

Research Article

Knowledge assessment about risk prevention of rabies amongst doctors in AIIMS, Jodhpur

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ABSTRACT

Background: Rabies still continues to be a public health problem in India and to protect our citizens from this menace; medical professionals have to be well equipped to tackle it more efficiently. The paper aims to assess the knowledge of residents and faculty in newly established AIIMS regarding risk prevention of rabies.

Methods: A cross sectional study using a structured questionnaire on rabies was done at AIIMS Jodhpur amongst the doctors and the data was compiled in Microsoft excel 2010 were further analysed using SPSS version 21.

Results: Out of the total sixty respondents, faculty constituted 38.3%, and junior residents and senior residents 28.3% and 33.3% respectively. Nearly 72% responded correctly regarding post exposure prophylaxis (PEP) i.e. 5 dose regimen of intramuscular administration of Anti Rabies Vaccine (ARV) and 56.7% doctors were unaware about the current recommendation of intradermal (ID) route. Rabies immunoglobulin (RIG) or Anti-Rabies Serum (ARS) against Rabies infection used in Class III bites was known to only 45% of the total doctors.

Conclusion: The study reveals that there is a scope of improvement in important areas related to the knowledge of doctors in AIIMS regarding animal bites which needs to be upgraded time to time through continuing medical education in order to follow the standard protocol and guidelines at the apex institute.

Keywords: Rabies, ARV, Categories of wounds, PEP

INTRODUCTION

Rabies still continues to be a major public health problem in India contributing around 36% of deaths due to Rabies worldwide.¹⁻³ There are various mammals who carry the rabies virus but dogs are the source of 99% of human infection.⁴ Most animal bites in India are by dogs accounting for around 91.5% which are very commonly found in homes as pets and on streets and abandoned places as stray dogs.⁵ As its case fatality rate is 100%, any carelessness in its post exposure prophylaxis may result in death of the patient.⁶ Considering its fatality, any animal bite should be dealt with utmost care. So, it becomes imperative that the health care professionals have appropriate knowledge about the animal bites and

risk prevention of Rabies and be better equipped to tackle this menace more efficiently. Although the general practitioners and primary care physicians are the most commonly the first line management providers but animal bites are so common and encountering these patients either in hospital, home or at any leisure place may not be uncommon for health care professionals of any speciality. In view of absence of anti-rabies clinic in All India Institute of Medical Sciences (AIIMS), Jodhpur and patients thronging hospitals round the clock, it is prudent to have the knowledge of Rabies and its preventive measures so that appropriate advice can be provided to the patients. This study was intended to assess the knowledge of doctors of AIIMS, Jodhpur

regarding rabies and accordingly train them through seminars or Continuing Medical Education (CME).

METHODS

A cross sectional study was conducted in January 2014 amongst the doctors working at All India Institute of Medical Sciences, Jodhpur, Rajasthan. Data was collected using a pretested, structured questionnaire which was anonymous. Informed consent was taken explaining the purpose of the study from all the respondents. A total of 60 participants (faculty and resident doctors) responded after giving their written consent. Proper care was taken to avoid any type of bias during the study. Data was compiled in Microsoft excel 2010 and analysed with the help of SPSS version 21.

RESULTS

Out of the total sixty respondents, 42 (70%) were males and rest 18 (30%) were females. Faculty constituted 38.3%, and junior residents and senior residents 28.3% and 33.3% respectively. Approximately 95% doctors considered dogs along with other animals to be the source of rabies however 70% considered furious as well as dumb animals to be the reservoir of the virus. All the doctors were aware of the rabies disease and its modes of transmission.

Our study revealed that 81.7% responded that they have heard about categories/class of wounds caused by animal bites but only half of them were aware of the correct categories/class of bites. It was good to note that 95% were aware of the fact that wound washing prevents the virus transmission from site of animal bite to central nervous system and 91% doctors considered suturing to be avoided as far as possible. Surprisingly knowledge regarding the use of anti-rabies vaccine and the site of its administration was known to 45% and 53% doctors respectively.

Nearly 72% responded correctly regarding Post Exposure Prophylaxis (PEP) i.e. 5 dose regimen of intramuscular administration of Anti-Rabies Vaccine (ARV) and 56.7% doctors were unaware about the current recommendation of intradermal (ID) route. Rabies immunoglobulin (RIG) or Anti-Rabies Serum (ARS) against Rabies infection used in class III bites was known to only 45% of the total doctors.

It was noted in the study that there was no statistically difference in the knowledge of faculty and residents except in the awareness of categories of animal bites ($P < 0.05$). Regarding the knowledge of reservoir of virus, suturing of wounds, PEP, ARV and its site; faculty performed better than the residents and in the domains such as awareness of categories, No. of categories of bites, wound washing and current recommendation of ID route and RIG administration, residents were better equipped.

Table 1: Correct knowledge regarding rabies amongst doctors.

Domains	Faculty (n=23)	Residents (n=37)	P value
Furious dogs as well as the dumb dogs cause rabies	19 (82.6)	23 (62.2)	0.093
Awareness about categories	15 (65.2)	34 (91.9)	0.009 (Significant)
Categories/class of bites	11 (47.8)	21 (56.8)	0.262
Wound washing	21 (91.3)	36 (97.3)	0.3
Suturing of wounds	22 (95.7)	33 (89.2)	0.125
ARV	11 (47.8)	16 (43.2)	0.729
Site	13 (56.5)	19 (51.4)	0.673
PEP	18 (78.3)	25 (67.6)	0.686
Intradermal route	7 (30.4)	19 (51.4)	0.112
RIG in cat III	10 (43.5)	17 (45.9)	0.615

Percentages are in parentheses.

$P < 0.05$ - Significant and $P \geq 0.05$ - Not significant

DISCUSSION

Our study was conducted in a newly established institution of national importance to assess the knowledge of doctors regarding the risk prevention of rabies which is an issue of vital public health importance. In the present study, majority of doctors were aware of the possibility of transmission of rabies through animal bites as in another studies.^{7,8} Almost 92% doctors were more in favour of not suturing the wounds unless and until needed strongly in cases of severely lacerated wounds that too with minimal sutures. But this was not in compliance with the study conducted in Delhi⁷, Jamnagar⁸ and Bangalore⁹ as 34%, 64% and 80% doctors were in favour of doing this respectively but similar response was seen in studies done by Choudhary et al and Sarkar et al.^{10,11} Regarding wound washing or toileting, there was an overwhelming response similar to other studies.^{7,8}

WHO recommends Essen regimen of 5 dose intramuscular rabies vaccine to be administered on 0, 3, 7, 14 and 28 days in deltoid region for previously unimmunized individuals.¹² In our study 71% doctors responded correctly about PEP which is quite better than earlier studies.^{8,9} But only half were aware about the correct site which was not in accordance with Delhi and Jamnagar study^{7,8} but also better responses were reported by Choudhary et al.¹⁰ and Sarkar et al.¹¹ According to WHO guidelines for rabies prophylaxis, animals' bite wounds are grouped into 3 classes; class I needs no prophylaxis, class II needs administration of vaccine only but class III requires vaccine and immunoglobulin both.¹² However less than half of the doctors were aware of the appropriate use of RIG in class III category which was better than the study done by Sarkar et al.¹¹ but poor than the study of Choudhary et al.¹⁰

The schedule recommended in the updated Thai red cross regimen (2-2-2-0-2) requires 2 doses each of 0.1 ml in both deltoids on 0, 3, 7, 28 days. The efficacy and acceptability of this regimen is proven and is comparable to Essen regime. The advantage of intradermal regimen is the reduction of volume of vaccine and thus the cost by 60%. However Government Of India (GOI) has approved and recommended it way back in 2005 but it is hardly in practice and needs further research. In our study only 40% doctors were updated about intradermal route which is better than Choudhary et al. and Sarkar et al. studies.^{10,11}

CONCLUSION

The study highlighted the need to upgrade the knowledge of doctors in tertiary care centres like AIIMS Jodhpur regarding rabies prevention as their awareness is found to be suboptimal. There is no significant difference between the faculty and residents' knowledge according to the recommended guidelines. This can be adequately addressed through well-structured educational strategies such as regular Continuing Medical Educations (CMEs), seminars and training programs. IEC materials for the patients as well as the clinicians in the form of charts and booklets should be made available and prominently displayed at appropriate places in hospitals.

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Ethical approval: The study was approved by the institutional ethics committee of AIIMS

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