Title: AWARNESS AMONG MEDICAL INTERNS REGARDING MANAGEMENT OF ANIMAL BITES IN A TERTIARY CARE HOSPITAL IN GOA

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Keywords Animal Bite, Rabies, Medical Interns

Abstract Animal bites in humans are a major public health problem. Clearly greater efforts should be made to improve the control of rabies, an incurable zoonotic disease which is preventable by appropriate post exposure prophylaxis..

Original Article:

AWARENESS AMONG MEDICAL INTERNS REGARDING MANAGEMENT OF ANIMAL BITES IN A TERTIARY CARE HOSPITAL IN GOA

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ABSTRACT:

INTRODUCTION: Animal bites in humans are a major public health problem. Clearly, greater efforts should be made to improve the control of rabies, an incurable zoonotic disease which is preventable by appropriate post-exposure prophylaxis. Therefore, the knowledge regarding animal bite management is of utmost importance. The present study is undertaken to assess awareness regarding management of animal bite among Medical Interns.

MATERIALS AND METHODS: The cross sectional study carried over a period of one month constituted the current batch of Medical Interns at a tertiary care center as the study population. The data was collected using a self-administered semi structured questionnaire which was made available to each of the 128 Medical Interns from various departments of the institute via an Online link through social networking site. The consent form was attached to the Questionnaire and the appropriate remarks i.e. completeness of the Questionnaire were clearly mentioned in the Link. Institutional Ethics committee approval was considered for conducting the study.

RESULTS: Majority of the subjects could correctly classify (category 1: 97% in case of touching of animals and 81% in case of licks on intact skin; category II :68% in case of Nibbling of skin and 85% in case of minor abrasion without bleeding and category III :80% in case of single transdermal bite, 61% in case of licks on broken skin and 61% in case of contamination of mucous membrane) the animal bite wounds. With regard to post-exposure prophylaxis, only 7% of the subjects were aware of the intradermal schedule and 34% of them were aware of the intramuscular schedule. As a first aid measure following a animal bite, all of the subjects were of the opinion that the wound has to be washed in the soap and water and suturing should not be done; 59% opined that antiseptic should be applied following washing the wound with soap and water. 72% of the subjects were aware of the management of category 2 bite wounds. Data collected was analyzed using the SPSS software version 14.0

CONCLUSION: There is an apparent lack of awareness among medical interns regarding appropriate animal wound management and vaccine administration which could be tackled through educational programmes.

Key words: Animal bite, Rabies, Medical Interns

INTRODUCTION

Animal bites in humans are a major public health problem[1]. Rabies is an enzootic and epizootic disease of worldwide importance[2]. It is an under-reported, neglected and deadly disease estimated to cause more than 50 000 human deaths annually, most of which occur in the poorest regions of the world[3]. The population at risk includes 2.5 billion people currently living in regions in which rabies is endemic.

Globally, estimates indicate that human mortality (due to endemic canine-mediated rabies) is highest in Asia, with the highest incidence and deaths reported in India. India is endemic for rabies, with an estimated 20,000 deaths due to rabies annually. This is closely followed by Africa, however estimates of burden have always been uncertain due to the absence of reliable data.Half of the victims of dog bites and subsequent deaths from rabies occur in children younger than 15 years of age, as they are the high risk population.

Clearly, greater efforts should be made to improve the control of rabies, an incurable zoonotic disease which is preventable by appropriate post-exposure prophylaxis. So, it becomes imperative that the health care professionals have appropriate knowledge about the animal bites, risk prevention of rabies and be better equipped to tackle this menace more effectively. Thus, the present study is undertaken to assess awareness regarding management of animal bites among Medical Interns.

OBJECTIVES

To assess awareness regarding management of animal bites among Medical Interns.

MATERIALS AND METHODS

Table 1 depicts the Knowledge among the Medical Interns regarding categorization of wound. Majority (97%) of them correctly classified touching of animals as Category I wounds, while 3% of the Interns could not classify them into any category. About 81% of the Interns considered licks on intact skin by rabid animals as Category I, 14% as Category II, 2% as Category III and 3% could not specify the category. A majority of the Interns (68% and 85% respectively) noted that nibbling of uncovered skin and minor abrasions without bleeding were Category II wounds. These wounds were

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categorized into Category III by 15% and 4% of the Interns. However, the wounds were categorized into Category I by 17% and 11% of the Interns. Single Transdermal bites, licks on broken skin and contamination of mucous membrane with saliva were identified as Category III bites by 80%, 61% and 61% of Interns respectively. The percentage of Interns who classified these into lower categories were 18%, 36% and 36% respectively while 2%, 3% and 3% of the interns did not classify them into any category.

Table 2 depicts the Knowledge among the Medical Interns regarding site, route and schedule of post-exposure prophylaxis for animal bite management. It is observed from the above table that majority of the Interns (94%) knew that the site of vaccination was the deltoid. Both Intramuscular and intradermal routes of vaccination were known to 57% of the Interns. The correct schedule of administration was known by 85% of the interns.

Table 1

The Knowledge among the Medical Interns regarding categorization of wounds

Wound Type	Wound Category*			Don't Know	Guideline (Correct Response)
	1	2	3		
Touching of animals	97	0	0	3	Category 1
Licks on intact skin	81	14	2	3	Category 1
Nibbling of uncovered skin	17	68	15	0	Category 2
Minor abrasion without bleeding	11	85	4	0	Category 2
Single transdermal bite	2	16	80	2	Category 3
Licks on broken skin	5	31	61	3	Category 3
Contamination of mucous Membrane with saliva	18	18	61	3	Category 3

*Figures indicates percentages

Table 2

The Knowledge among the Medical Interns regarding site, route and schedule of post-exposure prophylaxis for animal bite management

Knowledge	N	%	Guideline
1. Site of vaccination (N=100)	Deltoid		
Deltoid	94	94.0	
Abdomen	06	06.0	
2. Route of vaccination (N=100)			Intramuscular/ intradermal
Intramuscular	34	34.0	
Intradermal	07	07.0	
Intramuscular/intradermal	57	57.0	
Other	02	02.0	
3. Schedule of vaccination (N=100)			
Yes	85	85.0	
No	15	15.0	

Table-3

The Knowledge among the Medical Interns regarding wound management.

Domain	Response*		Guideline (correct response)
	Yes	No	
Should the wound be washed immediately	100	0	Yes
Should antiseptic be applied in the wound	59	41	Yes
Should suturing be done	0	100	No
Should cauterization be done	3	97	No

* Figures indicate percentages

The table shows that the 100% of the Interns response regarding wound management, 59% regarding antiseptic use, 100% regarding suturing and 97% regarding cauterization were in accordance to the guidelines.

Table- 4

The Knowledge among the Medical Interns regarding the Guidelines of Post Exposure Prophylaxis

Response	Category 1	Category 2	Category 3
1. Don't know	4	5	2
2. Nothing (correct response: category 1)	39	0	0
3. Wound management	51	1	0
4. Vaccine	3	6	0
5. Rabies immunoglobulin	0	0	0
6. Wound management + vaccine (correct response: category 2)	2	72	1
7. Wound management + rabies immunoglobulin	0	10	7
8. Wound management + vaccine + rabies immunogl Obulin (correct response: category 3)	1	4	88
9. Vaccine + rabies immunoglobulin	0	2	2

It is observed from the above table that only 39% of the Interns responded correctly for Category I wound whereas 51% and 72% responded correctly for Category II and Category III wounds respectively.

DISCUSSION

A thorough knowledge regarding the management of animal bites and rabies vaccination is a must for all health care professionals, in order to prevent the development of human rabies.

Studies from India and other countries in South-east Asia have reported high level of knowledge among physicians with regard to vectors, causative organisms, incubation period, mode of transmission, or the case fatality rates of the disease, but very few studies reported on the knowledge of physicians regarding animal bite management and rabies prophylaxis[47]. Community based studies are also being conducted to assess the awareness of management of animal bite

wounds among the population and also among the health staff[8,12].

In a study conducted by Shashikantha SK et al[13] among 106 final year MBBS students in a Medical college in Karnataka, it was observed that majority of the students could correctly classify the animal bite wound (Category I 62%, Category II 66% and Category III 72.0%). With regard to post exposure prophylaxis, only 24% of the study subjects were aware of the correct intradermal schedule whereas 30% of them were aware of the Intramuscular schedule. 52% and 46% of the study subjects were aware of the Category I and Category II bite wound management.

According to Ranadip Chowdhury et al[14], a study was conducted among a total of 80 Medical interns in a Government Medical College in Kolkata wherein it was found that 56.3% and 72.6% of them could correctly classify Category I and Category II bite wounds respectively. 12.5% of the interns were aware of the intradermal route of vaccination and 10% of interns could correctly describe the post exposure prophylaxis management of Category I wounds.

The lack of proper knowledge of animal bite management and rabies vaccination can on one hand lead to inadequate vaccinations resulting in increased risk of development of human rabies or unnecessary vaccination and immunoglobulin administration.

It is essential to assess the baseline knowledge regarding the problem which should be followed by interventions to tackle the problem.

Interns are the physicians of the future. After graduating from medical school many of the interns will take up jobs at the various governmental healthcare centers and hospitals, corporate or nongovernment hospitals or starttheir own practices. It was, therefore, thought prudent to target this group for study and intervention.

Inadequate knowledge of healthcare personnel will on one hand endanger the life of the patients attending the centers for treatment and increase the healthcare budget of the government on unnecessary vaccines and immunoglobulins on the other. The department of community medicine at the medical colleges should take the initiative to start these clinics to deal with this public health problem.

CONCLUSION

There is an apparent lack of awareness among medical interns regarding appropriate animal wound management and vaccine administration. This problem could be tackled through educational programmes like regular CME's, seminars and training programmes to highlight the WHO guidelines regarding Management of animal bite. At the same time, more emphasis should be laid on the clinical management of animal bite patient during undergraduate teaching. All these measures will in turn help in the prevention of human rabies.

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