companions, and in the natural environment **[24,9]**. They can also result in deaths and disruptions in the production and trade of animal products for food and other purposes **[40,24,7,26,9]**. Every year, endemic zoonoses cause many cases of illness and a large number of deaths, making them global health problems **[17,30,22]**.

The causative agents or pathogens of zoonotic diseases are bacteria (Anthrax, Tuberculosis, Brucellosis, Lyme disease, Salmonellosis, and Plague), viruses (Rabies, Avian Influenza, Ebola, Acquired immune deficiency, AIDS, and Zika), fungi (ringworm), protozoa or other parasites (Trichinosis, Toxoplasmosis, Trematodosis, giardiasis, malaria and echinococcosis), and/or may involve unconventional agents **[9,29]**. Anthrax is caused by bacteria called Bacillus anthracenes. Bacillus anthracenes is a gram-positive,

rod-shaped bacterium. It produces toxic complexes like edema factor, protective antigen, and lethal factor. This factor damages capillary walls and interferes with blood clotting, leading to edema, shock, and death. Brucellosis is caused by Brucella species (Brucella abortus, B. melitensis, B. suis, B. canis, B. ovis, and B. neotomae). Rabies is a viral disease caused by the Rhabdovirus family, rabies Virus (Lyssavirus type 1); negative-stranded RNA virus.

Zoonotic diseases can be transmitted between animals and humans in different ways, including through airborne, direct contact with infected animals, contact with contaminated inanimate objects, oral ingestion, and insect transmission **[31,20,25]**. In both developing and developed countries, the emergence of new zoonoses might be the result of either newly identified pathogens or agents that are already known and re-emerged usually appearing in animal species in which the disease had not formerly been detected **[6]**. In rural parts of Ethiopia, people are mainly dependent on animals, and their relationship with them is very close. People use raw animal products as sources of food which may predispose them to zoonotic diseases **[1]**. Generally, transmission of zoonotic infection requires three elements: pathogen, susceptible host, and suitable environment **[14]**.

Figure 1: Disease Ecology Diagram; Zoonotic Disease Transmission



Zoonotic infections originate and spread at the interface between humans, animals, and their environment, making them candidates for the one health approach to disease prevention and control **[18,23]**.

Zoonotic diseases of virus origin have no effective treatment though vaccinations are available against some diseases for prevention. The prevention and control strategies for zoonotic diseases primarily rely on creating public awareness, Providing regular vaccination for livestock and the public against this zoonotic disease (if available), Monitor sporadic outbreaks that occur in wild and domestic animals, bio-safety, bio-security, and food safety. In resource-scarce developing countries like Ethiopia, improving the knowledge, attitude, and practices of animal owners about zoonotic diseases is a critical point to contain the spread of zoonotic diseases **[12,13,28]**. One health approach is defined as a collaborative, multi-sectoral, and trans-disciplinary approach working at the local, regional, national, and global levels to achieve optimal health outcomes by recognizing the interconnection between people, animals, and their shared environment **[39,3]**. According to the manual of FAO and Texas A&M AgriLife 2021, "One Health Approach" means communicating, collaborating, cooperating, and working together to achieve better health for humans, animals, and the environment; the health of people is connected to the health of animals and the environment. Then the link between humans, animal populations, and the surrounding environment needs to be done with proper care in order to protect serious consequences both for humans and animals. **[14]** stated that animal and human health professionals ought to educate the public about zoonotic diseases to effectively practice the prevention, control, and eradication strategies of zoonoses. In addition, according to one health approach mechanism, multi-sectoral coordination of zoonotic illnesses refers to any formalized standing group that strengthens or develops collaboration, communication, and coordination across the sectors responsible for addressing zoonotic diseases and other health concerns at the human-animal-environment interface **[9,10]**.

Significance of the Study

This study identified the current status of the community's Knowledge, attitudes, and practices towards common Zoonotic diseases and their prevention and control measures in the study area. It may lead to further action by concerned bodies depending on the results and recommendations forwarded and could initiate animal health and human health professionals to create awareness for the community of the study area.

Objective

This study was conducted to assess the community's knowledge, attitudes, and practices (KAPs) towards common zoonotic diseases and their prevention and control measures in the Kellem Wollega zone starting from July 15 to September 30, 2022.

Materials And Method

Study Area

The study was conducted in 6 (six) randomly selected districts of Kellem Wollega zone, Western Ethiopia. It is located about 652km to the west of Addis Ababa/Finfinne. The agroecology of the study area includes Highland (26.1%), Midland (41.47%), and Lowland (32.49%). The study area is located between the latitude of 8^0 10' 58" N-9^0 21' 53" N and longitude 34^0 7' 37" E-35^0 26' 53" E. The annual rainfall of this zone ranges from 1200 to 1600 mm and its altitude ranges from 500-1600 mal. The average temperature

of the study area is 27^0 C. This zone covered 10,488 km^2, accounting for about 2.9% of Oromia Regional State. The study area has a huge livestock population, and comfortable climate conditions for breeding animals, and more than 85% of the community is dependent on a mixed agricultural system **[21,25]**. Kellem Wollega zone has 12 administrative districts and 279 peasant associations, or kebeles. According to the administrative data collected from all 12 districts in January/2022, the livestock population of this zone is comprised of cattle: 1,229,303 (local 1,228,220 and hybrid 1,083), Sheep: 758,399; goats: 472,152; equines: 186,614; and poultry: 2,312,300 (local 1,266,321 and hybrid 1,045,979) **[5,21]**; and human population is 797,666 (males: 401,905 and females: 395,761) **[4]**.

Figure 2: Map of Kellem Wollega Zone, Google image.

Study Design

A cross-sectional study design, based on questionnaires translated into the local language, Afaan Oromoo, was used to evaluate the community's knowledge, attitudes, and practices towards common zoonotic diseases and their prevention and control measures starting from July 15 to September 30, 2022. The questionnaire and interview were also designed to assess the knowledge, attitudes, and practices of the community regarding the transmission ways, symptoms, and their expectations on the impact of eating/drinking raw animal products or byproducts.

Study Population

The study population was the residents of randomly selected districts of the Kellem wollega zone; namely Dalle Sadi, Dalle Wabera, Hawa Gelan, Lalo Kile, Sadi Chanka, and Sayyo. The total human population of the study area is 797,666, of which 401,905 are males, and 395,761 are females. Of this huge number, only 76,277(9.56%) are urban inhabitants **[4]**.

Sample Size Determination

The sample size of this study is determined using the **[34]** formula by considering a 95% confidence interval. In this study, three hundred ninety-two (392) respondents were contacted face-to-face for the interview questionnaire.

$$n = \frac{1.962Pex\ (1-Pex)}{d^2}$$

Where Pexp = expected prevalence; n= is required sample; d= desired precision; and 1.96

Z-value = for 95% confidence level. Based on the above formula, the total number of respondents interviewed should be 384, but in this study, 392 respondents were interviewed since there was no such research done in this zone and to increase the precision of the study.

Method of Data Collection

A detailed and organized questionnaire format was designed in an attempt to generate information related to and used for the face-to-face interview to evaluate the community's knowledge, attitudes, and practices about common zoonotic diseases in the study area and their prevention and control measures. Besides, the respondents were asked for their consent and briefed about the objective of the study before the commencement of the interview. The KAPs tool focused on the knowledge, attitude, and practices of the community on signs/symptoms, transmission ways, negative impacts on human health, and control and prevention of zoonotic diseases. The places where questionnaires/interviews are held include door-to-door, meeting events, religious halls, government organizations, Non-governmental organizations (NGOs), Schools, and higher education agencies. The data was collected by the 1st author of this study and in some places by skilled and oriented professionals.

Data Analysis

The questionnaire data were entered and managed in an MS Excel worksheet. It then improved to SPSS version 16 for descriptive statistical analysis. The frequency and percentage were utilized to determine the Knowledge, Attitudes, and Practices of the community towards common zoonotic diseases and their prevention and control measures in the study area. A Pearson Chi-square test was used to determine the statistical association variables of the study, and a P-value <0.05 was considered significant.

Study Instrument

In this questionnaire study, materials such as paper, pen, correction fluid, marker, hand notes, agenda, computer, and other computer accessories were used.

Ethical Consideration

The proposal, questionnaires, and application letter were submitted to concerning bodies. An official letter from MoA/FAO and from Kellem Wollega Zone Agriculture Office was submitted to government organizations, non-government organizations, private organizations, and religious organizations in order to facilitate the study.

Result

Socio-demographic status of Respondents

In this study, 392 (267 male and 125 female) respondents were contacted and interviewed face to face in six randomly selected districts to determine their

knowledge, attitude, and practices on common zoonotic diseases in the study area. The study categorized respondents' age as Young (15-30), Adult (31-50), and Old (Above 51). The interviewed respondents include 50 (12.8%) degree and above, 66 (16.8%) diplomas, 99 (25.3%) grade 1-8, 48 (12.2%) learning or completing high school, and 129 (32.9%) uneducated respondents. With respect to occupation, 46 (11.7%) animal health and human health professionals, 66 (16.8%) other experts, 56 (14.3%) students, 34 (3.6%) merchants, and 190 (48.5%) farmers were contacted for an interview **(Table 1)**.

Table 1: Socio-demographic category of respondents in number and percentage

Category and Number of Respondents												
District	**Sex**		**Age**			**Occupation**					Total number of respondents	Percentage (%)
	Male	Female	Young (15-30)	Adult (31-50)	Old (Above 51)	Animal health/Medical	Other experts	Student	Merchant	Farmers		
Dalle Sadi	46	19	12	53	0	11	5	8	6	35	65	16.6
Dalle Wabera	38	32	21	48	1	1	9	4	6	50	70	17.9
Hawa Gelan	31	31	24	30	8	14	16	7	23	2	62	15.8
Lalo Kile	53	14	27	36	4	6	13	12	22	14	67	17.1
Sadi Chanka	60	6	10	56	0	5	10	3	21	27	66	16.8
Sayyo	39	23	33	21	8	14	10	17	17	4	62	15.8
Sum	267	125	127	244	21	46	66	56	34	190	392	

The Overall Awareness of the Community on the Common Zoonotic Diseases

Out of 392 respondents who participated in this questionnaire/interviews, 234 (59.7%) have heard about zoonotic diseases either from social media, mass media, or health professionals, of which 145 of them were males and 89 were females, The rest, 158 (40.3%) of the respondents haven't heard any information about zoonosis. Additionally, 186 (47.4%) of the respondents replied that they have an awareness of the common zoonotic diseases (Anthrax, Brucellosis, and Rabies) selected to be assessed in this study. On the other side, 15 (3.8%) of the respondents have awareness only of Anthrax, 4 (1.02%) of them only of Brucellosis, and 27 (6.9%) of them only of Rabies, whereas 160 (40.82%) of them replied that they do not have any awareness on these common zoonotic diseases.

Table 2: Proportion of respondents having awareness of Anthrax, Brucellosis, and Rabies

Variables	**Category**	**Number and Percentage of Respondents on Each Disease**					**P-Value**
		Anthrax	Brucellosis	Rabies	All (Anthrax, Brucellosis	None of These diseases	
Sex	Female	11	2	4	71	37	0.004
	Male	4	2	23	115	123	
Age	Young (15-30)	9	0	16	56	46	0.2
	Adult (31-50)	6	3	4	123	108	
	Old (Above 51)	0	1	7	7	6	
Educational Level	Degree and above	0	1	1	47	1	0.001
	Diploma	6	0	1	50	9	
	High School	5	0	4	18	21	
	Grade 1-8	0	2	3	42	52	

	Non-educated	4	1	18	29	77	
Occupation	Professionals	0	1	0	45	0	0.001
	Other experts	6	0	2	49	9	
	Students	2	0	3	17	34	
	Merchants	3	0	4	17	10	
	Farmers	4	3	18	58	107	
Total		15	4	27	186	160	
Percentage %		3.8	1.02	6.9	47.4	40.82	

Community's Knowledge, Attitudes, and Practices (KAPs) Regarding Zoonotic Diseases

Knowledge

Out of 392 respondents reached and evaluated for their knowledge, attitudes and practices regarding common zoonotic diseases (Anthrax, Brucellosis, and Rabies) in Kellem Wollega zone, 229(58.4%) respondents (143(62.4%) male and 86(37.6%) female) have got awareness either through education and training, from animal health or human health professionals in the study area at veterinary clinics, at health facilities or during vaccination campaign. But, 163(41.6%) of the respondents did not get any awareness from these professionals. On the other side, 211(53.8%) of the respondents well understood the source of zoonotic diseases, while 181(46.2%) had no information about the sources of zoonotic diseases. With respect to transmission, prevention, and control methods of zoonotic diseases, only 188(48%) respondents well listed all necessary transmission, prevention, and control methods, while 26 (6.6%) of them listed only prevention methods, 9 (2.3%) of them listed only controlling methods. But, 169 (43.1%) of the respondents listed nothing about transmission, prevention, and control methods of these zoonotic diseases.

In other ways, 240 (61.2%) of the respondents understood that removing an aborted fetus or assisting in the removal of retained placenta with bare hands could cause them to contract brucellosis, and 152 (38.8%) of them did not identify its impact on their health. Out of 392 respondents, 221 (56.4%) have general knowledge of zoonotic disease transmission ways, signs/symptoms, prevention, and control methods. There was a significant difference between male and female respondents (P=0.004) indicating that males have more chance of getting awareness than females that females are so busy at daily home-based activities and have less chance to participate in such training in the study area.

Attitudes

Of the total 392 respondents, 310 (79.1%) have good perceptions and believed that the collaboration of the community, animal health professionals, human health professionals, and environmental and wildlife workers (an integrated one health approach) have a great role in prevention and control of zoonotic diseases, while 82 (20.9%) of them have negative perceptions and did not understand about the role of one health approach. 329 (83.9%) of the respondents agreed with the role of veterinarians in preventing and controlling zoonotic diseases, while 63 (16.1%) of them did not agree with this idea. In other ways, 362 (92.3%) agreed that antemortem and post-mortem inspection of food animals done by animal health professionals in abattoirs plays a great role in securing the community's health, while 30 (7.7%) did not agree with this scientific idea. Additionally, 265 (67.6%) of the respondents agreed with the scientific ideology, "No healthy animal, no healthy community," while 127 (32.4%) did not agree with this idea. On average, about 317 (80.8%) respondents have good perceptions regarding zoonotic disease transmission ways, prevention, and control methods through the collaboration of community, animal health, and human health professionals, environmental protection experts, and wildlife workers (integrated one health approach).

Practices

Out of 392 respondents, 216 (55.1%) agreed that having close contact with animals and wildlife can pave the way to acquiring zoonotic diseases, while 176 (44.9%) did not agree with this scientific idea. Regarding dog bites, sickness after eating raw meat and drinking unpasteurized milk, 231 (58.9%) of the respondents agreed and believed to contact the nearest health facilities for an emergency, while 161 (41.1%) of them chose to use cultural drugs, what we call it ethno-veterinary medicine. On the subject of transmission, 199 (50.8%) of the respondents understood that they may acquire diseases from eating uninspected raw or undercooked meat and drinking unpasteurized milk, while 193 (49.2%) of them did not understand its effect. With regard to prevention and control methods, 228 (58.2%) of the respondents replied that they have good practices in burying dead animals and aborted fetuses, while 162 (41.8%) replied that they used to leave dead animals and aborted fetuses in an open environment. Averagely, 219 (55.8%) of the respondents in the study area have good practices to prevent and control zoonotic diseases.

Figure 3: Awareness status of the community on Anthrax, Brucellosis and Rabies

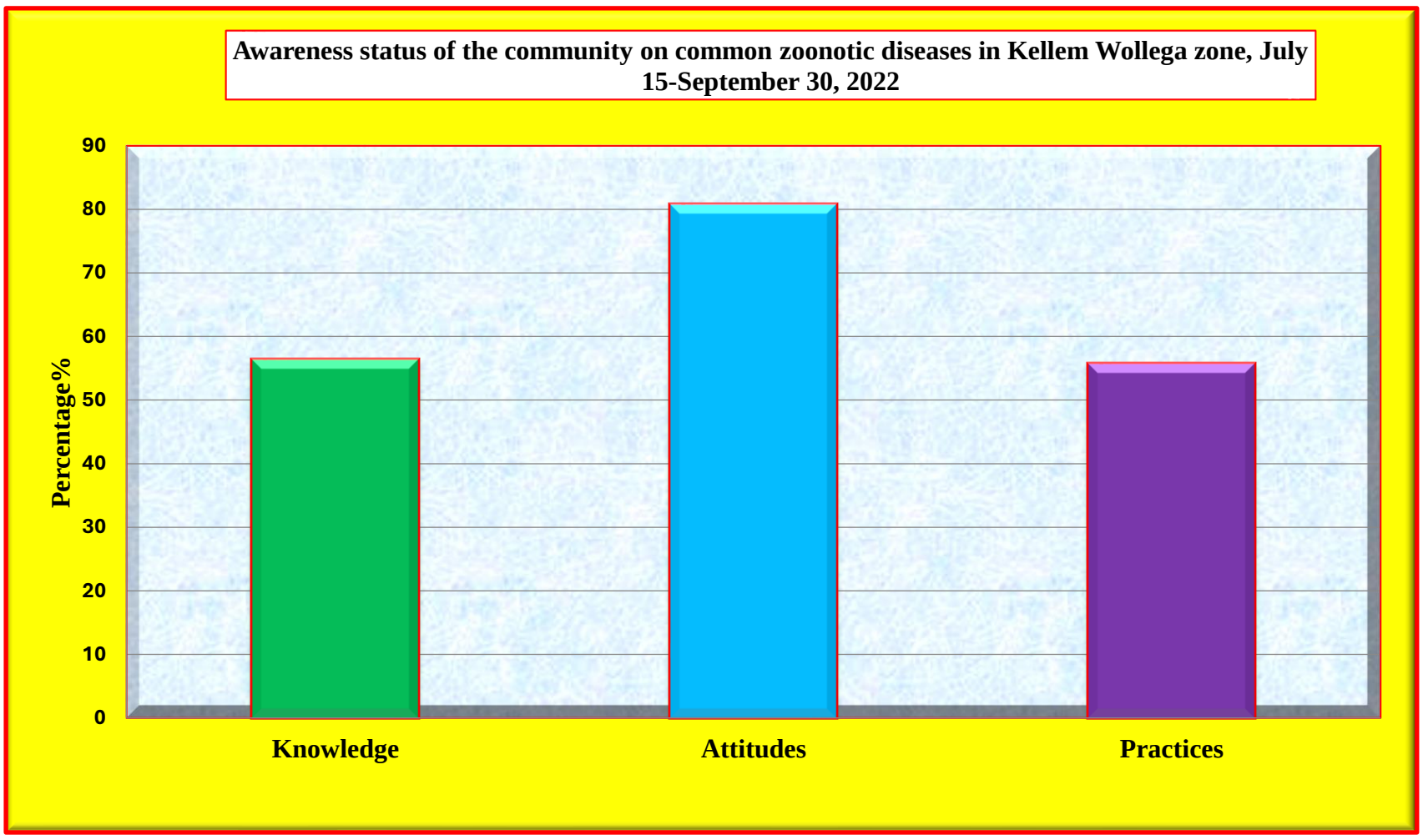


Table 3: Questionnaires and Percentage of Respondent's Responses on Zoonotic Diseases

Type of Questionnaires addressed to respondents	Respondent's response and percentage
I. KNOWLEDGE (Hint: Kq-question on knowledge)	
Kq1a: Have you ever heard of zoonotic diseases/zoonoses like Anthrax, Brucellosis, and Rabies?	Yes (234; 59.7%), No (158; 40.3%)
Kq1b: If question no.1 is Yes, which disease?	Only Anthrax (14; 3.6%), Only Brucellosis (4; 1%), Only Rabies (31; 7.9%), and all of them (185, 47.2%)
Kq2a: Have got awareness either from animal health or human health professionals?	Yes (229; 58.4%), No (163; 41.6%)
Kq2b. If question no.2 is Yes, on which disease?	Only on Anthrax (15; 3.8%), Only on Brucellosis (4; 1%), Only on Rabies (27; 6.9%), and on all of them (186, 47.4%)
Kq3a: Do you know the main sources, signs, and symptoms, transmission ways, prevention and control methods of these diseases?	Yes (230; 58.7%), No (162; 41.3%)
Kq3b: If question no. 3 is Yes, list main sources	Domestic animals 20(5.1%); Wild animals 110(28.1%); Animal products and byproducts 51 (13%) and All of them 211 (53.8%)
Kq3c: List the signs and symptoms, transmission ways, prevention, and control methods.	Listed well all methods and signs/symptoms (188; 47.9%), Listed only prevention methods (26; 6.6%), Listed only transmission methods (9; 2.3%), and Listed nothing (169; 43.1%)
Kq4: Do you know using bare hands while removing an aborted fetus or assisting removal of retained placenta lets you get dangerous disease?	Yes (240; 61.2%), No (152; 38.8%)
II. ATTITUDES (Hint: Aq: question on attitude)	
Aq1: Do you think that the collaboration of animal and human health (an Integrated One Health Approach) is the best way for the prevention and control of zoonotic diseases?	Yes (310; 79.1%), No (82; 20.9%)

Aq2: Do you think that animal health professionals have a role in the prevention and control of zoonotic diseases?	Yes (329; 83.9%), No (63; 16.1%)
Aq3: Do you think that antemortem inspection of live animals and postmortem inspection of meat after slaughtering have a great role in the securing community's health?	Yes (362; 92.3%), No (30; 7.7%)
Aq4: Do you agree with the scientific ideology, **"No healthy animal, no healthy community?"**	Yes (265; 67.6%), No (127; 37.4%)
III. PRACTICES (Hint: Pq- Question on practices)	
Pq1: Do you think that having close contact with animals/wildlife can transmit diseases?	Yes (216; 55.1%), No (176; 48.9%)
Pq2: Have you participated in awareness creation for the community on the prevention and control of zoonotic diseases?	Yes (188; 47.9%), No (204; 52.1%)
Pq3: If the dog bites your animal, your child, and/or your neighbor's family, or if they eat raw meat and get ill, do you contact the nearest animal or human health professionals for an emergency?	Yes (231; 58.9%), No (161; 41.1%)
Pq4: Have you had or currently have uninspected raw meat?	Yes (54; 13.8%), No (338; 86.2%)
Pq5: Do you know that eating uninspected raw meat makes you ill?	Yes (199; 50.8%), No (193; 49.2%)
Pq6: Do you burry animals died with or without showing clinical signs?	Yes (228; 58.2%), No (164; 41.8%)
Pq7: What do you do if you encounter an aborted fetus?	Yes (228; 58.2%), No (164; 41.8%)

Discussion

In the current study, the average of the community's knowledge, attitudes, and practices regarding common zoonotic diseases is found to be 64.3% (Knowledge: 56.4%, Attitude: 80.8%, and Practice: 55.6%). This study revealed the lower level of the community's knowledge, attitude, and practices regarding common zoonotic diseases as compared to the report of **[11]**, who reported the community's awareness status on rabies and anthrax as 82.5% and 79.55%, respectively, in Lalo Kile district of Kellem Wollega Zone, Ethiopia. However, the current result is higher than the report of **[33]** who reported 55.4% in Jimma, southwestern Ethiopia, and **[2]** who reported 50.8% in and around Dodola town, West Arsi Zone, Ethiopia. This may be due to a lack of training and the presence of a knowledge gap from place to place and from urban to rural on zoonotic diseases. And may be due to most of the interviewed respondents in the current study being uneducated and farmers who may not be trained in zoonoses. In the current study, the most frequent known zoonotic disease among respondents in the study area is Rabies (54.3%), followed by Anthrax (51.3%) and Brucellosis (22.9%). This result is also lower than the report of **[38]**, who reported the knowledge of the community on Anthrax, Brucellosis, and Rabies was 64.5%, 24.2%, and 98.2% respectively, in and around the Yabello district, Oromia regional state, Ethiopia. It may be due to the difference in respondents' educational level or type of occupation, the difference in access to media and Veterinary or public health services/professionals, the difference in the commitment of professionals to teach the community about these diseases, the presence/absence of health initiative projects and might also be due to urban residents are more familiar with transmission ways, sign and symptoms, prevention and control methods of these diseases than the rural one. But in the case of Brucellosis, this result almost all coincides with the report of **[35]**, who reported 22.1% in the Mana and Limmu Kosa districts of Jimma Zone, Southwest Ethiopia. In this study, except for age ($P > 0.05$), all sexes, educational levels, and types of occupations statistically had a significant impact ($P < 0.05$) on the community's Knowledge, Attitudes, and Practices on zoonotic diseases in this zone. This indicates that the age of the respondents has no consistent influence on awareness of zoonotic diseases and the current study clearly revealed that uneducated respondents and farmers in the study area had low awareness of zoonotic diseases.

Conclusion And Recommendations

The status of the community's knowledge, attitude, and practices on zoonotic diseases is found to be 64.3% (Knowledge: 56.4%, Attitude: 80.8%, and Practice: 55.6%). The most frequent known zoonotic disease among respondents in the study area was Rabies (54.3%), followed by Anthrax (51.3%) and Brucellosis (22.9%). This report showed the higher knowledge status of the community on zoonotic disease in the study area when compared to the report of **[33]** who reported 55.4% in Jimma, southwestern Ethiopia, and **[2]** who reported 50.8% in and around Dodola town, West Arsi Zone, Ethiopia. However, lower as compared to the report of **[11]**, who reported the community's knowledge, attitude, and practice of Lalo Kile district of Kellem Wollega Zone, Ethiopia, on rabies (82.5%) and anthrax (79.55%). This may

be due to the lack of training and the presence of a knowledge gap from person to person, place to place, and from urban to rural on zoonotic diseases. And also may be due to the respondent's educational level or type of occupation, difference in access to media, and Veterinary or public health services/professionals. The majority of uneducated farmers had no information about zoonotic diseases and practicing in the wrong ways may put them at high risk of acquiring the diseases. Therefore, the government should improve the strategy of awareness creation programs in order to upgrade the community's knowledge, attitudes, and practices on zoonotic diseases in this study area. The community awareness creation through the collaboration of animal health and human health professionals on zoonotic disease transmission ways, signs and symptoms, and prevention and control methods should also be encouraged in the study area. Detailed epidemiological and socio-economic significance of the disease in animal health and human health should also be studied, and health initiative programs and NGO projects should be offered by the government to facilitate awareness of farmers and uneducated communities on common zoonotic diseases in the study area.

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