

Awareness of Rabies in Kafin-Hausa Local Government Area of Jigawa State

Kabir Muhammad

Department of Biological Sciences, Faculty of Natural and Applied Sciences, Sule Lamido University, Kafin-Hausa, Nigeria

Email address:

Muhammadkabir751@gmail.com

To cite this article:

Kabir Muhammad. Awareness of Rabies in Kafin-Hausa Local Government Area of Jigawa State. *American Journal of Zoology*. Vol. 4, No. 3, 2021, pp. 45-49. doi: 10.11648/j.ajz.20210403.14

Received: April 12, 2021; **Accepted:** May 17, 2021; **Published:** August 27, 2021

Abstract: Rabies has one of the highest case-fatality ratios of any infectious disease, almost always fatal, caused by lyssavirus infection. It is associated with dysfunction of the neurons after the entrance of rabies virus to the central nervous system, usually in the spinal cord. The bite route is still regarded as the most important means of transmission. Although wild animals are regarded as a host for rabies, dogs and cats remain the most important sources of human exposure. The disease is worldwide in distribution except in Antarctica. The most affected regions are tropical countries in Africa, Asia and South America, which have limited resources for diagnosis, treatment, control surveillance and vaccine production and improvement. Controlling rabies is challenging, due to wide host range and worldwide distribution, availability of many free roaming/stray dogs and lack of awareness about the disease. Diagnosis of the rabies is one of the most difficult duties because of non-specific clinical symptoms, long incubation period and limited diagnostic techniques. Vaccines are expensive and consequently, out of the reach for many people. Apart from high cost and unavailability, they are associated with serious neurologic complications. The economic costs of rabies in Nigeria are associated with vaccinations, laboratory diagnosis, treatment and public education.

Keywords: Rabies, Dogs, Questionnaire

1. Introduction

1.1. Background of the Study

Rabies is an acute encephalitis illness caused by rabies virus. Rabies is the prototype species of the genus *Lyssavirus* in the family *Rhabdoviridae* [25]. The virus effect virtually affects all mammals and infected species in variably died from the disease once clinical signs are manifested [13, 20], rabies is endemic in developing countries of Africa and Asia [27], and most human deaths from the diseases occur in these endemic countries [28]. Human mortality from endemic canine rabies was estimated to be 55,000 deaths per year and was responsible for 1.74 million disability adjusted life year, losses each year [16]. The annual cost of rabies in Africa and Asia was estimated US 583.5 million most of which is due to cost of post exposure prophylaxis (PEP) [16, 18, 26]. In Nigeria being one of the developing countries is highly endemic for rabies [23]. Approximately 10,000 people were estimated to die of rabies in Nigeria which make it to be whose effect affecting countries in the world dogs are the principal source of infection in the world and the livestock [9]. In Nigeria many

household own dogs usually for guarding properties although there are no formal studies, it is estimated that there one own dogs per five household nationally [9, 21]. Dog management is upon and dogs vaccination limited to few dogs in urban centers [8, 19]. High population of dogs with poor managements contributed to high endemicity of canine rabies In Nigeria [22, 17]. In canine rabies endemic rabies In Nigerian, rabies has also significant economic importance by its effects in livestock's. For examples, In Africa and Asia the annual cost losses as results of livestock rabies US 12.3 million [28, 24].

In Nigerian individuals who are expose to rabies virus upon see traditional healers for diagnostic and treatments of the disease [12]. These widespread traditional practices of handling rabies as cases are believed to enter pier with timely seeking PEP. Rabies victims especially from rural areas seek PEP treatments affect exhausting the traditional medicinal intervention and usually after a loss of life from family members [7].

The available information on rabies is largely based on perceive report on Nigerian held and nutrition research institute zoonoses laboratory, [22, 10] the only rabies diagnostic laboratory in the country. Passive report usually under estimated incidence and are poor indicator of status of

the disease in countries where human and animal information system are in adequate [15, 14] there is lack of accurate quantitative information on rabies both in human and animal and little is known about the awareness of the people about the disease to apply effective control measure in Nigerian

1.2. Objectives of the Study

- 1) To determine the socio-economic characteristics of respondents.
- 2) To assess the level awareness of rabies in Kafin-Hausa Local Government.
- 3) To educate the populace on the significance of rabies and mgt of dog bite.

1.3. Aim of the Study

The aim of this study is to ascertain the level of awareness of Rabies among people in Kafin-Hausa Local Government of Jigawa State.

1.4. Justification

Rabies is a fatal and devastating disease which can actually be prevented if knowledge about the course of the disease is provided to the nomads. Educating them on the deadly disease, its means of transmission and preventive measures will help a long way in preventing the spread of the disease.

1.5. Statement of Research Problem

- 1) One of every ten household ten to have one or more dogs they for guard.
- 2) Knowing that dogs are primary host for Rabies disease, people keeping dogs are at risk of contracting the disease if they are not properly enlightened about the fatal disease, the means of transmission as well as preventive measures.

1.6. Limitations

- 1) Bias by the respondent, due to fear and impression that government wants to eradicate all the dogs in the environment.
- 2) Respondent interviewer confidentiality.
- 3) Language barrier.

3. Materials and Method

3.1. Study Area

The study was carried at Kafin –Hausa local government area of Jigawa state, Nigeria. It has a total land area of about 13800 KM and population of 27058 at 2006 census, it's located at latitude 12,2406 (121426.16N) and longitude 9,131 (95447-016E) at an altitude of 359M above sea level. Kafin - Hausa is North East part of Jigawa State which found along Kano and Maiduguri road and it's bordered to Hadejia, Auayo from North and Bauchi from East, most of the people where Hausa and Fulani tribe.

3.2. Data Collection

The data area generated through distribution of questionnaire the 84 structured questionnaires were administered to identify the awareness of rabies in kafinhaus local governments area field with respect to question ask on a given questionnaire.

3.3. Data Analysis

The information obtained from the respondents was analyzed using simple descriptive statistics.

4. Results and Discussion

4.1. Characterization of Respondents

Table 1 shows socio economic characteristic of respondents of in the study area. These include sex, marital status, age, education status and occupation. Majority of the respondent 983.22%) are male most of the responded (55%) were single followed by (38.33%) married. Also the result shows that majority of the respondent (55%) fall between the age of 18 – 25 years followed by 26 – 40 years at (28.33%) respectively. Majority of the respondent (66.67%) has informal education followed those who attended secondary should (16.67%) the study revealed that majority (45%) of the respondent occupation is farming followed by unemployed at (23.33%) respectively.

Table 1. Social economic and demographic characters of respondent (N=60).

Characterization of Respondents	N=60	Percent (%)
Variables		
Sex		
Male	50	83.33%
Female	10	16.67%
Total	60	100%
Marital Status		
Single	33	55%
Married	23	38.33%
Divorced	4	6.67%
Total	60	100%
Age		
18 – 25	33	55%
26 – 40	17	28.33%
5	10	16.67%
Total	60	100%
Education Status		
Primary	5	8.33%
Secondary	10	16.67%
Trader	5	8.35%
Informational education	40	66.67%
Total	60	100%
Occupation		
Farmer	27	45%
Civil servant	9	15%
Trader	10	16.67%
Unemployed	14	23.33%
Total	6	100%

Source: field survey, 2016

4.2. Interest of the Respondent on Keeping Dogs

Table 2 above shows interest of respondents on keeping dog the number at dogs kept by the respondents' reason for keeping the dogs for how long they kept the dogs and the age of the dog. Majority (83.33%) of the respondents keep dog and only (16.67%) of the respondents did not keep dog. The table reveals that majority (38%) of the respondents keep one dog following (16%) who keep 2, dogs (12%) keep 3 dog (10%) of the respondents keep 5 dogs and only (4%) of the respondents keep 4 dogs. The table also revealed that majority (52%) of the respondents keep dog for Guard (36%) of the respondents keep dog for hunting and those keep dog for pet and breeding are (6%) each. The result shows majority of the respondent (66%) keep dog for two years. Followed by (20%) keep dogs of 2 – 4 years and only (14%) keep dog of more than 4 years. It also shows that majority (54%) of the respondents keep dogs of age ranging from 1 – 3 years followed by those that keep dog of greater than 3 years and only (10%) keep dogs under year [6, 2].

The table reveals the knowledge of respondents on rabies where (93.33%) of the respondents has knowledge of the disease and only (6.66%) of the respondents did not have any knowledge on the rabies, many of respondents called the disease with different names where majority (33.92%) of the respondents called the disease Mahaukari (28.57%) called it with cow in kure (23.2%) of the respondents call it Karen hauka and only (14.28%) of the respondents call it Haukankare. The result also shows the knowledge of respondents on the zoonosis of rabies where majority (93.33%) of the respondents has knowledge on the zoonosis of the disease and only (6.66%) of the respondents did not know mode of transmission of the disease was also shown in the Table 2 where majority (87.5%) mean of transmission of the disease is through bite followed by (7.14%) that did not know and only (5.35%) is through eating dog meat [3].

The table reveals the knowledge of the respondents about vaccination where majority (93.33%) of the respondents have the knowledge while (6.66%) did not have. It also shows whether the dogs are vaccinated or not where it is observed that majority (84%) of the dogs are vaccinated while only (16%) of the dogs kept by the respondents are not vaccinated [2].

The table also reveals the sponsors of the vaccination where majority (45.23%) of the vaccines offered are sponsored by state government, (30.93%) are sponsored by the dog rearers and only (23.80%) of the vaccination offered are sponsored by local government the issuance of vaccination certificate is also shown in the table where majority (84%) are issued with the certificate and only (16%) are not issued with the certificate. Majority (62.90%) of the respondents' dogs bitten some are and only (38%) dogs kept by the respondents did not bite anybody. Majority (58.0%) of the dogs bite when they come provoked while only (41.93%) bites unprovoked. Majority (84%) of the respondents have knowledge about taking anti rabies vaccine in unprovoked bite while only (10%) did not take any anti rabies vaccine upon unprovoked bite [1]. Table also reveals the measure taken when bitten by dog where majority (41.93%) take

the person to hospital (32.25%) did not take any action and only (25.81%) wash the wooded area [5].

Table 2. Interest of respondent on keeping dogs.

Variable		
Do you keep Dogs?	N=660	Percent %
Yes	50	83.33%
No	10	16.67%
Total	50	100%
How many Dogs kept?	N=50	Percent %
1	29	58%
2	8	16%
3	6	12%
4	2	4%
5	5	10%
Total	50	100%
Reason for keeping Dogs?	N=50	Percent %
Pet	3	6%
Guard	26	52%
Breeding	3	6%
Hunting	18	36%
Total	50	100%
For how long have you dog Being with you?	N=50	Percent %
2 – 2 years	33	66%
>4 years	10	20%
>4 – 4 years	7	14%
Total	50	100%
How old is your dog	N=50	Percent %
<1 years	10	20%
>3 years	27	54%
>3 years	13	26%
Total	50	100%
Know lodge on Rabies	N=60	Percent %
Yes	56	93.33%
No	4	6.66%
Total	60	100%
What is called in your diabetes?	N=56	Percent %
CiwonKare	16	28.57%
Mahaukacincinkare	19	33.92%
Haukankare	8	14.28%
Karen hauka	13	23.2%
Total	56	100%
Knowledge of zoonotic of rabies	N=60	Percent %
Yes	56	93.33%
No	4	6.66%
Total	60	100%
Method of transmission	N=56	Percent %
Don't know	4	7.14%
Bite	49	87.59%
Eating dog meat	3	5.35%
Total	56	100%
Knowledge about rabies	N=60	percent %
Yes	56	93.33%
No	4	6.66%
Total	60	100%
Is your dog vaccinated?	N=50	Percent %
Yes	42	84%
No	8	16%
Total	50	100%
Sponsors of vaccine	N=42	Percent %
Soft	13	30.95%
Local	10	23.80%
State	19	45.23%
Total	42	100%
Issuance of vaccine	N=50	Percent %

Variable		
Certificate		
Yes	42	84%
No	8	16%
Total	50	100%
Dog ever bitten any one?		
Yes	N=50	Percent %
Yes	81	62%
No	19	38%
Total	50	100%
Causation of bite?		
Provoked	N=31	Percent %
Provoked	18	58.06%
Unprovoked	13	41.93%
Total	31	100%
Knowledge about taken		
Anti rabies vaccine unprovoked bite	N=50	Percent %
Yes	42	84%
No	8	16%
Total	50	100%
What to do when bitten by dog		
	N=31	
1 Know take the action	10	32.25%
2 Taking boy to hospital	13	41.93%
3 washing the wound	8	25.80%
Total	31	100%

Source: field survey, 2016

5. Summary

The result of the research shows that most (83.33%) of the respondents keep dog and majority (58%) kept at least a dog. Most (86%) of the respondents keep dog purposely for hunting. It is also discovered that majority (93.33%) of the respondents has knowledge on rabies and most (33.92%) of the respondents called the diseases. Mahaukacinkare in their dialogue most (93.33%) of the respondents has knowledge about the zoonosis of rabies disease and most (93.33%) has knowledge about vaccination against rabies.

Majority (84%) of the respondents vaccinate their dogs most (45.5) of the vaccine offered is sponsored by state government and majority (84%) of the respondents are issued with certificate vaccinating their dogs. It is also revealed that majority (58.06%) of the dogs affected with rabies bites when they are provoked majority (32.25%) of the respondents take the person bitten by dog to hospital as a measure of preventing the person from the disease.

5.1. Conclusion

It is concluded that the respondents in the study area has a knowledge on rabies disease and they vaccinate their dogs against the disease and most of the vaccination offered is sponsored by state of the vaccination offered is sponsored by state government. They also take a good measure towards preventing the zoonosis of the diseases [4, 11].

5.2. Recommendation

Based on the above facts the following recommendations are forwarded:

- 1) The diagnostic technique and available vaccine must be improved.
- 2) Federal and state government should also interpare in sponsoring rabies vaccination.

- 3) Measure campaign and enlighten on rabies should be organized by government and force vaccination programs sponsored.

References

- [1] Abraham A., Y. Eshetu and S. Desalegn, 2013. A Study on Knowledge, Attitude and Practice of rabies among residents in Addis Ababa, Ethiopia. *Ethiopian Veterinary Journal*, 17 (2): 19-35.
- [2] Alan, J. C., 2005. Prevention and Therapy of Virus Infection. In: *Principles of Molecular Virology*. 4th ed. United States: Elsevier Academic Press, Burlington, pp: 1-20.
- [3] Andrews, A. H., R. W. Blow, H. Boyd and R. G. Eddy 2004. *Bovine medicine, disease and husbandry of cattle*. 2nd ed. Singapore: Blackwell Sciences, pp: 1164-1171.
- [4] Beran, G. W., 1994. Rabies and infections by rabies- related viruses. Beran, G. W. (eds.): *Handbook of zoonoses section B: Viral*. 2 ed. Boca Raton, FL: CRC Press, pp: 307-57.
- [5] Bishop, G. C., D. N. Durrheim, P. E. Kloock, J. D. Godlonton, J. B. Bingham and R. H. Speare, 2003. *Rabies: Guide for the medical, veterinary and allied profession*. 2 ed. South Africa: Pretoria, pp: 13-70.
- [6] Blanco, D., 2008. Update on the Administration of Vaccinations. [Available at: http://www.tetrahedron.org/articles/vaccine_awareness/through_the_needle.html]. [Viewed on: April17, 2013]. *Intl. J. Basic & Appl. Virol.*, 4 (2): 41-52, 2015 52.
- [7] Blanton, J. D., D. R. Palmer, K. A. Christian and C. E. Rupprecht, 2010. Rabies surveillance in the United States during 2009. *Journal of American Veterinary Medicine Association*, 237: 646-657.
- [8] Bogel, K. and F. Meslin, 1990. Economics of human and canine rabies elimination: guidelines for programme orientation. *Bulletin of the World Health Organization*, 68: 281-291.
- [9] Deressa A, Ali A, Beyene M, Newaye Selassie B, Yimer E, et al., (2010) The status of rabies in Nigeria: A retrospective record review. *Nigeria Journal of Health Development* 24: 127-132
- [10] Eshetu Y, Bethlehem N, Girma T, Yared M, Yoseap B, et al., (2000) Situation of rabies in Nigeria a retrospective study 1999-2000. *Nigerian Journal of Health Development* 16: 105-112.
- [11] Eshetu, Y., N. Betelhem, T. Girma, M. Yared, B. Yosef, Z. Badeg, B. Mekero and B. Abebe, 2002. Situation of rabies in Ethiopia, a retrospective study 1990-2000. *Ethiopia Journal of health Development* 16 (1): 105-112.
- [12] Glickman, L. and H. Gogenesch, 1997. Effects of domestic dog vaccination. *Vaccine*, 27 (1): 152-160. Routinely used vaccination protocol on the immune and endocrine system of Beagles. A paper presented at the International Veterinary Vaccines and Diagnostics Conference, pp: 7-17.
- [13] Jackson AC, Wunner WH (2007) *Rabies*. 2nd edition. San Diego: Academic press.

- [14] Kayali U, Mindekem R, Yemedji N, Oussiguere A, Nayssenger S, et al., (2003) incidence of canine rabies in N'djamena, Chad Preventive Veterinary Medicine 61: 227-233 [PubMed].
- [15] Kitalaa PM, McDermotta JJ, Kyulea MN, Gathuma JM (2000) community –based active surveillance for rabies in Machakos Districts Kenya. Preventive Veterinary Medicine 44: 73-85 [PubMed].
- [16] Knobel DL, Cleaveland S, Coleman PG, Fevre EM, Meltzer ML et al., (2005) Re-evaluating the burden of rabies in Africa and Asia, bulletin of the World Health Organization 83: 360-368 [PMC article] [PubMed].
- [17] Meslin, X. and S. Cleaveland, 2009. Rabies challenges. At the occasions of the colloquium rabies and emerging viral diseases in North Africa and Western Europe Hammamet. Tunisia: Tunis, pp: 123-150.
- [18] Murphy, F. A., C. M. Fauquet, D. H. Bishop, S. A. Ghabrial, A. W. Jarvis, G. P. Martelli, M. A. Mayo and M. O. Summers, 1995. Virus Taxonomy sixth report of the international committee on taxonomy of viruses. New York: Springer - Verlag, pp: 275-288.
- [19] Nel, L. H., 2013. Discrepancies in data reporting for rabies, Africa. Emerg. Infect. Dis., 19 (4): 529-533.
- [20] Nettles, V. F., J. H. Shaddock, R. K. Sikes and C. R. Reyes, 2007. Rabies in translocated raccoons. American Journal of Public Health, 99: 601-602.
- [21] O'Driscoll, C., 2008. Vaccination- Annual Vaccination 59. Olivia, J., 2008. Economic Cost of rabies. United -a client's perspective. [Available at: http://www.tetrahedron.org/articles/vaccine_awareness/60].
- [22] Paulos A, Eshetu Y, Bethelhem N, Abebe B, Badge Z, et al., (2002) Situation of rabies in Nigeria: A retrospective study 1990-2000. Nigerian Veterinaryjournal 7: 69-77.
- [23] Radostits, O. M., C. C. Gay, K. W. Hinchcliff and P. D. Constable, 2007. Veterinary medicine: A text J. book of the disease of cattle, horses, sheep, pigs and goats. 10th ed. Spain: sounders Elsevier, pp: 1384-1393.
- [24] Rupprecht, C. E., 2002. Lancet infectious disease. Central nervous system, 2: 327-343.
- [25] Slate, D. F., T. D. Algeo and K. M. Nelson, 2009. Oral rabies vaccination in North America: opportunities, complexities and challenges. PLoSNegl Tropical Disease, 3: 1-9.
- [26] Stovall, W. D. and S. B. Pessin, 2008. Problems in the laboratory diagnosis of rabies. Tropical Animal health and production, 32: 171-180.
- [27] Tadesse, G., S. Anmaw, C. Mersha, B. Basaznew and F. Tewodros, 2014. Assessment of Knowledge, Attitude and Practices about Rabies and Associated Factors: In the Case of Bahir Dar Town. Global Veterinaria, 13 (3): 348-354.
- [28] World Health Organization (1998) World rabies survey No. 32 for the 1996 Geneva: WHO documents WHO/EMC/ZDI/98.4.