

Title: PERCEPTION OF NURSING STUDENTS ON HUMAN RABIES AND ITS PREVENTION - A STUDY CONDUCTED IN A NURSING SCHOOL OF ODISHA

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Keywords Rabies, Perception, Nursing students, first aid, post exposure prophylaxis

Abstract Paramedical personnel need to have adequate knowledge and skill for prevention of rabies. It is the concerted effort by all healthcare personnel which is essential for achieving rabies free India by 2020

Original Article

PERCEPTION OF NURSING STUDENTS ON HUMAN RABIES AND ITS PREVENTION - A STUDY CONDUCTED IN A NURSING SCHOOL OF ODISHA

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ABSTRACT

Paramedical personnel need to have adequate knowledge and skill for prevention of rabies. It is the concerted effort by all healthcare personnel which is essential for achieving rabies free India by 2020.

Objectives of the study - to assess the knowledge of nursing students regarding

1. Transmission of human rabies.
2. Method of giving proper first-aid
3. Post-exposure prophylaxis for prevention of rabies.

Methodology

- ? Type of study – cross sectional study
- ? Duration of study – Nov. & Dec. 2014
- ? Place of Study – Govt. Nursing School situated inside the campus of SCB Medical College, Cuttack.
- ? Study Subjects – 3rd year nursing students
- ? Study instrument – Pre-designed and pre tested questionnaires

Observations

Majority i.e. 75 (88.2%) of the nursing students were aware that rabies is transmitted by the bite of a canine animal and 8(9.4%) students knew that it is transmitted either by bite or scratch of an animal. They knew the animals commonly transmitting rabies. Regarding the treatment outcome of rabies, only 37 (43.5%) students knew that it is incurable. The proper method of giving first-aid was known to only 18 (21.2%) students. 15 (17.6%) students could tell about the intradermal regimen and 3(3.5%) knew about anti rabies immunoglobulin.

Conclusion

Very few nursing students were aware regarding prevention of rabies specifically, the proper method of providing first aid and post exposure vaccination. They need to be posted in the ARV OPD for hands on training on first aid and other post exposure prophylactic measures.

Key words: Rabies, Perception, Nursing students, first aid, post exposure prophylaxis

Introduction

Rabies is a zoonotic disease, transmitted to humans by rabid animal bites, mainly by rabid dogs.¹ More than 3.3 billion people live in regions where rabies is enzootic. Each year, approximately 55,000 people are estimated to die from rabies throughout the world.² More than 99% of all human deaths from rabies occur in the developing world.³ In India about 17.4 million exposures and 20,000 deaths are estimated to occur

annually among humans.⁴ Till now all efforts to find the cure of rabies have failed but the available tools for prevention of rabies are practically 100% effective.⁵ The doctors as well as the paramedical personnel need to have adequate knowledge and skill for prevention of rabies. It is the concerted effort by all healthcare personnel which is essential for achieving rabies free India by 2020. Nursing students after getting the degree, majority of them are posted as staff nurses in the

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peripheral health institutions like Primary Health Centres, Community Health Centres, Sub-Divisional Hospitals and District Headquarter Hospitals. So most of the time they act as the first level contact of health care personnel with the animal bite victims. Hence it is highly essential that these students have the adequate knowledge and skill so that they will not only be able to provide adequate first-aid at the time of need but also can guide the patients for complete post-exposure prophylaxis. Therefore the present study will throw some light on the perception of nursing students for prevention of human rabies.

Objective of the study

To assess the knowledge of nursing students regarding

1. Transmission of human rabies.
2. Method of giving proper first-aid
3. Post-exposure prophylaxis for prevention of rabies.

Materials and Methods

The study was conducted in the Government Nursing School, situated inside the campus of S.C.B Medical College and Hospital, Cuttack, Odisha. Prior to the initiation of study, permission was obtained from the principal of nursing school. There were two major components of the study. The initial component covered the collection of data in relation to the teaching and training of nursing students. The investigators interacted with the tutors of the nursing school, referred the course curriculum specifically about rabies, went through the rabies chapter of their prescribed text book and gathered information regarding the teaching and training methods, usually adopted. Also information was obtained whether these nursing students were posted any time in the Anti Rabies Vaccination (ARV) clinic, functioning in the Medical College OPD at least for a period of few days in rotation for hands on training. The second component of the study involved the procedures like development of questionnaires, selecting the study population, conducting the cross sectional study using self administered questionnaires, data collection, compilation, analysis and interpretation. The duration of diploma nursing course is three years. There were three batches of nursing students. The senior-most batch of nursing students (3rd year) were purposively selected as the study subjects. Prior to the conduction of study, the purpose was explained to them. Out of 100 students of that batch, 85 (85%) participated in the study. The remaining 15 students were not included in the study as they were

absent. Each student was given a pre-structured and pre-tested self administered questionnaire. The data thus collected was compiled and analysed in the department of Community Medicine, S.C.B Medical College, Cuttack. The study was conducted during the months of November and December 2014.

Observations

On initial interaction with the tutors of the nursing school and discussion about the course curriculum it was observed that rabies including its prevention is covered along with other infectious diseases in theory but the chapter on rabies was not having adequate information regarding prevention. Though semple (sheep brain) tissue vaccine was discontinued since 2004 and replaced by modern cell culture rabies vaccine CCVS, the chapter in the text book (Medical & Surgical Nursing by L. Kaur, 2nd edition 2013) highlights the current use of semple vaccine and human deployed cell strain vaccine. There is no mention of other cell culture vaccines and also the current use of ID regimen is not mentioned. These nursing students were not posted in the ARV clinic either during their regular ward posting at the time of studentship or during their six months internship period. Analyzing the questionnaire regarding the perception of nursing students on rabies, it was observed that all the study subjects were females and were 19-22 years of age. Out of total 85 nursing students, 82 (96.8%) knew about human rabies and rest 3 (3.2%) had no knowledge about it. In the present study 66 (77%) nursing students told that rabies is caused by a virus while for 15 (18%) students said that it is caused by a bacteria and 4 (5%) had no knowledge regarding the causative organism. Regarding the treatment outcome of rabies, only 37 (43.5%) of the study subjects, knew that it is incurable. **Table - I** shows the perception of nursing students on rabies transmission. Majority i.e

Table : I
Perception of nursing students on rabies transmission (n=85)

Mode transmission of rabies	Responses - No. (%)
Bite	75(88.2%)
Both (bite and scratch)	8(9.4%)
DNK	2(2.3%)
Animals transmitting rabies*	
Dogs	73(85.9%)
Cats	27(31.3%)
Monkeys	17(20.3%)
Wild animals	9(10.9%)
DNK	3(3.1%)

*Multiple responses

75(88.2%) of the nursing students were aware that it is transmitted by the bite of a canine animal and 8(9.4%) students gave emphasis that it is transmitted either by bite or scratch of an animal. About the type of animal transmitting rabies, the present study shows that majority of the respondents knew the animals commonly transmitting rabies.

Out of total 85 nursing students only 37 (43.5%) had knowledge on first-aid but the proper method of giving first-aid i.e initial washing with soap and water followed by application of local virucidal agent like Povidone iodine or 70% alcohol, was known to only 18(21.2%) nursing students. (shown in **Table-II**). About post-exposure prophylaxis, 80(94.1%) nursing students were aware that post-exposure prophylaxis is essential to prevent rabies. They also knew that an ARV clinic is functioning in the OPD. But they had no knowledge about the indication for vaccination. 55(64.7%) nursing students knew regarding the availability of an anti rabies vaccine but only 15(17.6%) could tell about the intradermal regimen which is followed in the medical college. Only 3(3.5%) knew about anti rabies immunoglobulin.

Table : II
Knowledge of nursing students on First-aid (n=85)

Knowledge on pattern of first aid	No.(%)
Wash with soap and water	11(10.6%)
Application of antiseptic only	8(3.5%)
Application of antiseptics after washing with soap and water	18(21.2%)
No knowledge on first-aid	48(56.5%)

*Multiple responses

Regarding the availability of anti rabies vaccine only 51(60%) students knew that it is provided free of cost in Anti rabies vaccination (ARV) clinic of the medical college.

Discussion

In the present study only (43.5%) of the nursing students, knew that rabies is a fatal disease but Vinay M et al in a similar type of study, conducted among college students of Maddur town of Karnataka found that (68.8%) of students knew about the fatality of rabies.⁶

In the current study, majority (88.2%) of the nursing students knew that rabies is transmitted mainly by the bite of a canine animal and another (9.4%) students were aware that it is transmitted either by bite or scratch which showed that very few nursing students knew the risk of rabies from scratch. Praveen G et al in a study in Hassan, reported that (97.7%) of medical students knew

about rabies being transmitted by bite of animals.⁷ Samantaray A et al in a similar type of study among AYUSH doctors in Berhampur, Odisha mentioned that (67.8%) of them knew rabies to be transmitted either by bite or scratch of an animal.⁸ The current study reveals that majority (85.9%) of nursing students knew rabies being transmitted by bite of dogs but only (31.3%) of them knew that it can also be transmitted by cat bite. Vinay M et al in his above mentioned study reported that (97.6%) and (52.6%) respondents knew rabies to be transmitted by dog bites and cat bites respectively.⁶

Studies have shown that local wound treatment reduces the chance of rabies by 80% hence first-aid plays a very important role for prevention of rabies.⁹ In the present study proper method of first-aid (after an exposure to bite or scratch by an animal) was known to only very few i.e (21.2%) nursing students. A study by Samantaray A et al among AYUSH doctors showed that (55.2%) had knowledge on proper method of first aid.⁸ The present study also reveals that only (17.6%) students knew about the I.D (Modified Thai) regimen. But a study conducted by Jahnavir R et al among paramedical students found that (11.6%) of the respondents had correct and complete knowledge of post-exposure prophylaxis for the prevention of rabies.¹⁰ Haldar S R et al in a similar study among paramedical students found that only (29%) of respondents had the knowledge that both rabies immunoglobulin and anti rabies vaccine are given after animal bite while (71%) had no perception on rabies immunoglobulin.¹¹

Conclusion

Majority of nursing students had knowledge regarding rabies and its transmission by dog bite but very few of them were aware that bites by cat and other animals are equally important. They were not aware about the occurrence of rabies from scratch caused by an animal. Also the method of proper first aid and post exposure prophylaxis was not known to majority of nursing students.

Suggestions

Nursing students being the future health care provider should know more about the prevention of rabies. For achieving the goal of rabies free India by 2020 emphasis should be given to improve the knowledge and skill of these nursing students specifically for providing proper first-aid. Posting in the ARV OPD during the studentship as well as at the time of nursing internship at least for a week on rotation basis is very essential at this juncture to have rabies free India in future.

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References

1. George M Baer. The Natural History of Rabies. 2nd ed. Boston: CRC Press, 2000:515-516
2. WHO Expert Consultation on Rabies- first report. WHO Technical Report Series 931, Geneva: WHO, 2005: 3-4
3. World survey of rabies: No. 32 for the year 1996. Geneva, World Health Organization, 1998 (WHO/EMC/ZDI/98.4)
4. Association for Prevention and Control of Rabies in India. Assessing the burden of rabies in India: WHO sponsored national Multicentric rabies survey, 2004.
5. Sudershan M.K. "Achieving human rabies free India : Call for concerted action" APCRI Journal , Vol 16, Issue 1 , July 2014.
6. Vinay M, Mahendra B. J, Harish B.R, Venu R.P. "A study of awareness regarding rabies and its prevention among college students of Muddar town in Karnataka State". APCRI Journal Vol 11, Issue 1, July 2009.
7. Praveen G, Rajasekhar H. K. "Knowledge, awareness and perception of medical college students on rabies and its prevention". Int J Med Sci Public health. 2014; 3(12): 1484-1486.
8. Samantaray A, Panda M, Behera T.P, Tripathy R.M. "Knowledge of animal bite and its management by AYUSH doctors". APCRI Journal Vol.15, Issue 2, January 2014.
9. Chapter in Book Park K Rabies. Preventive and Social Medicine (Jabalpur) 2015; 23:276-282.
10. Jahnvir R., Manjunath M., Mahendra B.J., Ananthachari K. R., Vinay M., Harish B.R., Nagaraju G.B., Subhas B.P., Anil K.K. "Paramedical students perceptions regarding treatment and prevention of animal bites for prevention of rabies". IJCRR. 2014; 6(5): 9-12.
11. Haldar S R , Satpathy D M , Jena D , Tripathy R M . " Perception of Paramedical students on rabies and its prevention . APCRI Journal , Vol 13 , Issue 2, January 2012.

ANNOUNCEMENT

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