



**A PROSPECTIVE OBSERVATIONAL STUDY OF KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) OF ANIMAL BITE MANAGEMENT AMONG PARENTS OF PEDIATRIC PATIENTS ATTENDING PEDIATRIC OPD OF A RURAL TERTIARY CENTRE, MMCH, INDIA**

**Medical Science**

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**ABSTRACT**

**BACKGROUND:** Rabies is a vaccine prevented zoonotic tropical disease, transmitted by animal bite, predominantly by dog bites and is estimated to cause 59,000 humans' death worldwide annually, and is endemic in urban India. Rabies is neglected disease of poor and vulnerable populations whose death are rarely reported, still continues to be a serious public health issue in India. This study was conducted to access the sociodemographic profile, awareness and practice regarding management of animal bite among parents of pediatric patients attending pediatric OPD of a rural tertiary Centre, MMCH, Paschim Medinipur, West Bengal. India.

**METHODOLOGY:** A prospective observational study on knowledge and practice was conducted with the help of pre-designed structured questionnaire and was answered by 300 participants who had attended Pediatric OPD for Rabies treatment in MMCH. Information regarding awareness, knowledge and practice of animal bite were collected according to the response of participants and Data were analyzed in SPSS

**RESULT:** Results indicated that the mean age of patients was 8.17 years. Majority 187 (62.3%) were males and females were 113 (37.3%) and 56.3% were from urban areas. Category II bites were 88.3%. Wound toileting was done by 63% cases and 10.8% had applied soap water and/or ointment locally and 5.7% had taken no action after animal bite. Majority (66.3%) had dog bites followed by cat (26.66%), rat (3.66%) monkey (2.66%), rabbit (0.66%).

**CONCLUSION:** It may be concluded that majority of the patients were from urban area and most of them were bitten by dogs with poor knowledge regarding wound care and early treatment.

**KEYWORDS**

Animal bite Management, Rabies, Awareness, Practice, Parents of Pediatric Patient, India.

**INTRODUCTION:**

Rabies is a vaccine prevented zoonotic tropical disease, caused by a virus belonging to *Rhabdoviridae* family and *Lyssavirus* Genus. It can be transmitted to humans through bite or scratches or licking of wounded skin by an infected animal shedding virus in saliva and become fatal once clinical symptoms of the disease are developed.<sup>1</sup> According to World Health Organization (WHO), proper pre- and post-exposure prophylaxis can prevent human rabies easily and completely, and more than 15 million people worldwide receive a post-exposure prophylaxis (PEP) annually.<sup>2</sup> Despite the massive number of treatments, an estimated 59,000 humans' death worldwide yearly due to rabies, 60% of these in Asia.<sup>3</sup> 99 percent of this global mortality is credited to the transmission of the virus through dog bite,<sup>4</sup> followed by bite from other animals like cat, monkey, horse, pigs, camels.<sup>5</sup>

Rabies is endemic in Asia with India reports the highest number of human deaths within this region of about 20,000 rabies deaths and 17.4 million animal bites every year.<sup>6</sup> Since, Rabies is neglected disease of poor and vulnerable populations whose death are rarely reported, still continues to be a serious public health issue in India. A gross lack of awareness, insufficient knowledge regarding the classification of animal bite wounds leading to inappropriate vaccination continue to be performed in the other part of world as well as in India.<sup>7-9</sup>

Rabies outbreak in India has been unwavering for a decade and reported incidence was probably an underestimation of exact incidence since, till date in India rabies is not considered as a notifiable disease.<sup>10</sup> This situation is rooted due to lack of general awareness among people about prevention measures, poor knowledge of proper post-exposure prophylaxis on the part of many medical professionals, and a fitful supply of anti-rabies vaccine and immunoglobulin, particularly in primary health care facilities.

The current study was undertaken to highlight the knowledge, behavior, attitude, and practices regarding animal bites and rabies among parents of pediatric patients attending pediatric OPD of a rural tertiary Centre, MMCH, Paschim Medinipur, West Bengal. India.

**OBJECTIVES:**

- 1) To assess the knowledge regarding rabies and mode of transmission of rabies.
- 2) To study the knowledge regarding animal bite wound management among the patients and their families.
- 3) To assess the knowledge about necessity of treatment after animal bites.

**MAERIALS AND MEHODS:**

**Study design:**

This hospital based prospective observational study was conducted at the anti-rabies vaccination clinic of Midnapore Medical College and Hospital, Midnapore.

**Study area:**

The study was conducted at Paschim Midnapore district (22.953°–21.610° N & 88.211°–86.564° E) of West Bengal, India. The paschim Midnapore district is now divided into three districts (Purba Medinipur, Paschim Medinipur, and Jhargram) and covers an area of 14,081km<sup>2</sup>. Of which 2,971km<sup>2</sup> is under forest cover contributing 3.35% of the total geographical area of the state (FSI 2017).

**Study period:**

The study was conducted after getting permission from ethical committee up to 300 hundred patients.

**Sample size:**

**Study subjects:**

300 pediatric patients of animal bite attending anti-rabies vaccination clinic for post exposure prophylaxis. After obtaining written informed consent from the patients, all 300 pediatric patients' parents were interviewed with the aid of preformed structured questionnaire. All the patients were subjected to Sociodemographic profile and detailed history of type of bites including site, duration, category of exposure, wound toilet, treatment including both active and passive immunization. Also, history regarding health seeking behavior of animal bite patients like application of oils, salt, lime, herbs, red chilies and turmeric powder on the wound was inquired.

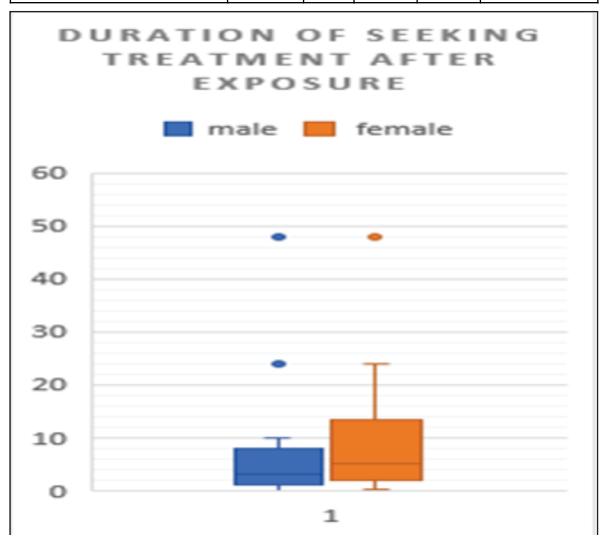
**RESULT:**

**Comparing mean duration of seeking treatment after exposure in rural and urban area:**

Variable	Observations (n)	Mini mum	Maxi mum	Mean (x)	Std-dev (s)
Duration of Seeking Treatment after exposure in Rural area	125	0.100	48.000	14.969	14.996
Duration of Seeking Treatment after exposure in Urban area	163	0.250	48.000	6.014	10.574

**Comparing mean duration of seeking treatment after exposure w.r.t men and women:**

Variable	Observations (n)	Mini mum	Maxim um	Mean (x)	Std. deviation (s)
Duration of Seeking Treatment after exposure of Male	179	0.100	48.000	9.511	13.066
Duration of Seeking Treatment after exposure of Female	109	0.250	48.000	10.540	14.014



**DISCUSSION:**

In our study, we found that 62.15% [n=288] (179/288) were male and 37.85% (109/288) were female, whereas Sambo et al., in his study found that 45% of the respondents in his study were male and 55% were female.<sup>11</sup>

In the study conducted by Alam et al., it was found that 62% were from rural area and 37% were from urban area (slumps 1%) for seeking treatment after exposure.<sup>12</sup> Whereas in our study we found 43.40% (125/288) from rural area and 56.60% (163/288) from urban area were seeking treatment after exposure.

Kabeta et al found in her study that 83% exposure were by dog bites whereas we found 71.18% exposure by dog bites.<sup>13</sup> Stull JW et al showed in his study that dogs are responsible for 80% of all bites.<sup>14</sup>

**REFERENCES:**

- Warrell, M.J., Warrell, D.A., Rabies: the clinical features, management and prevention of the classic zoonosis. *Clinical medicine*. 2015; **15**: 78-81.
- WHO, Rabies vaccines: WHO position paper–April 2018, *Wkly. Epidemiol. Rec.* 2018; **93**: 201–220.
- K. Hampson, L. Coudeville, T. Lembo, M. Sambo, A. Kieffer, M. Attlan, J. Barrat, J.D. Blanton, D.J. Briggs, S. Cleaveland, P. Costa, C.M. Freuling, E. Hiby, L. Knopf, Leanes, F.X. Meslin, A. Metlin, M.E. Miranda, T. Müller, L.H. Nel, S. Recuenco, C.E. Rupprecht, C. Schumacher, L. Taylor, M.A. Vigilato, J. Zinsstag, J. Dushoff, Estimating the global burden of endemic canine rabies, *PLoS Negl. Trop. Dis.* 2015; **9** (4) e0003709, <https://doi.org/10.1371/journal.pntd.0003709>.
- Knobel DL, Cleaveland S, Coleman PG, Fèvre EM, Meltzer MI, Miranda MEG, et al. Re-evaluating the burden of rabies in Africa and Asia. *Bulletin of the World health Organization*. 2005; **83**(5): 360–8. PMID:15976877.
- Bhargava A, Deshmukh R, Ghosh TK, Goswami A, Prasanaraj P, Marfatia SP, et al. Profile and characteristics of animals' bites in India. *J Assoc Physicians India* 1996; **44**: 37-8.
- Sudarshan MK, Madhusudana SN, Mahendra BJ, Rao NS, Ashwath Narayana DH, Abdul Rahman S, et al. Assessing the burden of human rabies in India: Results of a national multi-center epidemiological survey. *Int J Infect Dis.* 2007; **11**: 29-35.
- Song M, Tang Q, Wang DM, Mo ZJ, Guo SH, Li H, et al. Epidemiological investigations of human rabies in China. *BMC Infect Dis.* 2009; **9**: 210.
- John K, Kazwala R, Mfi nanga GS. Knowledge of causes, clinical features and diagnosis of

- common zoonoses among medical practitioners in Tanzania. *BMC Infect Dis.* 2008; **8**: 162.
- Goänen I, Soysal A, Topuzog A, Bakir M. Clinical Knowledge and Attitudes of Turkish Physicians toward Rabies Caused by Animal Bites. *Jpn J Infect Dis.* 2011; **64**: 382-90.
- Kole AK, Roy R, Kole DC. Human rabies in India: a problem needing more attention. *Bulletin of the World Health Organization*. 2014; **92**: 230. doi: <http://dx.doi.org/10.2471/BLT.14.136044>
- Sambo M, Lembo T, Cleaveland S, Ferguson HM, Sikana L, Simon C, et al. (2014) Knowledge, Attitudes and Practices (KAP) about Rabies Prevention and Control: A Community Survey in Tanzania. *PLoS Negl Trop Dis* 8(12): e3310. <https://doi.org/10.1371/journal.pntd.0003310>
- Alam AN, Siddiqua M, Casal J. Knowledge and attitudes about rabies in dog-bite victims in Bangladesh. *One Health*. 2020 Jun 1; **9**: 100126.
- Kabeta T, Deresa B, Tigre W, Ward MP, Mor SM (2015) Knowledge, Attitudes and Practices of Animal Bite Victims Attending an Anti-rabies Health Center in Jimma Town, Ethiopia. *PLoS Negl Trop Dis* 9(6): e0003867. <https://doi.org/10.1371/journal.pntd.0003867>
- Stull, J.W., Peregrine, A.S., Sargeant, J.M. et al. Household knowledge, attitudes and practices related to pet contact and associated zoonoses in Ontario, Canada. *BMC Public Health* **12**, 553 (2012). <https://doi.org/10.1186/1471-2458-12-553>