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Knowledge and Practice Regarding Prevention and Management of Rabies among Allopathic and Ayush Private Practitioners in Urban Maharashtra: A Comparison Study

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ABSTRACT

Introduction: Rabies is endemic in many Asian and African Countries, including India. Correct management of animal bite cases by all practicing physicians will help India to be Rabies free country.

Method: A cross sectional survey using convenient sampling with snow ball method. The study period was from 1st July2011 to 31st October. The registered private practitioners from various regions in the city were selected for study. Their permission obtained orally. Data collection was done using pre-tested questionnaire by interview method.

Results: 97% Allopathic doctors and 94.73% AYUSH doctors had correct knowledge about the agent of Rabies. Only to 68.54% of Allopathic and 43.42% of AYUSH doctors knew modes of transmission. Important clinical symptoms were told by66.93% of Allopathic and 35.52% of AYUSH doctors. 63.7%of allopathic, 39.47% AYUSH doctors where having knowledge about available vaccines. Only 49.19% allopathic and 11.84% AYUSH doctors told Vaccination schedule 71.77% allopathic and 22.36% AYUSH doctors knew about wound washing with soap and water for 15 minutes

Key Words : Rabies, Post exposure prophylaxis, AYUSH.

INTRODUCTION

Rabies symptoms are due to the fact that the virus of rabies invades the brain to cause encephalitis. Commonly known as hydrophobia, is an acute highly fatal viral disease caused by Lyssa virus Type 1. It is primarily a zoonotic disease of warm blooded animals.[1] Rabies causes tens of thousands of human deaths annually worldwide Its global distribution has changed little since 2010, and most deaths still occur in WHO's African, South Asian regions[2]

In India both Sylvatic and urban Rabies is seen in all parts of country with expectation of Lakshadweep and Andaman and Nicobar island.[1] Each year approximately 11 to 15 million people receive post exposure treatment with either of tissue cell culture rabies vaccine. 95% cases are bitten by dogs [3, 4]A large-scale verbal autopsy survey estimated there were 12 700 human deaths from rabies in India in 2005.[2]

It is estimated that approximately 25000 to 40000 human deaths occurs due to rabies worldwide.[1,4,6]

In Asian countries such as Thailand, mass vaccination of dogs and widespread immunization of humans following exposure have significantly reduced the number of human deaths from rabies.[6]

As per WHO recommendations the production and use of the reactogenic neuronal vaccine has been stopped since December 2004 in our country[1, 4, 5]. Modern cell culture vaccines (CCV) are now being used for post-exposure prophylaxis[1, 5]. 'WHO' has recommended use of efficacious and feasible intra-dermal route of inoculation of Cell Culture Vaccines (CCV).[5, 6] Sri Lanka, Thailand and Philippines have successfully adopted ID route of ad-

ministration of CCV against rabies as per of the policy. Clinical trial conducted in India have proved intra-dermal route to be safe, efficacious and feasible for use in the coruntry.[3, 4, 5]

Indigenously prepared CCV and equine human immunoglobin are available.[3,5]Rabies education should extend to medical and veterinary students and professional health care providers and politicians. Country specific; language specific messages regarding responsible dog ownership and appropriable PEP are essential.[5]

Dr. Ambumani Ramadas[7] said that national campaigns being launched by the Department of AYUSH will be serving a very useful purpose of focusing attention on the urgent need to integrate the Indian Systems of Medicine and Homoeopathy with mainstream health care in the country. The integration of AYUSH services with mainstream health care has long been the stated policy of the Government. Adequate knowledge as well as scientific attitudes and practices about rabies by which it has become a preventable disease is being expected from every medical practitioner. In the systemic review study of all research done on Rabies during 2001-2011[8], 61% were laboratory studies.8% animal studies. Priority domains of socio-economical, political, basic epidemiological researches were lagging behind to improve existing interventions. Hence this study to know the present knowledge attitude practice situation in private practitioners in a city is important.

METHODOLOGY

It was a cross sectional survey. The study was carried out from 1st July2011 to 31st October. The registered private practitioners from various regions in the city were selected for study.

Two hundred Practicing doctors using convenient sampling technique from different areas of the city by snowball sampling method were included in the study.124 Allopathic Doctors and 76 AYUSH doctors could be included during the data collection period with the help of post graduation students in the department of Preventive and Social Medicine.

All doctors were approached in their clinics or hospitals and after taking their permission and suitable time, the pre-tested questionnaire proforma was given to the doctors with proper briefing. Both open and close ended type questionnaires included to be filled without consulting book or electronic media.

Limitations- In 'AYUSH' systems of medicine, we have involved only Ayurvedic and homeopathic private practitioners because practitioners from other systems were rare, and also denied being included in the study. We could not include any doctor from 'Siddha' System of medicine as we could not find any in the city.

RESULTS

Total 200 doctors were included in the study. Table 1 shows type of Medical services provided by the practitioners included in the study. Among the 200 practitioner, 64.50% of Allopathic doctors were not doing job in other private hospital, while AYUSH doctors were in job in some private hospital (70.03%).

Z test of proportion shows, in Allopathic and AYUSH doctors, there is significant difference in the knowledge of modes of transmission and important clinical symptoms of rabies.($p<0.01$)

There was no significant difference in the knowledge of agent of Rabies and specific treatment for Rabies in bo the groups.($p>0.05$)

Table: 1 Type of Medical services provided by the practitioners

Job profile	Allopathic Doctors (n=124)	Ayush Doctors (n=76)	Total (n=200)
Job in private hospital	44 (35.5)	53 (70.03)	97 (48.05)
Only General Practice or Consulting Clinic(own)	57 (45.96)	20 (26.03)	77 (38.05)
With Indoor Facility(own)	23 (18.54)	3 (3.94)	26 (13)

Figure in the parenthesis indicate percentage.

Table: 2 Practitioners with Satisfactory knowledge about Rabies

Field of knowledge	Allopathic Doctors (n=124)	Ayush Doctors (n=76)	Total (n=200)	P value*
Agents of Rabies	121 (97)	72 (94.73)	193 (96.5)	>0.05
Mode of Transmission	85 (68.54)	33 (43.42)	118 (19)	<0.01
Clinical Symptoms of Rabies in Man	83 (66.93)	27 (35.52)	110 (55)	<0.01
About Specific Treatment	107 (86.29)	64 (84.21)	171 (85.05)	>0.05

Figure in the parenthesis indicate percentage; * P value calculated by using Z test of proportion.

Table: 3 Practitioners with correct knowledge about Rabies Immuno- Prophylaxis

Knowledge variable	Allopathic Doctors (n=124) (%)	Ayush Doctors (n=76) (%)	Total (n=200) (%)	P value*
Knowledge about Currently Available Vaccines	79 (63.7)	30 (39.47)	109 (54.5)	<0.01
About Vaccination Schedule.	61 (49.19)	9 (11.84)	70 (35)	<0.01
About Anti-Rabies Serum	80 (64.51)	61 (80.26)	141 (70.05)	<0.05
Situation where anti-rabies serum is mandatory	64 (51.61)	8 (10.52)	72 (36)	<0.01`

* P value calculated by using Z test of proportion.; Chi-square 34.08, Degree of freedom 3; P<0.001

Table: 4 Management of animal bite cases for Rabies prophylaxis as per interviewed

Management of Animal bite cases	Allopathic (n=124)	Ayush (n=76)	Total (n=200)
Tetanus prophylaxis	10 (8.06)	6 (7.89)	16 (11.59)
Wound care, Tetanus prophylaxis and refer for rabies prophylaxis	9 (7.26)	37 (48.68)	46 (33.33)
Wound care and complete immunoprophylaxis against rabies by self	58 (46.77)	18 (23.68)	76 (55.07)
Total	77 (62.09)	61 (80.26)	138 (69)

Figure in the parenthesis indicate percentage.; Chi-square =37.07, D.F. =2, P<0.001.

X^2 shows significant difference in knowledge of Rabies vaccines between Allopathic and AYUSH faculties. Z test for proportion shows in all components of knowledge of Rabies immunoprophylaxis viz, currently available vaccines, schedule, anteabies serum was significantly less in AYUSH doctors.(p<0.01in all components except p<0.05 for the difference between knowledge of antirabies serum)

Among the 124 allopathic doctors and 76 Ayush doctor 89 (71.77%) and 17 (22.36%) respectively had satisfactory knowledge of wound management. In all, only 53% (106/200) of all practitioners had satisfactory knowledge about animal bite wound management.

The management of animal bite wound was significantly associated with type of Private practitioner, whether allopathic or AYUSH. More number of AYUSH (46.77%) were referring the patients elsewhere for Rabies prophylaxis than Allopathic doctors (7.26%)

DISCUSSION

In our study, 124 allopathic and 76 AYUSH practitioners were studied. The knowledge regarding mode of transmission, clinical symptoms was significantly less in AYUSH doctors (43.42%, 35.52% repectively) than in Allopathic doctors (68.54%, 66.93% respectively) (p<0.01), regarding agent of rabies (94.75%AYUSH, 97%, allopathic doctors), Specific treatment for Rabies (84.21%AYUSH, 86.29% allopathic doctors) found to be equally good in both the groups This may be due to difference in the curriculum and lack of appropriate training during practice.

In a study done in Jamnagar city[9] there were 40 MBBS and 60 other AYUSH doctors, reported that 85% doctors gave correct answer for cause of Rabies. Study in Punjab[10] reported that a few doctors were of the view that the oro-faecal route is also one of the routes of transmission, In the study in Karachi[11] the knowledge about rabies found to be very unsatisfactory The 'viral' cause for rabies was correctly answered by77.5% GPs.33.1% correctly identified it's route of transmission, only 51.7% knew about incubation period of rabies, while the majority (76.2%) correctly identified the involvement of CNS system in rabies.

On the contrary, a study in rural community of Gujrat[12] found, all of the individuals were aware about rabies and 98.6% knew about its transmission by dog bite. Only 31.1% would like to apply first aid measure and 36.4% will visit to doctor and rest either do nothing or adopt some religious practices to prevent the development of rabies.

In our study, 63.7% of allopathic while significantly less as compared to allopathic doctors (p<0.01) i.e 39.47% AYUSH doctors were having knowledge about currently available vaccines i.e. CCV & HDCV. Vaccination schedule was known by only 49.19% allopathic and 11.84% AYUSH doctors. In Jamnagar study[9] 86.6% of individuals were aware about anti-rabies vaccine and 24.4% knew that pet dogs need vaccine against rabies. Study in Karachi [11]showed almost all GPs (98%) had no knowledge about the types of anti-rabies vaccine. In the Delhi study[13,] less than half were aware of the intradermal rabies prophylaxis schedule (39.1%), site (42.2%), and dose (48.4%). However, only 40.4% knew of the post exposure schedule in previously immunized patients, and 47.8% knew of the preexposure prophylaxis schedule. Government doctors had significantly better knowledge than private doctors with respect to the post exposure intramuscular schedule in unimmunized individuals, intramuscular site, dose, and classification of animal bites. Sudarshan[14] from Bangalore also ob-

served that only 11% of the medical practitioner knew about the correct schedule of CCVs post-exposure prophylaxis. Abhishek sing etal found[15] 71% of allopathic and 11% of other doctors told correctly about preexposure prophylaxis and vaccine management.68% allopathic doctors and 29% o other GPs knew proper wound wash.Dr. Poornima S [16] in the systematic review study found,50.22%, 25.41%, and 4.18% of subjects which included ASHAs, Medical and other students were aware that, Dog, Cat, Monkey can transmit the disease respectively.14.69% were aware that hydrophobia as the symptom of Rabies,15.15%subjects had precise knowledge of five doses of antirabies vaccine.

In our study knowledge regarding when antirabies serum is mandatory, was poor in both allopathic (51.61%), AYUSH (10.52%) groups, significantly poor in AYUSH group ($p<0.01$) Jamnagar study[9] showed, nobody knew about immunoglobin. In the study done in Karachi[11] only 19.4% GP had appropriate knowledge of first aid treatment In the study in Delhi[13] only 19.2% GPs knew about antirabies serum.

In our study, only 71.77% allopathic doctors, and only 22.36% AYUSH doctors were knowing about wound washing with soap and water for 15 minutes and applying Betadine like antiseptic or about suturing under the cover of antiserum if only very necessary. In the study done in Jamnagar[9] found first aid management of animal bite wound was given by 95% MBBS and 66% other doctors. Dettol and Savlon were most preferred antiseptics. 30% GPs dressed the wound.

Delhi study[13] only 19.4% GPs had appropriate knowledge about the first line treatment.. More faith in indigenous medicines that are of unproven efficacy and not washing the wound properly because of fear that it gets infected.[9] There were many myths and false beliefs associated with wound management, these include application of oils, herbs, and red chilies on the wounds inflicted by rabid animals, and not washing the wound properly[17]

In our study, in allopathic doctors only 62.09% were managing animal bite cases while 80% AYUSH doctors said that they were managing animal bite cases on their own. Only 8.06% of Allopathic doctors and 7.895 of AYUSH were giving first aid with Tetanus prophylaxis. Only 7.26% of allopathic and 48.685 of AYUSH doctors were referring animal bite cases for Rabies prophylaxis mainly to government hospitals. Only 46.77% of Allopathic doctors and 23.68% AYUSH doctors were giving prophylaxis on their own. Management for rabies prophylaxis is highly associated with type of the doctor (p value<0.05).

While in the study of Jamnagar[9] city 95% MBBS and 66.6% other practioners were cleaning the wound as first aid of animal bite. TT was used by 30% MBBS and 55% others doctors. Nobody in their study knew about immunoglobin or sera they were not at all using them.

In our study AYUSH doctors were not found to practice their own remedies like applying poultice to the wound as they are mentioned to be available [18,19] and medicines in their own pathies were prescribed by few, but along with allopathic treatment/ prophylaxis.

CONCLUSION

Knowledge regarding mode of transmission, clinical features of rabies was poor in both, allopathic and AYUSH , significantly less in AYUSH practitioners. Correct knowledge about rabies immunoprophalaxis which is very important for prevention of rabies was also found to be not satisfactory in both the practioners groups and more in AYUSH doctors. Knowledge about animal bite wound management was found to be satisfactory only in 71.77% allopathic doctors and 22.36% AYUSH doctors.

The study throws light on unsatisfactory management for rabies prevention by private practitioners in an urban area.

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