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PARA-MEDICAL STUDENTS' PERCEPTIONS REGARDING TREATMENT AND PREVENTION OF ANIMAL BITES FOR PREVENTION OF RABIES

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ABSTRACT

Background: Rabies continues to be a significant cause of morbidity and mortality worldwide. It is estimated that 55,000 people die annually due to rabies in the world. In India, about 17.4 million animal bites occurs and an estimated 20,000 deaths occur annually due to rabies. Majority of the bites occur among people living in rural areas. Para-medical health workers are important source of information regarding appropriate treatment for animal bite in countries like India where access to qualified doctors is limited.

Objectives:

1. To assess the perceptions among paramedical students regarding diseases transmitted due to animal bites
2. The knowledge about treatment of animal bites and prevention of Rabies and
3. The knowledge about prevention of animal bites

Methodology: This cross-sectional study was conducted in Mandya Institute of Medical Sciences, Mandya in 2013. Para-medical students were administered a pretested, semi-structured questionnaire in the local language (Kannada). A total of 267 students participated in the study. Data was entered and analysed using Microsoft excel.

Results: 195 (73.0%) of the para-medical students knew that rabies was transmitted by animal bites and 138 (51.7%) knew about bacterial infections. Only 31 (11.6%) of the students knew the correct and complete post exposure treatment for the prevention of rabies. 218 (81.6%) opined that not chasing the animal was the best way to prevent animal bite and 169 (63.3%) felt that not throwing stones at animal was the best way to prevent animal bite.

Conclusion: The knowledge regarding treatment and prevention of animal bites for the prevention of rabies is lacking among the study population.

Keywords: Perceptions, animal bite, para medical students

INTRODUCTION

Rabies continues to be a significant cause of morbidity and mortality worldwide. Globally, it is estimated that 55,000 people die annually from rabies.¹ In India, about 17.4 million animal bites occur and an estimated 20,000 deaths occur

annually due to rabies. Majority of the bites occur among people living in rural areas.²

Studies reveal that dogs account for 76 to 94% of animal bite injuries. Of the millions of people bitten by animals in developed countries, about 20% seek medical care.¹

Rabies is a significant health concern following dog, cat and other animal bites. There are many myths and false beliefs regarding treatment of animal bites especially among the rural population.²

The medical officers, health workers and para medical personnel are important in delivering health care services.³ Currently in rural India, the doctor population ratio is low⁴. Due to the paucity of doctors, paramedical health workers are an important source of information regarding appropriate treatment for animal bite which consists of early cleansing of the wound, antiseptic application, rabies immunoglobulin, rabies vaccine, tetanus vaccine and antibiotics. The current study tries to find out the para medical students' perception regarding post exposure treatment for prevention of rabies and methods to avoid animal bite.

OBJECTIVES

The present study was conducted with following objectives

1. To assess the perceptions of para-medical students regarding diseases transmitted due to animal bites,
2. To assess the knowledge of the para-medical students regarding treatment of animal bites and prevention of Rabies and
3. To assess the knowledge of the para-medical students regarding prevention of animal bites

METHODOLOGY

The present study was conducted at Mandya Institute of Medical Sciences, Mandya in 2013 after getting approval from institutional ethical committee. All the para-medical students who consented to participate in the study were administered a pre-tested, semi-structured questionnaire in the local language (Kannada). Of the total 332 students, 267 students participated in the study and 65 were absent during the study. Data was analysed using Microsoft excel software.

RESULTS

267 para-medical students were administered the questionnaire. They included diploma students of various courses (laboratory technicians, health inspectors, medical records technician, x-ray technicians). 114 (42.6%) belonged to the first year, 110 (41.2%) were second year students. and 43 (16.2%) were in the third year. 56 (20.8%) were males and 211 (79.2%) were females. 231 (86.5%) were residents of rural areas and 36 (13.5%) were from families below poverty line (possession of BPL card).

All the 267 students opined that animal bite may lead to injury / wound which may need medical attention. Regarding transmission of diseases by animal bite, 195 (73.0%) knew rabies could be transmitted by animal bites and 138 (51.7%) knew about bacterial infections after animal bites. Some of them had wrong perceptions about diseases caused due to animal bite, 18 (6.7%) thought that animal bites can lead to madness. (Table 1)

97 (36.4%) knew that some of the diseases caused due to animal bite could be fatal.

121 (45.3%) thought that washing the bite wound with water would suffice to prevent rabies. 84 (31.4%) knew that the bite wound should be washed thoroughly with soap and water as soon as possible after the bite. 47 (17.6%) mentioned the application of antiseptics like povidone iodine or cetrimide, 15 (05.7%) did not know about wound toilet.

38 (14.2%) believed that, irritants should be applied to the bite wound. The various irritants stated were turmeric - 14 (05.2%), jackfruit sap - 12 (04.5%) and chilli powder- 09 (03.4%). 03 (01.1%) mentioned that copper coin has to be tied to the wound. This is a matter of concern as this is contrary to the advice to be given and such wrong advice could be a cause for treatment failure.

117 (43.9%) felt that bandaging the wound should be avoided. 56 (21.0%) opined that bandage should be applied depending on the severity of the wound. 49 (18.3%) thought that a bandage is a must and 45 (16.8%) did not know whether it was

necessary. 04 (1.5%) opined that a tourniquet has to be tied above the bite wound.

Avoidance of suture was opined by 163 (61.1%), however 104 (38.9%) said that the wound should be sutured depending on the severity of the wound.

153 (41.4%) felt the need for antibiotics. 77 (28.9%) felt that all animal bite victims should get antibiotics prophylactically. 37 (13.7%) felt that it should be given only if the wound is severe. 22 (18.2%) preferred injectable antibiotics.

With regard to prevention of rabies, 37 (13.8%) knew about rabies immunoglobulin (RIG), 178 (66.7%) knew about rabies vaccine. All the respondents who had adequate knowledge about rabies immunoglobulin also had knowledge about the vaccine / vaccination.

45 (16.8%) felt that only 1 injection is sufficient to prevent rabies. Only 101 (37.8%) knew that 5 injections were required and 32 (12.0%) believed that 14 injections were required. 109 (40.8%) knew that the injections are given to the arm and 158 (59.2%) believed that it is given elsewhere (gluteal region, around the umbilicus etc.).

114 (42.7%) knew that tetanus toxoid had to be taken after animal bite. 107 (40.1%) knew that 1 injection suffices to prevent tetanus. 93 (34.8%) knew that the injections are given to the arm.

It was noted with concern that the correct knowledge regarding the complete treatment which consists of immediate proper wound wash with soap and water thoroughly, rabies vaccine with immunoglobulin if necessary, injection tetanus toxoid and antibiotics for animal bite victims was seen in only 31 (11.6%) students.

Of the 267 para-medical students, 218 (81.6%) opined that not chasing animals and 169 (63.3%) felt that not throwing stones at animals are the best way to avoid animal bites.

(Table 2)

DISCUSSION

Studies have been conducted on the knowledge and awareness regarding prevention of rabies

among various health care personnel in many places of India. The correct perceptions regarding washing the wound with soap and water was 51 to 98% in other studies, as compared to 31.4% in the present study.^{5,6,7,8} The knowledge regarding application of antiseptic to the bite wound was 05% to 31%, compared to 05.7% in the present study.^{5,6} 71 to 88% did not know about rabies immunoglobulin which is similar to present study.^{5,7}

The knowledge & awareness about animal bites and its consequences is deficient to a large extent among para-medical students. They do not perceive the dangers of the diseases caused by animal bites and the fatality of these diseases. Awareness regarding treatment and prevention of animal bites is substantially inadequate.

CONCLUSION AND RECOMMENDATIONS

The knowledge of animal bites and its consequences is lacking among the study population. Majority of the para-medical students were ignorant of the proper post exposure treatment of animal bites. The knowledge regarding and animal bites, its prevention and prevention of rabies can be improved by annual training programmes for the newly inducted students or incorporation into their syllabus, the protocol to prevent and treat animal bites.

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Table 1: Perceptions regarding disease transmitted by animal bite

Diseases transmitted	Number of subjects (%)* (n=267)
Rabies	195 (73.0%)
Tetanus	125 (46.8%)
Bacterial infections	138 (59.7%)
Madness	18 (06.7%)
Does not cause any disease	29 (10.0%)

* Multiple responses

Table 2: Perceptions regarding prevention of animal bites

Perceptions regarding ways to avoid getting bitten by animals	Number of subjects (%)* (n=267)
Do not chase the animal	218 (81.6%)
Do not throw stones at the animal	169 (63.3%)
Do not run in front of animal	142 (53.2%)
Avoid stray animals	53 (19.5%)
Leash the pet animal	37 (13.9%)
Avoid animals which have young ones	19 (07.1%)
Do not stare at the animal	18 (06.7%)

* Multiple responses