

Original Research Article

Adherence to post-exposure prophylaxis and associated socio-demographic characteristics of dog bite patients visiting selected health facilities in Kisii County, Kenya

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ABSTRACT

Background: Dog bites have proven to be a significant public health concern among African and Asian countries that report 95% of human mortalities. Rabies is a deadly viral disease spread by a rabid animal that invades the CNS and is 100% fatal. The main objective of the study was to assess adherence to rabies post-exposure prophylaxis and associated socio-demographic characteristics among dog bite patients.

Methods: This was a hospital-based cross-sectional study with 289 dog bite patients from selected health facilities in Kisii County, Kenya. Simple random sampling technique was adopted in the selection of participants, while the health facilities were purposively selected. Data was analysed using SPSS software version 25.

Results: More than a half (57.8%) of the dog bites were females as compared to their male counterparts (42.2%). Level of education ($p=0.001$), age ($p=0.012$), marital status ($p=0.001$), income ($p=0.001$) were significant determinants of adherence to rabies PEP treatment, preferred rabies PEP regimen acquired ($p=0.001$). Over 68.2% of the patients adhered to rabies PEP treatment, adherence to individual dosage of ARV regimen with 67.2% of dog bite patients completed the PEP regimen, ZAGREB regimen had 95.6% of dog bite patients likely to complete their treatment compared to ESSEN regimen.

Conclusions: Dog bites were prevalent among females. The study further revealed that as the level of education increased the odds of rabies PEP adherence treatment improved. Dog bite patients preferred ZAGREB rabies PEP regimen.

Keywords: Rabies, Rabies post-exposure prophylaxis, Socio-demographic characteristics, Zoonotic disease

INTRODUCTION

Rabies is a well-recognized universally neglected viral zoonotic disease, originating from rabies lyssavirus.¹ With a fatality rate of almost 100% in humans and animals alike, rabies remains a global threat, killing approximately 59,000 people every year. Globally, the main reservoir of human rabies is a dog and 99% of human rabies cases are due to bites from infected dogs.² Out of all the rabies deaths taking place across the world, 95% occur in Africa and Asia, which can be attributed to

the rapid growth of the canine population. As such, the new cases of human rabies have been on a rise, despite the failure of detection and reporting systems for the disease.³

Dog bites have recently proved to be a significant public health menace in the continents of Africa and Asia.⁴ The major reservoir of rabies virus is the domesticated dogs that globally contribute to 99% of human mortalities. Rabies infections are listed as a major health hazard in Africa regardless of reported death rates of both human

beings and dogs since this does not portray the true burden of the disease.⁵ Approximately 60,000 mortalities occur globally as a result of rabies infection annually with an estimated 44% occurring in Africa and 56% in Asian countries with remote areas in this continent adversely affected.⁶ Rabies is a well-known acute, progressive, and 100% fatal disease once it sets in.⁷ Over 100 years PEP has proved to be the utmost measure for the management and elimination of rabies.⁸

In Kenya, nearly 2000 human deaths occur annually as a result of rabies.⁹ Human rabies status is under-estimated in Kenya as a result of factors hindering proper health-seeking behaviour, lack of reporting tools, poor diagnostic capacity, and lack of anti-rabies vaccines, knowledge level, and practices on dog bite management by affected persons.¹⁰ According to the zoonotic disease unit ranking, rabies disease is ranked as the highest zoonotic disease with at least 1000-2000 occurrence of human rabies cases reported yearly.¹¹

METHODS

This study, conducted between June and July 2022, was carried out in selected health facilities in Kisii County, Kenya. Kisii County is one of the 47 counties in the Republic of Kenya. It shares boundaries with Nyamira County to the north east, Narok County to the South and Migori and Homabay County to the west. Administratively, the county has 9 sub-counties, 33 divisions, 103 locations and 237 sub-locations. The county has 2 level 5 health facilities, 32 level 4 facilities, 48 level 3 facilities, 100 level 2 hospitals and 296 functional community health units spread across all the 9 sub-counties in the county. On staffing, the county has over 538 healthcare workers. The common causes of morbidity in the county are malaria, diarrhea and respiratory and they contribute to high mortalities in the county. The county is experiencing high incidence levels of HIV/AIDS.

The key study population composed of both males and females of all ages attending selected health facilities in Kisii County with dog bites and received rabies PEP treatment, care givers for those under eighteen years and healthcare workers attending to dog bites patients, a hospital-based cross-sectional study was adopted.

The study employed the formula as used by Fischer et al, 2003 for sample size determination.¹² A minimum of 289 dog bite patients was considered sufficient to generate valid results. The study adopted a simple random sampling technique to select dog bite patients and purposive sampling to select health facilities. The dog bite patients that had consented and willing to participate were enrolled into the study.

A questionnaire was adopted for data collection with a focus on the following variables: age, gender, level of

education, employment status, settlement type, marital status, religion and monthly income.

Relevant approvals were sought from all participants and confidentiality assured and maintained. The researcher sought necessary approval from Kenyatta University Graduate School. Ethical clearance was obtained from Kenyatta University ethical review committee (Ref No. ISERC/KTRH/006/22), while National Commission for Science and technology and Innovation granted administrative authorization. Further, clearance and necessary approvals from relevant departments in Kisii County were duly obtained. Written and signed informed consent was obtained from respondents before commencement of the study.

SPSS software version 25 was used for data analysis. The descriptive statistics were presented in form of tables and graphs. Chi-square analysis was utilized to examine differences adherence to PEP treatment and socio-demographic factors among dog bite patients. Statistically significant association was set at a p value less than or equally to 0.05. Qualitative data from the key informant interviews (KII) and focused group discussions (FGD) were organized and analysed based on the key themes generated from the study objectives. This qualitative data was presented in the form of voices from the respondents.

RESULTS

More than a half of the dog bite cases (57.8%) were female. Majority of the patients interviewed ranged between 22 and 32 years, with an average age of 33 years, mode being 20 years and the range being 81 years (σ 17.319). The vast majority 156 (54.0%) resided in semi-urban areas. As regards education, it was noted that most of the respondents had completed their secondary education 79 (27.3%) and were self-employed 112 (38.8%). On monthly income 23.5% of the patients earned below KES 4500. More details are presented in Table 1.

Characteristics of exposure

A half (50.5%) of the patients reported dog bites, 37% scratches and 12.5% with dog licks. Further, 70.9% of the patients had the types of bite indicated in their patient's card. Out of the 70.9% patients; 58.5% were in the first WHO category and 29.3% were in the second category. In addition, 68.2% of the study respondents reported that the attacking animal was a stray dog while 31.8% reported pet dog as the attacking animal. The study further noted that 43.3% knew the attacking dog status while 56.7% did not know the status. Of those who knew the status of attacking dog 73 (68%) knew the vaccination status of the dog. Majority of the respondents (70.2%) were attacked by unprovoked dog while 29.8% provoked the attacking dog. Regarding the affected body parts, about 42.9% of the patients were attacked on the upper

limbs, 42.2% lower limbs, 11.4% on the neck and 3.5% was on the head as shown in Table 2.

Anti-rabies post-exposure prophylaxis adherence rate

The Figure 1 shows that 68.2% of the participants adhered to post-exposure prophylaxis treatment while 31.83% did not adhere.

Adherence to individual dose of anti-rabies vaccine regimen

The study further investigated the patient's adherence to the recommended WHO 6 schedule. At the start of the treatment 289 patients received anti-rabies vaccines, but only 129 (67.2%) patients completed and adhered to anti-rabies vaccines regimen. A total of 97 (50.5%) patients defaulted on their schedule and 39 patients were rescheduled after 2 days of the scheduled date as shown in Table 3.

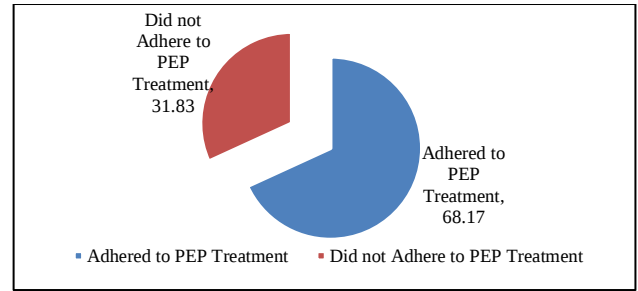


Figure 1: Level of adherence to PEP treatment.

Completion of treatment

The results displayed in Table 4 shows that patients on ZAGREB regimen 95.6% are likely to complete their treatment as compared to those on ESSEN regimen 24.7%. The results show that over a half 61.6% of the patients preferred ZAGREB regimen.

Table 1: Description of socio-demographic factors of dog bite patients.

Variables		Frequency (n=289)	Percentage
Gender	Male	122	42.2
	Female	167	*57.8
Age (years)	0-10	33	11.4
	11-21	63	21.8
	22-32	66	*22.8
	33-43	59	20.4
	44-54	32	11.1
	above 54	36	12.5
Marital status	Divorced/widowed	40	13.8
	Married	132	*45.7
	Single	117	40.5
Education level	No formal education	57	19.5
	Primary	53	18.3
	Secondary	79	*27.3
	Tertiary	64	22.6
	University	36	12.3
Settlement type	Rural	93	32.2
	Semi-urban	156	*54.0
	Urban	40	13.8
Employment status	Not employed	96	33.2
	Self employed	112	38.8
	Employed	68	23.5
Religion	Christian	252	*87.2
	Muslim	33	11.4
	None	4	1.4
Monthly income	Below KES. 4500	68	*23.5
	4500-6500	23	8.0
	6501-8500	57	19.7
	8501-10500	52	18.0
	Above KES. 10500	43	14.9

*Statistically significant

Table 2: Characteristics of exposure.

Variable		Frequency	Percentage (%)
Type of exposure	Bite	146	*50.5
	Scratches	107	37
	Licks	36	12.5
Type of bite indicated in the patient's card	Yes	205	*70.9
	No	84	29.1
Category of exposure as per the WHO	1 st category	120	*58.5
	2 nd category	60	29.3
	3 rd category	25	12.2
Type of attacking animal	Stray dog	197	*68.2
	Pet dog	92	31.8
Knowledge on animal status	Yes	125	43.3
	No	164	*56.7
Animal vaccination status	Vaccinated	17	13.6
	Unvaccinated	23	18.4
	Unknown	85	*68.0
Affected body part	Head	10	3.5
	Neck	33	11.4
	Upper limbs	124	*42.9
	Lower limbs	122	42.2
Circumstance of bite	Provoked	86	29.8
	Unprovoked	203	*70.2

*Statistically significant

Table 3: Details on post-exposure prophylaxis adherence.

	Received anti-rabies vaccines	Delayed	Defaulter	Rescheduled
Day 0	289	0	0	0
Day 3	177	55	26	31
Day 7	140	82	50	8
Day 28	129	63	21	0

Table 4: Details on post-exposure prophylaxis regimen adherence.

Variables		Frequency	Percentage (%)
Completion status for PEP regimen	Zagreb completed	170	*95.6
	Zagreb not completed	8	4.4
	Essen completed	27	24.7
	Essen not completed	82	*75.3
	Average adherence	197	*68.2
Types of PEP regimen	Zagreb regimen	178	*61.6
	Essen regimen	109	38.4

*Statistically significant

Table 5: Influence of socio-demographic factors on adherence to rabies PEP treatment.

Variables	Adherence to post-exposure prophylaxis N (%)	Non-adherence to post-exposure prophylaxis N (%)	OR (95%CI)	P value
Age in years				0.012
0-10	17 (51.5)	16 (48.5)	ref.	
11-21	38 (60.3)	25 (39.7)	1.340 (0.995-1.074)	0.091
22-32	46 (69.7)	20 (30.3)	0.903 (0.329-2.480)	0.843
33-43	35 (59.3)	24 (40.7)	0.478 (0.232-0.988)	0.001
44-54	16 (50.0)	16 (50.0)	2.006 (0.972-4.138)	0.069
Above 54	13 (36.1)	23 (63.9)	4.421 (1.898-10.298)	0.001

Continued.

Variables	Adherence to post-exposure prophylaxis N (%)	Non-adherence to post-exposure prophylaxis N (%)	OR (95%CI)	P value
Gender				0.263
Male	65 (53.3)	57 (46.7)	ref.	
Female	100 (59.9)	67 (40.1)	0.488 (0.150-1.590)	0.263
Marital status				0.001
Single	71 (60.7)	46 (39.3)	ref.	
Married	80 (60.6)	52 (39.4)	4.489 (2.050-9.89)	0.001
Divorced/widowed	13 (34.2)	25 (65.8)	3.685 (2.382-5.702)	0.021
Education level				0.001
No formal education	22 (38.6)	35 (61.4)	ref.	
Primary	30 (56.6)	23 (43.4)	0.794 (0.084-7.200)	0.033
Secondary	41 (51.9)	38 (48.1)	4.421 (1.898-10.298)	0.001
Tertiary	44 (68.8)	20 (31.2)	6.577 (3.043-14.213)	0.001
University	28 (77.8)	8 (22.2)	3.864 (1.729-8.635)	0.001
Settlement type				0.485
Rural	48 (52.2)	44 (47.8)	0.831 (0.422-1.636)	0.592
Semi urban	93 (59.6)	63 (40.4)	0.488 (0.150-1.590)	0.234
Urban	24 (60.0)	16 (40.0)	0.718 (0.334-1.547)	0.398
Religion				0.676
Christian	142 (56.3)	110 (43.7)	ref.	
Muslim	24 (72.7)	9 (27.3)	0.831 (0.422-1.636)	0.592
None	2 (50.0)	2 (50)	1.080 (0.421-2.771)	0.872
Monthly income				0.001
Below KES. 4500	42 (61.8)	26 (38.2)	ref.	
4500-6500	15 (65.2)	8 (34.8)	0.831 (0.422-1.636)	0.592
6500-8500	22 (38.6)	35 (61.4)	2.881 (1.104-7.518)	0.031
8500-10500	28 (53.8)	24 (46.2)	3.704 (1.405-9.763)	0.008
Above KES. 10500	34 (79.1)	9 (20.9)	27.368 (7.496-99.929)	0.001

Socio-economic characteristics and adherence to PEP

Table 5 shows the influence of socio-demographic factors on adherence to rabies PEP prophylaxis among dog bite patients. The results show that age (0.012), marital status (0.001) and monthly income (0.001) were statistically significant, whereas gender ($p=0.263$), settlement type ($p=0.485$) and religion ($p=0.676$) were not. There was a significant difference between those who adhered as compared to those who did not adhere to treatment regimen.

Socio-demographics characteristics and adherence to individual rabies vaccines

The study evaluated each socio-demographic characteristic and individual rabies vaccines from day one to day 28 as per the WHO rabies PEP treatment regimen.

The influence of socio-demographic characteristics on adherence to Individual rabies vaccines at day zero

The study determined if there was any association between socio-demographic characteristics on adherence to individual rabies PEP treatment. It was noted that there was no statistical significance between gender, age, marital status, education level, religion, occupation,

settlement and monthly income and adherence to individual rabies vaccine at day 0 ($\chi^2=33.464$, $df=24$, $p=0.095$).

Socio-demographic characteristics and adherence to individual rabies vaccines at day three

The study went further to evaluate if there was any association between socio-demographic characteristics on adherence to individual rabies PEP treatment. The study revealed that there was statistical significance between gender ($\chi^2=131.657$, $df=3$, $p<0.000$), education level ($\chi^2=41.103$, $df=12$, $p<0.000$) occupation ($\chi^2=18.722$, $df=6$, $p<0.005$) and settlement type ($\chi^2=14.436$, $df=6$, $p<0.025$) and adherence to individual rabies vaccine at day 3 as shown in Table 6.

Socio-demographic characteristics and adherence to individual rabies vaccines at day seven

Table 7 shows the socio-demographic characteristics influence adherence to individual rabies at day 7. There was a significant statistical relationship between gender ($\chi^2=221.607$, $df=3$, $p<0.000$), age ($\chi^2=29.267$, $df=15$, $p<0.015$), settlement type ($\chi^2=29.267$, $df=15$, $p<0.150$) and monthly income ($\chi^2=22.466$, $df=12$, $p=0.033$).

Socio-demographic characteristics and adherence to individual rabies vaccines at day twenty-eight

The study also sought to determine whether there was any statistical significance between socio-demographic characteristics and adherence to individual rabies vaccines at day 28. The findings showed that there was

statistical significance between marital status ($\chi^2=16.828$, $df=6$, $p<0.010$), education level ($\chi^2=25.146$, $df=12$, $p<0.014$), occupation ($\chi^2=17.779$, $df=6$, $p<0.007$) and monthly income ($\chi^2=23.131$, $df=12$, $p=0.027$) of the dog bite patient and adherence to individual rabies vaccine at day 28 as shown in Table 8.

Table 6: The influence of socio-demographic characteristics on adherence to Individual rabies vaccines at day zero

Variables	Received	Delayed	Defaulted	Rescheduled	Statistics
ARV received at day 3					
Gender					
Male	122	0	0	0	$\chi^2=131.657$, df=3,p<0.000
Female	56	54	26	31	
Age (years)					
0-10	27	6	0	0	$\chi^2=22.751$, df=15, p=0.090
11-21	43	10	4	6	
22-32	33	15	12	6	
33-43	32	12	5	10	
44-54	19	6	2	5	
Above 54	24	5	3	4	
Marital status					
Single	153	47	25	27	$\chi^2=3.893$, df=6, p=0.691
Married	22	7	1	3	
Divorced	3	0	0	1	
Education level					
No formal education	42	10	2	3	$\chi^2=41.103$, df=12, p<0.000
Primary	40	6	2	5	
Secondary	45	14	11	9	
Tertiary	39	12	10	3	
University	12	12	1	11	
Religion					
Christian	153	47	25	27	$\chi^2=3.893$, df=6, p<0.691
Muslim	22	7	1	3	
No religion	3	0	0	1	
Occupation					
Not employed	75	18	3	4	$\chi^2=18.722$, df=6, p<0.005
Self employed	64	22	13	20	
Employed	39	14	9	7	
Settlement type					
Rural	66	13	5	8	$\chi^2=14.436$, df=6, p<0.025
Semi-urban	87	32	21	16	
Urban	24	9	0	7	
Monthly income					
Below KES. 2500	50	14	0	8	$\chi^2=14.297$, df=12, p=0.282
2500-5000	23	7	4	2	
5001-7500	40	16	11	8	
7501-10000	36	11	7	6	
Above KES 10,000	26	6	4	7	

Table 7: Socio-demographic characteristics and adherence to individual rabies vaccines at day seven.

Variables	Received	Delayed	Defaulted	Rescheduled	Statistics
ARV received at day 7					
Gender					
Male	122	0	0	0	$\chi^2=221.607$, $df=3$, $p<0.000$
Female	19	82	49	17	

Continued.

Variables	Received	Delayed	Defaulted	Rescheduled	Statistics
Age (years)					
0-10	23	10	0	0	$\chi^2=29.267$, df=15, p<0.015
11-21	40	11	10	2	
22-32	28	17	17	4	
33-43	24	19	9	7	
44-54	11	13	6	2	
Above 54	15	12	7	2	
Marital status					
Single	71	27	14	5	$\chi^2=16.057$, df=6, p=0.931
Married	59	39	27	7	
Divorced	11	14	8	5	
Education level					
No formal education	29	23	4	1	$\chi^2=49.491$, df=12, p<0.670
Primary	33	13	6	1	
Secondary	42	14	18	5	
Tertiary	27	22	13	2	
University	10	10	8	8	
Religion	118	73	45	16	$\chi^2=4.200$, df=6,p<0.650
Christian	21	8	3	1	
Muslim	2	1	1	0	
No religion					
Occupation					
Not employed	62	30	6	2	$\chi^2=21.126$, df=6, p<0.349
Self employed	51	31	26	11	
Employed	28	21	16	4	
Settlement type					
Rural	53	25	10	4	$\chi^2=29.267$, df=15, p<0.150
Semi-urban	69	42	38	7	
Urban	18	15	1	6	
Monthly income					
Below KES. 2500	45	19	3	5	$\chi^2=22.466$, df=12, p=0.033
2500-5000	21	7	7	1	
5001-7500	32	21	18	4	
7501-10000	25	20	13	2	
Above KES 10,000	15	15	8	5	

Table 8: Socio-demographic characteristics and adherence to Individual rabies vaccines at day twenty-eight.

Variables	Received	Delayed	Defaulted	Rescheduled	Statistics
ARV received at day 28					
Gender					
Male	0	35	83	4	$\chi^2=131.657$, df=5, p<0.521
Female	130	37	0	0	
Age (in years)					
0-10	8	8	16	1	$\chi^2=22.649$, df=15, p=0.092
11-21	22	15	24	2	
22-32	38	13	14	1	
33-43	30	15	14	0	
44-54	16	10	6	0	
Above 54	16	11	9	0	
Marital status					
Single	41	29	43	4	$\chi^2=16.828$, df=6, p<0.010
Married	66	31	35	0	
Divorced	21	12	5	0	

Continued.

Variables	Received	Delayed	Defaulted	Rescheduled	Statistics
Education level					
No formal education	20	17	20	0	$\chi^2=25.146$, df=12, p<0.014
Primary	16	15	21	1	
Secondary	36	15	26	2	
Tertiary	32	18	13	1	
University	26	7		0	
Religion					
Christian	116	63	69	4	$\chi^2=3.747$, df=6,p=0.711
Muslim	12	9	9	0	
No religion	2	0	0	0	
Occupation					
Not employed	32	24	42	2	$\chi^2=17.779$, df=6, p<0.007
Self employed	61	27	30	1	
Employed	36	21	11	1	
Settlement type					
Rural	31	25	33	3	$\chi^2=11.655$, df=6, p<0.070
Semi-urban	81	38	36	1	
Urban	18	9	13	0	
Monthly income					
Below KES. 2500	24	18	29	1	$\chi^2=23.131$, df=12, p=0.027
2500-5000	15	9	10	2	
5001-7500	42	11	21	1	
7501-10000	26	19	15	0	
Above KES 10,000	23	14	6	0	

DISCUSSION

The purpose of this study was to determine the extent to which socio-demographic characteristics of dog bites patients influenced their adherence to the recommended treatment regimen. Overall, the results revealed that more females (57.8%) than males (42.2%) had sought treatment as a result of dog bites. This particularly striking as is not consistent with the findings of other similar studies.^{10,13,14,19} In contrast to the current, the findings from these studies reported high numbers of males who had sought treatment after dog bites. The most affected age group by dog bites were aged between 22-32 years and married while those aged between 0-10 years were least affected. The study indicated that the majority 45.7%) as also found elsewhere.^{13,19} However, nevertheless, in a study carried out in Machakos the most affected age groups were below 18 years and these findings did not match those of this study.⁴ There was a significant association between the age of the respondents and completion of rabies post-exposure prophylaxis treatment (p<0.012).

The study finding further revealed that majority (68.2%) of the attacks were from stray dogs and 31.8% were from pet dogs. Finding from a study done in south Bhutan showed that patients were highly exposed to pet dogs (45%) followed by stray dogs at (23%).¹⁷ This finding were contrary from this study finding that revealed that majority of the patients were exposed to human rabies from stray dog attacks. A study that was conducted in Sri

Lanka equally revealed that majority (49%) of the patients that sought for rabies PEP.

The study findings indicated that 42.9% presented with upper limbs wounds, 42.2% with lower limbs wounds, 11.4% neck wounds and 3.5% head wounds from animal attacks. This study finds relate to findings from a study that was done by in a study by contradict with findings from the present study.^{19,21} The study revealed that common site of bites the lower extremes 69.74% then the upper extremes 20.5%. Also, a study that was carried out by Penjor et al also do not conform to findings of the present study.¹⁷ The study revealed that common site of bite was the lower limbs 52%, 40% upper limbs, head and neck 4% respectively.

Regarding the circumstance of bites, it was noted that majority 70.2% of the bites were unprovoked and 29.8% were provoked. This is in line with studies done by wadde et al and Rajeev et al.^{19,21} However, contrary studies have also indicated that majority of the patients that presented for rabies PEP provoked the attacking animal.¹⁷ In other studies, it is indicated that rabies post-exposure prophylaxis was more sought (54.1%) during dry season as compared to rainy season (45.9%).

The findings from this study indicated that 289 sought for rabies post-exposure prophylaxis treatment in the selected health facilities. A study conducted by Wangoda et al equally revealed majority of patients (74.8%) that sought for rabies post-exposure prophylaxis were exposed to dog

bites.¹⁰ These findings also confirmed with a study that was done in southern Bhutan majority (64.2%) of the patients that also sought for rabies PEP were victims of dog bites.¹⁷ This study demonstrated that the majority of respondents resided in semi-urban settlements 54% within the county, these findings did not conform to findings from a study done by Penjor et al in Asia and Africa respectively that indicated that majority of respondents resided in the urban area.¹⁷ This study equally noted that dog bites remain the major a major threat of spreading rabies virus in humans.²¹

Studies done by Ngugi et al and Ravish et al showed that there was higher level of completion of anti-rabies PEP treatment doses among dog bite patients.^{22,23} This study indicates the level of completion of dosage with the third dose being the most completed dose and did not reflect the type of PEP regimen that most patient preferred or indicated whether the patients that sought for rabies PEP treatment completed the prescribed schedules WHO guidelines. This study went further and identified the preferred regimen that the dog bite patients selected and the majority 61.6% of them picked the ZAGREB regimen while 37.4% selected the ESSEN regimen. The study further noted good uptake of the ZAGREB regimen 95.6% had a highest levels completion rate among dog bite patients in Kisii County.

It is prudent to acknowledge the limitations of the study as it will assist in conceptualizing the findings of this study and understand its limitations. In this case the study was limited to the fact that only patients that visited the selected facilities were included in the study. This may lead to bias in the results and conclusions of the study. The study is only looking at a sub-set of patients with dog bites.

Secondly, the study focused on dog bite patients. This limited other animal bites from this study. This may have resulted to biasness of the study findings and conclusions. The recall aspect of the patients as they were the reliable source of information to the study could lead to recall biasness of crucial information affecting the study findings and conclusion.

CONCLUSION

The study concludes that in Kisii County, Females 57.8% the most affected gender with dog bites or dog attacks as compared to their male 42.2% counterparts. The study further revealed that the most affected age group was between 22-32 years 22.8%. From this study, it was evident that there was a significant relationship between age, marital status, education, monthly income, and completion of rabies post-exposure prophylaxis among dog bite patients. The study managed to determine predictors of socio-demographic factors and rabies post-exposure prophylaxis. The study has also revealed that the most affected part of the body was the upper limbs.

The current study also identified that the preferred regimen was ZAGREB.

Recommendations

This study is proposing scores of recommendations for the Kenyan Ministry of Health, Kisii County Medical Services, Public Health and Sanitation department to design messages and social behaviour change communication messages on dangers of dog bites, developing reporting tools to monitor dog bite treatment and compliance level and embrace or introduce mobile phone base interventions to remind dog bite patients on their next visits. The agriculture, fisheries, livestock development and irrigation department to conduct mass dog vaccination in the county.

Recommendation for further research

This study recommends further similar studies be conducted in other hospitals in other counties to determine the adherence levels of rabies post-exposure prophylaxis completion. Additionally, there should be a study to determine the preferred anti-rabies vaccines post-exposure prophylaxis regimen among dog bite patients

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