Assessment of Knowledge about Rabies and its Preventive Measures among Attendants of Animal Bite Cases at Anti-Rabies Clinic, Maharana Bhupal Hospital, Udaipur (Rajasthan)

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Abstract:

Introduction : Rabies, also known as hydrophobia is an acute viral disease and the only communicable disease of humans that is always fatal. It is primarily a zoonotic disease of warm-blooded animals, particularly carnivorous and it is transmitted to man usually by rabid animals via bites, scratches or licks. **Objectives :** Purpose of this study was to evaluate knowledge, attitude and practices of general population on animal bite and rabies. **Method :** Present study was cross-sectional, pre-structured questionnaire based study. Study was conducted among 240 attendants of dog bite cases randomly selected at Anti-Rabies clinic, Maharana Bhupal Hospital, Udaipur. Data was analyzed statistically by simple proportions and test of significance (Chi square test) and Mann Whitney U test were applied using SPSS ver.17 **Results :** Among of 240 respondents, 101 (42%) had adequate knowledge about rabies and its preventive measures Statistically significant difference in knowledge is seen among attendants who got knowledge from literary sources ($p<0.05$). Majority of individuals (85%) know about the anti rabies vaccine administration. Among the respondents, 92 (38.3%) attendants showed positive attitude regarding anti-rabies vaccination. No significant association was seen between adequate knowledge and positive attitude ($p>0.05$). Only 4% individuals had already taken anti-rabies vaccination. **Conclusion :** There is lack of overall comprehensive knowledge. There is a gap between knowledge and attitude, which can be increased by IEC activities in print and electronic media and health talks by health personals.

Keywords : Rabies, animal bite, knowledge, attitude.

Introduction :

Rabies, also known as hydrophobia (Fear of water, one of the classical pathognomonic sign of human rabies) is an acute viral disease and only communicable disease of man that is always fatal. It is primarily a zoonotic disease of warm-blooded animals, particularly carnivorous and it is transmitted to man usually by rabid animals via bites, scratches or licks. Once symptoms of the disease develop, rabies is nearly always fatal. Bites by rabid domestic dogs cause 99% of human rabies deaths. [1] Roughly, 36% of the world's rabies deaths occur in India each year, most of those when children come into contact with infected dogs. [2]

In India, the Andaman & Nicobar and Lakshadweep islands revealed both the areas to be rabies free. [3] India has one of the highest numbers of cases of rabies in the world, with estimates of 30,000–50,000 human cases per year. Dogs roam in packs in all areas of the country. Unfortunately, human rabies immune globulin (HRIG) is not readily available in India. [4]

In Rajasthan due Mukhyamantri Nishulka Dava Yojana the HRIG is now available at tertiary care centers free of cost to the patients. [5] In case of any carnivorous bite, it will be assumed that the individual may have been exposed to rabies. That is because there is no reliable way to test dogs for rabies. Hence, there will be need of post-exposure

treatment. Treatment should begin with immediate, thorough cleansing of all wounds for at least 15 minutes with soap and running tap water. If available, use a virucidal agent such as povidone iodine solutions to irrigate the wounds. Completion of this treatment is must before further evaluation and treatment. All bites by carnivorous animals divided in three categories, in each and every case of category third bite HRIG is administered necessarily within first 72 hours of bite. Each and every category second and third bite case should be treated with post exposure prophylaxis via intra muscular or intra dermal anti rabies vaccination. Intra muscular anti rabies vaccination advised for pre exposure prophylaxis. [6]

Method :

The present study was across sectional study done at Anti Rabies Clinic of Maharana Bhupal Hospital, Udaipur. Study was conducted following the proper consent of randomly selected 240 attendants of dog bite cases. All the consented individuals were requested to sit properly in a separate room. Information was provided about aims and objectives of the study and methodology adopted while filling the questionnaire. The questionnaire consists of four parts. The first part deals with personal detail, the information regarding rabies, source of information about animal bites and their morbidity. In the second part, we tried to assess the knowledge of participants about Rabies using five multiple choice questions. The questions were:

(1) According to you how an animal bite managed before visiting hospital?

(2) Is application of lime or chili or any other substance locally on wound is beneficial

(3) Is any vaccination necessary after animal bite

(4) What is rabies?

(5) Is any method for protection of pet animals is available.

In the third part of the questionnaire we used four questions to test the attitude of the participants rated on Likert scale as (1) Strongly disagree (2) Disagree (3) Agree (4) Strongly agree.

We set the maximum score for each respondent at 16 and minimum at 4. High score (>=12) indicative of positive attitude and low score (<12) indicative of negative attitude.

In the fourth part of questionnaire participants were asked about if any one of them previously encountered with dog bite or any animal bite and taken anti rabies vaccination. The data was entered and analyzed with the Microsoft office 2007 and SPSS version 17, respectively. Appropriate tables were generated and Chi square test and Mann-Whitney U test used for statistical inferences.

Results :

Total two hundred forty attendants of animal bite cases consented and were included in the study. Participants belong to 16-59 years age group (mean age 38.6 ± 3.2 years). A total of 138 (57.5%) attendants correctly know that rabies is preventable by anti-rabies vaccine after animal bite. Responses of the questions meant to assess the knowledge were scored, maximum score was 5 and all those respondents who scored >=3.5 were considered to have adequate knowledge. Only 101 (42.1%) attendants showed adequate knowledge. Although 57 (23.7%) attendants got the information about rabies prevention from health personnel's and 8 (3.3%) attendants from audio visual media sources but statistically significant difference in knowledge is seen among respondents who got the knowledge from literary sources and family & friends as compared to other sources (p value <0.05). (Table1)

Out of all attendants, 98 were from urban area and 142 were from rural area. Among urban attendants 61 (62.2%) showed adequate knowledge whereas among rural areas, 40 (28.2%) showed adequate knowledge. The difference in knowledge among urban and rural attendants was highly statistically significant (p value <0.05) (Table 2)

Attitude of the all respondent's attendants rated on Likert scale. Only 92 (38.3%) attendants were having favorable positive attitude. Out of them 58 (59.2%) were urban area residing attendants while 34 (23.9%) were attendants who comes from rural background. The Relationship between

Table 1: NRC capacity to treat complicated SAM children in India

Source	Respondents	Adequate Knowledge	Inadequate Knowledge	P value
Literature	44 (18.3)	32 (72.7)	12 (27.3)	0.0000
Audio visual media	8(3.3)	5(62.5)	3(37.5)	0.234
Health personnel	57(23.7)	21(36.8)	36(63.2)	0.359
Family and friends	131(54.6)	43(32.8)	88(67.2)	0.001

*Figures in parenthesis indicate percentage

Table 2: Comparison of knowledge among different locality of attendants (N=240)

Residence	Respondents	Adequate Knowledge	Inadequate Knowledge	P value
Urban	98 (100)	61 (62.2)	37 (37.7)	0.0000
Rural	142 (100)	40 (28.2)	102 (71.8)	

*Figures in parenthesis indicate percentage

Table 3: Attitude testing of the participants (N=240)

Attitude testing questions	Strongly Agree	Agree	Disagree	Strongly Disagree
I would take vaccine if I encountered with dog bite	67 (27.9)	139 (57.9)	28 (11.7)	6 (2.5)
Anti-rabies vaccine is safe for preventing rabies	52 (21.7)	126 (52.5)	49 (20.4)	13 (5.4)
I would recommend anti-rabies vaccination to others	78 (32.5)	144 (60)	16 (6.7)	2 (0.8)
I would recommend vaccination of pet dogs to others	73 (30.4)	140 (58.3)	23 (9.6)	4 (1.7)

*Figures in parenthesis indicate percentage

knowledge and attitude statistically were tested using Mann-Whitney U test and by that knowledge was grouped in two variables adequate and inadequate while attitude as strongly disagree 1 point and strongly agree 4 point, maximum score given was 16. There was no statistically significant association seen between adequate knowledge and favorable positive attitude ($p > 0.05$).

In case of encounter with dog bite in future 206 attendants (85 %) either agreed or strongly agreed to take anti-rabies vaccine. A total of 222 attendants (92 %) agreed they will recommend anti-rabies vaccination to others in case of animal bite encounter. (Table 3)

Discussion :

Rabies remains an important public health in India. Our findings highlights the knowledge, attitude and practices towards animal bite cases and rabies among people attending anti-rabies clinic with animal bite cases at tertiary care hospital Udaipur. In the present, study 42.1% participants showed adequate knowledge in contrast to a study done by Abhishek et al where only 25% respondents show adequate knowledge [7] but similar adequacy of knowledge among 47% respondents was seen in a study done by Sudarshan MK et al. [8]

A study by Ichhpujani RL found that, 30.9% participants have adequate knowledge about wound washing and preventive measures. [9] In Present study, 86% of respondents agreed on taking anti rabies vaccination, if they encounter dog bite in future. Along with that, 88% of respondents showed knowledge of rabies transmission by bite of rabid dog and agreed on recommendation of pet dog

vaccination to others which show similar finding with the KAP study done by Singh US et al at rural communities of Gujarat. [10] In present study 38% participants showed favorable positive attitude which is similar to 31% respondents having positive attitude in study done by Sekhon AS et al. [11]

Conclusion :

The present study was done to take a snapshot on people's knowledge, attitude and practice about rabies and its preventive measures. In the present study majority of participants showed knowledge about rabies as a disease and one should seek medical treatment and prophylactic vaccination but overall lack of comprehensive knowledge about prevention, wound washing, pet dog vaccination and disease fatality and there is a gap between knowledge and attitude which can be increased by IEC activities in print and electronic media and health talks by health personals.

Declarations :

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Conflict of interest : Nil

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