Title: A STUDY ON THE PROFILE OF REFERRAL CASES OF ANIMAL BITES TO ANTI RABIES CLINIC OF S.C.B MEDICAL COLLEGE CUTTACK, ODISHA

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Keywords Rabies, Animal bite, RIG, Anti-rabies vaccine, Referral

Abstract Rabies is an important problem worldwide. The disease, is transmitted to human by warm blooded animal bites, is always fatal by the time its symptoms start, but it is entirely preventable by vaccination and Rabies Immunoglobulin administration.

Original Article:

A STUDY ON THE PROFILE OF REFERRAL CASES OF ANIMAL BITES TO ANTI RABIES CLINIC OF S.C.B MEDICAL COLLEGE, CUTTACK,ODISHA

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ABSTRACT:

BACKGROUND: Rabies is an important public health problem worldwide. The disease, is transmitted to human by warm blooded animal bites, is always fatal by the time its symptoms start, but it is entirely preventable by vaccination and Rabies Immunoglobulin administration. In the periphery, Primary Health Centres (PHCs) and Community Health Centres (CHCs) of the state Odisha, there is scarcity of vaccine as well as RIG or even not supplied. Based on this background, the study was conducted with the objective of analysing the demographic profile of referred animal bite cases and to assess the reasons of their referral.

METHODS: This is a hospital based cross-sectional study carried out from January to June 2016 at Anti Rabies Clinic(ARC) of S.C.B. Medical College & Hospital, Cuttack, Odisha. A total of 562 referred prescriptions of animal bites were studied by interviewing the patients on a pre-designed schedule to know the different reasons of referral.

RESULTS: Majority of the cases were referred from Jagatsinghpur district (48.7%) followed by Cuttack district (33.7%). More than half (57%)of animal bite cases were referred from DHH followed by CHC (17%). More than two-third (88.2%) cases belonged to category III and 71.8% were dog bite cases.The various reasons for referral to the ARC of SCB Medical College Hospital Cuttack are for Rabies Immunoglobulin administration(67.4%) only followed by 25.4% for both RIG & anti rabies vaccine.

KEY WORDS: Rabies, Animal bite,RIG, Anti rabies vaccine, Referral

INTRODUCTION

An estimated 59 000 people die from rabies across the world each year, with around 90% of these deaths occurring among children living in rural areas in Africa and Asia. In India alone, estimates range between 18 000 to 20 000 human deaths from rabies each year. 95% of rabies cases was transmitted to humans by bites from dogs[1].

In developing countries data is more fragmented, however some studies reveal that dogs account for 76.94% of animal bite injuries. Dog bite fatality rates are higher in low- and middle-income countries than in high-income countries as rabies is a problem in many of these countries, and may be due to lack of post-exposure treatment and appropriate access to health care. Dog bites account for over 50% of animal-related injuries in people who are travelling. Monkey bites account for 22.1% of animal bite injuries. In India for example, two studies found monkeys to be second to dogs as the most common source of animal bite injuries.[2]

Rabies is passed to human by warm blooded animal bites, is always fatal by the time its symptoms start, but it is entirely preventable by vaccination and RIG administration. In the periphery, Primary Health Centres (PHCs) and Community Health Centres (CHCs) of the state,there is scarcity of vaccine as well Rabies Immunoglobulin (RIG) or even not supplied. Also the health care professionals are not aware about the correct procedure for management of animal bite cases. That is why majority of animal bite cases are referred to nearby higher tertiary care Centres[3].

Based on this background it was planned to conduct a study with the objective to assess the demographic profile of referral cases of animal bites attending the Anti-Rabies Clinic (ARC) and the reasons of referral to ARC of Department of Community Medicine SCB Medical College Cuttack Odisha.

MATERIAL AND METHODS:

It was a cross-sectional study carried out in Anti-Rabies Clinic (ARC) of Department of Community Medicine, S.C.B Medical College, Cuttack Odisha from January to June 2016. A total of 9,371animal bite cases attended the ARC OPD during this study period. On an average 1561 cases were registered per month and 52 cases daily reported to the ARC OPD.From them about 40% cases were referred from different peripheral health institutions of different districts of Odisha per day.From

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these referred cases attending the OPD, every alternate referral patient were taken purposively as study subjects.Those case unwilling to participate in the study were excluded.Five days per week and 8-9 referral cases per day were taken for data collection in a pre-designed Performa.Thus a total of 562 patients were included in the study as study population. Relevant data pertaining to socio-demographic and reasons for referral were collected from their prescription in the pre-designed and pre tested Performa. Collected data were entered in SPSS version 16.0 and analysed.

RESULTS:

Out of 562 animal bite cases referred from different health institutions, 68% were male and rest 32% were female.

Table -1:
Demographic profile of referred animal bite cases attending ARC (n=562)

	Number	Percentage
1. Age		
< 18 years	196	34.8
18-60 years	276	49.1
>60 years	90	16
2. Sex		
Male	382	68
Female	180	32
3. Category of bite		
Category-I	6	1.06
Category-II	60	10.7
Category-III	496	88.2
4. Type of animal bite		
Dog	404	71.8
Cat	46	8.1
Monkey	72	12.8
Others (jackal, fox)	40	7.1

About 49.1% were in the age group of 18 to 60 years. More than two-thirds (88.2%) were having category III animal bite. 71.8% had dog bite followed by 12.8% monkey bite, 8.1% cat biteand rest 7.1% bites by other animals like Jackal, fox, which was shown in table-1.

Table 2:
Reasons for referral of animal bite cases to ARC from different districts

District of referral	Vaccine Adminis-Tration	RIG adminis-	Vaccine and RIG tration	Others
Jagatsinghpur(n=274)	1	249	24	0
Cuttack (n=190)	10	77	92	11
Jajpur(n=24)	2	10	7	5
Bhadrak (n=16)	3	9	2	2
Keonjhar (n=14)	0	7	6	1
Kendrapada(n=13)	0	7	4	2
Khurda (n=6)	0	5	0	1
Angul (n=6)	0	4	2	0
Balasore (n=4)	0	2	0	2
Puri (n=3)	0	3	0	0
Ganjam (n=2)	0	2	0	0
Kalahandi (n=2)	0	0	2	0
Bolangir (n=2)	0	2	0	0
Dhenkanal (n=2)	0	0	2	0
Talcher (n=2)	0	0	2	0
Bargarh (n=2)	0	2	0	0
Total (n=562)	**16(2.8%)**	**379(67.4%)**	**143(25.4%)**	**24(4.2%)**

Majority of referral cases were from Jagatsinghpur District (48.7%) whose District Head Quarter Hospital (DHH) is situated 40kms away from the SCB Medical College, followed by from different Blocks of Cuttack District (33.8%) and the rest 17.5% from other different districts.

Most of the animal bite cases were referred for RIG administration (67.4%) followed by 25.4% for both RIG and Vaccine. 2.8% were referred for only vaccines and rest 4.2% for other causes i.e confusion among treating physician regarding appropriate treatment or non-healing of wound .Out of 274 animal bite cases from Jagatsinghpur ,249 (90.8%) were referred for RIG.From Cuttack 92(48.4%) cases had come for both RIG and Vaccine and 77(40.5%) for RIG only.The reasons of referral of animal bite cases from different districts was displayed in table-2.

Table-3
Reasons of referral from different health institutions

Type of health Institutions	Reasons For Referral				
	Vaccine adminis-Tration	RIG adminis-tration	Both Vaccine and RIG	Others	Total
PHC	0	0	3	3	6(1.06%)
CHC	3	82	5	4	94(16.7%)
SDH	8	38	5	3	54(9.6%)
DHH	0	238	80	2	320(56.9%)
SCB Casualty	3	3	40	0	46(8.1%)
Others (Private practitioners,ESI)	2	18	10	12	42(7.4%)
Total	**16**	**379**	**143**	**24**	**562**

Most (56.9%) of the animal bite cases were referred from district head quarter hospitals(DHH) of different districts of Odisha followed by 16.7% from Community health centres(CHC) ,9.6% from sub-divisional hospitals(SDH),8.1% form SCB casualty,7.4% from private practitioners and ESI hospital and rest 1.06% from primary health centres(PHC).Out of 320 from DHH 238 (74.3%) had come for RIG ,80(25%) for both RIG and Vaccine. Similarly 87.2%cases from CHC &70.3% cases from SDH were referred for RIG. 86.7% animal bite cases from SCB Casualty and three (50%) from PHC reported to Anti rabies clinic for both RIG and Vaccine.

Table-4
Relation between category of animal bite and reasons of their referral

Category of animal bite	Reasons For Referral				
	Vaccine Adminis-Tration	RIG administ-ration	Both Vaccine and RIG	Others	Total
Category I	2 (12.5%)	0	0	4	6
Category-II	14 (87.5%)	21 (5.54%)	10 (7%)	15	60
Category-III	0	358 (72.2%) (94.45%)	133 (26.82%) (93%)	5	496
Total	**16 (2.84%)**	**379 (67.43%)**	**143 (25.45%)**	**24 (4.27%)**	**562**

A total of 6 cases of category I animal bite had been referred. Among, them two came for vaccine and rest four reported due to confusion of treating physician for appropriate treatment. Out of 60 category-II animal bite, 14 (23.33%) came for vaccine administration &the rest surprisingly for RIG or both vaccine and RIG. 358(72.2%) category III animal bite were referred for RIG administration & 133 (26.82%) came for both vaccine and RIG which was shown in table-4.

DISCUSSION

In this study 68% animal bite cases reported to ARC were male but in a study by Behera T R et al on prescription analysis of referral dog bite cases to anti rabies clinic, 79 % were male[3]. This study reveals that most of the animal bite cases were referred from DHH(56.9%),followed by CHC(16.7%), SDH(9.6%), SCB Casualty(8.1%), Others(ESI,Pvt.)7.4% and rest 1% from PHC but in study by Behera T R et al, 18% were from DHH, 44% from PHC & CHC were the peripheral health institution from where animal bite cases were referred[3]. In our study 71.8% cases were bitten by dogs followed by 12.8% by monkeys & 8.1% by cats but in a study by Gogtay et al it was found that 89.1% were bitten by dogs followed by cats (10%), monkey (0.04%)[4]. This study shows most of the cases were referred from other districts mostly from Jagatsinghpur (48.7%), the nearest district to the tertiary level teaching hospital at Cuttack and 33.8% were referred from within Cuttack district where as the study by Behera T R et al at MKCG Medical College Hospital, Berhampur found 8% were referred from other districts and the rest from within the same district[3].

CONCLUSION

The study highlighted more than 40% of animal bite cases were referred from peripheral health institutions to a tertiary care centre. 48.7% cases were referred from Jagatsinghapur. More than 50% of cases were referred from DHH which shows non availability of RIG at higher centres of district and also vaccine were given only during OPD hours Hence availability of basic requirements like vaccines and rabies immunoglobulins at the levels of PHC/CHC/DHH can decrease the load at tertiary hospitals and also the out of pocket expenditure of patients. The medical officers at peripheral health institutions should be re-oriented periodically regarding the post exposure prophylaxis of animal bite cases.

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