*Indian Journal of Extension Education*
*Vol. 53, No. 4, 2017 (132-135)*

# Self Reported Risks Associated in Veterinary Profession

**Sariput Landge[1], Hema Tripathi[2] and Vaishali Virendra Banthiya[3]**

**ABSTRACT**

The present study was conducted in Uttar Pradesh and Maharashtra. Two hundred and six veterinarians comprising 82 Livestock Development Officers (LDOs) from state department, Maharashtra and 124 scientists from two animal science institutes were selected following the proportionate random sampling to understand the self reported risks in veterinary profession. Final data were collected personally through the two different interview schedule developed based on their nature of work. The severity of risks associated in the veterinary profession were identified and responses were taken on a three point continuum *viz.* less risky, moderately risky and highly risky separately for each event. Various activities were identified respondents were asked to mention their responses on a three point continuum based on the perceived severity of risk *viz.* least, moderate and severe. Frequencies and percentages were calculated for each risk reported by LDO's and the scientists separately. Study revealed that field veterinarian and scientists perceived zoonoses, back pain and injuries and accidents as the top three extremely risky aspects of the veterinary profession. Veterinarians working in field felt animal assaults, spondylitis and exhaustion while the scientists perceived injuries, back pain, chemical hazards and exhaustion as the other the high risk associated in veterinary profession.

**Keywords:** Risks, Hazards, Field Veterinarians, Veterinary Scientists, Veterinary Profession.

## INTRODUCTION

The work of veterinarians consists of numerous job descriptions like small and large animal practice, the work of an inspecting veterinary officer, laboratory duties, consultation from stable to stable, public and environment health monitoring and various administrative duties, education and research. Thus, by virtue of occupation, they are prone to health hazards of animal origin and from materials used in the veterinary practice/research (Agarwal *et al.,* 1986; Agarwal *et al.,* 1988). These range from an occasional kick from a reluctant patient to a highly fatal disease like rabies. They are at higher risk of accruing zoonotic diseases because of the proximity to the animals. The veterinary profession is regarded as a high-risk group for occupational hazards. Veterinarians are bitten, kicked, trampled or fallen upon by their patients and the major injuries included strains, dislocations, bruising, contusions and fractures. (Jeyaretnam and Jones, 2000). In view of the above, veterinarians were asked for the severity of risks associated in the veterinary profession perceived by them.

## METHODOLOGY

The present study has been conducted in Uttar Pradesh and Maharashtra. The veterinarians working as Livestock Development Officers (LDO) were selected from Latur division of Maharashtra for the study. All the four districts of Latur division namely; Nanded, Latur, Osmanabad and Hingoli were selected for the present study. Out of 164 veterinarians working in the Latur Division of Maharashtra, 50 per cent of the field veterinarians from the state department were selected following the proportionate random sampling. The two research institutes from the state of Uttar Pradesh were selected purposively and from the pool of the scientists of both the institutes, 50 per cent were finalized through proportionate random sampling. Thus, a total of 82 LDOs and 124 scientists formed the total sample size of 206 veterinarians. Final data were collected from the field veterinarians and scientists personally through interview schedule developed based on their nature of work. Various tasks were identified and the respondents were asked to mention their responses on

[1] Assistant Professor, Animal Husbandry Extension Education, Nagpur Veterinary College Seminary Hills, Nagpur - 440006
email:sariputvet@gmail.com, [2] Principal Scientist & Incharge AKMU, ICAR-CIRB, Hisar, Haryana, 124001 email: hematripathi1@gmail.com
[3]Assisstant Professor, Animal Husbandry Extension Education, Nagpur Veterinary College Seminary Hills, Nagpur - 440006

a three point continuum viz. least, moderate and severely risky activities. Frequencies and percentages were calculated for each risk reported by LDO's and the scientists separately.

## RESULTS AND DISCUSSION

The data in table revealed that majority of the veterinarians (45.6%) had reported injuries and accident at moderate level followed by less (33.9%) and highly risky (20.3%) irrespective of the category. Nearly 42 per cent of the field veterinarians reported the high risk of injury and accident while research scientists felt it as less risky. With respect to the zoonoses, 44 per cent of the respondents reported the veterinary profession as highly risky. Nearly 60 per cent of the field veterinarians kept it under highly risky category whereas the corresponding figure for research scientists was 33 per cent. Exposure to the hazardous chemicals was reported less risky by majority of the veterinarians (48.5%) followed by moderate (33.9%) and high (17.4%) category. About 62 per cent of the field veterinarians indicated chemical exposure as less risky while 44 per cent of the veterinarians involved in research activities felt it as moderately risky. The exposure to the radiation and its risks is increasing among the veterinarians due to greater use of radiological procedure, and radioisotopes in diagnostic and curative medicine. Although the present study revealed limited use of this radioactive material hence, the risk associated of its exposure to an individual was also less. Majority of the field veterinarians opined that radiation hazards were least risky while 42 per cent of the research scientists indicated its risk under moderate category. Adverse climatic condition was perceived as least risky by more than 50 per cent of veterinarians in both the categories. Fatigue, exhaustion and tiredness in the work was perceived moderately risky by most of the veterinarians (44.4%) followed by less and highly risky by about 40 and 16.5 per cent veterinarians respectively. In contrast, nearly 30 per cent of the field veterinarians reported fatigue as more risky as compared to only 8 per cent of research scientists. Mental disorder was perceived less risky in the veterinary profession by majority of the respondents. Interestingly, 11 and 4 per cent of field veterinarians and research scientists, respectively kept the mental disorder in moderately risky category. The instrument and the materials used in the veterinary practice can be a potential threat to an individual's well being. Hence, proper utilization of instrument with due precautions is always recommended. Regarding use of such equipments, majority of the veterinarians revealed it is as less risky while 35.5 per cent of the research scientists kept it under moderate category. Allergies were reported as less risky by majority of the respondents (54.9%) followed by 32.5 and 12.6 per cent who kept allergies under the moderate and high risk groups. The result further revealed that a large proportion of the field veterinarians (28%) perceived occupation related allergies as highly risky against only 2.4 per cent of the research scientists. Handling the wild animals was perceived as least risky by more than three fourth of the respondents. A fair percentage of field veterinarian and research scientists also indicated that dealing with the wild animals under high risky category. The unavailability of the sufficient working hands was perceived as more risky by 39 per cent of the field veterinarians against 61 per cent the research scientists who indicated the same in low risk category. Risk of headache was reported least by majority of the respondents (70%). Risk of spondylitis was reported higher among the field veterinarians as compared to the research scientists in both the moderate and high risk groups. Around 43 per cent of the field veterinarians kept back pain under high risk category while majority of veterinarians engaged in research considered it moderately risky. With respect to animal assaults, 70 per cent of the research scientists perceived it as less risky while 46 and 16 per cent of the field veterinarians kept it under moderate and high risk groups. Noise pollution was reported less risky by 76 per cent of the veterinarians. The risk of falling substance during the clinical examination, treatment and working in laboratories was perceived as less risky by majority of the respondents (80.5%) followed by moderate and high by 14.6 and 7.2 per cent, respectively.

Both field veterinarian and scientists perceived zoonoses and back pain as extremely risky. While veterinarians working in field felt injuries, accidents, insufficient working hands and exhaustion as other important risks, the scientists put chemical hazard, spondylitis, back pain and radiation hazards under high risk category. This could be due to the predominant involvement of LDO's in the clinical practice where much of the physical activities are involved while the scientists are involved more in laboratory work involving various chemicals, use of ultraviolet rays for sterile environment in laboratories dealing with experimental animals. Landercasper *et al.,* (1988) also indicated that 52 per cent of veterinarians felt their occupation is dangerous while 48 per cent did not while, a study from central Arizona showed 11.4 per cent risk of animal transmitted diseases in veterinary profession. Rejuila *et al.,* (2003) in a study of Finnish veterinarians reported accidents, serious work related fatigue and working in cold temperatures as the major self reported hazards in their work. The risk of an accident was considered fairly very high by 54 per cent of

**Table 1: Severity of risks associated in veterinary profession perceived by respondents**

| Sl. No. | Risk associated in veterinary profession | Severity of risks: Less | | | Moderate | | | High | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Field Veterinarian (n =82) | Research Scientist (n=124) | Total Veterinarians (N = 206) | Field Veterinarian (n =82) | Research Scientist (n=124) | Total Veterinarians (N = 206) | Field Veterinarian (n =82) | Research Scientist (n=124) | Total Veterinarians (N = 206) |
| 1 | Injury/Accidents | 18 (22.0) | 52 (41.8) | 70 (33.9) | 30 (36.5) | 64 (51.7) | 94 (45.6) | 34 (41.5) | 8 (6.5) | 42 (20.3) |
| 2 | Zoonoses | 15(18.2) | 35 (28.2) | 50 (24.5) | 18 (22.0) | 48 (38.7) | 66 (32.0) | 49 (59.8) | 41 (33.1) | 90 (43.5) |
| 3 | Exposure to hazardous chemical | 51 (62.2) | 49 (39.5) | 100 (48.5) | 15 (18.3) | 55 (44.4) | 70 (33.9) | 16 (19.5) | 20 (16.1) | 36 (17.4) |
| 4 | Exposure to radiation | 67 (81.7) | 60 (48.4) | 127 (61.6) | 11 (13.4) | 52 (41.9) | 63 (30.6) | 4 (4.9) | 12 (9.7) | 16 (7.8) |
| 5 | Adverse climatic conditions | 41 (50.0) | 70 (56.5) | 111 (53.8) | 30 (36.6) | 44 (35.5) | 74 (35.9) | 11 (13.4) | 10 (8.0) | 21 (10.3) |
| 6 | Fatigue/Exhaustion/Tiredness | 23 (28.0) | 59 (47.6) | 82 (39.8) | 35(42.7) | 55 (44.4) | 90 (43.7) | 24(29.3) | 10 (8.0) | 34 (16.5) |
| 7 | Mental disorder | 73(89.0) | 114 (92.0) | 187 (90.7) | 9 (11.0) | 5 (4.0) | 14(6.7) | - | 5 (4.0) | 5 (2.6) |
| 8 | Use of hazardous equipments | 65 (79.2) | 76 (61.3) | 141 (68.5) | 9 (11.0) | 44 (35.5) | 53 (25.7) | 8 (9.8) | 4 (3.2) | 12 (5.8) |
| 9 | Allergies | 35(42.7) | 78 (62.9) | 113 (54.9) | 24 (29.3) | 43 (34.7) | 67 (32.5) | 23(28.0) | 3 (2.4) | 26 (12.6) |
| 10 | Handling of Wild animal | 63 (76.8) | 98 (79.0) | 161 (78.2) | 8 (9.8) | 12 (9.7) | 20 (9.7) | 11(13.4) | 14 (11.3) | 25 (12.1) |
| 11 | Insufficient working hand | 23 (28.1) | 76 (61.3) | 99 (48.1) | 27(32.9) | 41 (33.1) | 68 (33.0) | 32 (39.0) | 7 (5.6) | 39 (18.9) |
| 12 | Headache | 53 (64.6) | 92 (74.2) | 145 (70.3) | 18 (22.0) | 30 (24.2) | 48 (23.3) | 11 (13.4) | 2 (1.6) | 13 (6.4) |
| 13 | Spondylitis | 28 (34.2) | 63 (50.8) | 91 (44.2) | 37(45.1) | 44 (35.5) | 81 (39.3) | 17 (20.7) | 17 (13.7) | 34 (16.5) |
| 14 | Back pain | 13 (15.8) | 46 (37.1) | 59 (28.6) | 34 41.5) | 58 (46.8) | 92 (44.8) | 35 (42.7) | 20(16.1) | 55 (26.6) |
| 15 | Animal assaults | 31 (37.8) | 87 (70.1) | 118 (56.0) | 38 46.3) | 28 (22.6) | 66 (32.0) | 13(15.9) | 9 (7.3) | 22 (12.0) |
| 16 | Noise pollution | 60 (73.2) | 97 (78.2) | 157 (76.2) | 16(19.5) | 18 (14.5) | 34 (16.5) | 6 (7.3) | 9 (7.3) | 15 (7.3) |
| 17 | Falling substances (Equipments/Glass wares etc.) | 60 (73.2) | 106 (85.5) | 166 (80.5) | 12 (14.6) | 13 (10.5) | 25 (12.3) | 10 (12.2) | 5 (4.0) | 15 (7.2) |

Figures in parentheses indicate percentages

the women and 66 per cent of the men. Practice wise the percentages were the highest in equine practice (71%), mixed practice (57%) and in production practices (55%). Veterinarians exhibited higher prevalence of leukaemia, Hodgkin's disease and cancers of the brain, colon and skin (Blair and Hayes, 1980 and 1982) and abortion reported by Johnson *et al*. (1987) and Schenker *et al*. (1990). They also experienced acute pesticide associated toxicity (Schuchman *et al*.,1975; Anonymous, 1988), zoonotic infections (Constable and Harrington, 1982; Schnurrenberger *et al*.,1978), occupational dermatoses (Hjorth and Weismann, 1973), respiratory tract illnesses (Falk *et al*., 1985; Elbers *et al.,* 1996), and lesions in the blood vessels of the central nervous system (Schnurrenberger and Martin, 1977).

## CONCLUSION

Zoonoses, injuries, accidents, back pain, exhaustion, and spondylitis were the important risks found in the veterinary profession, which if not tackled efficiently may lead to the major hazards among the veterinarians. Although risk of occupational health hazard in veterinary profession varied greatly depended on nature of work, the work environment, work place, working hours, type of practice/animal handled, educational qualification, training attended, work experience, facilities available at work place and knowledge about the safe and hazard free working. Thus employers must provide a work place, free from recognized hazards in veterinary profession that may cause serious illness/harm to the veterinarians and associated personnel. Over and above, veterinarians engaged in different jobs should also be included while planning the preventing measures of the occupational health hazards.

## REFERENCES

Agarwal, R. K., Bhalla, N. P. and khanna, P. N. 1986. Occupational health hazards to veterinarians. 23rd All India Veterinary Association Conference Panaji, Goa.

Agarwal, R. K., Bhalla, N. P. and Khanna, P. N. 1988. An appraisal on occupational health hazards to veterinarians. 32nd Annual Conference. Indian Public Health Association, Hyderabad.

Anonymous 1988. Organophosphate toxicity associated with flea dip products California. Centers for Disease Control and Prevention. 37, 329-336.

Blair, A. and Hayes, H. 1982. Mortality patterns among US veterinarians, 1947-1977: An expanded study. International Journal of Epidemiology. 11, 391-397.

Blair, A. and Hayes, H. 1980. Cancer and other causes of death among US veterinarians, 1966-1977. *International Journal of Cancer.* 181-185.

Constable, P. and Harrington, J. 1982. Risks of zoonoses in a veterinary service. *British Medical Journal.* 284, 246-248.

Elbers, A., Blaauw, P., De Vries, M., Van Gulick, P. and Smithuis, O. 1996. An epidemiological study of several professional groups of Dutch veterinarians Part 1. *Veterinary Quarterly.* 18, 127-131.

Falk, E. Hektoen, H. and Thune, P. 1985. Skin and respiratory tract symptoms in veterinary surgeons. *Contact Dermatitis*. 2, 274-278.

Hjorth, N. and Weismann, K. S. 1973. Occupational dermatitis among veterinary surgeons caused by spiramycin, tylosin and penethamate. *Acta Dermatovenereol Jugosl,* 53, 229-232.

Jeyaretnam, J. and Jones, H. 2000. Physical, chemical and biological hazards in veterinary practice. *Australian Veterinary Journal,* 78, 751-758.

Jonhson, J. Buchan, R. and Reif, J. 1987. Effect of waste anaesthetic gas and vapour exposure on reproductive outcome in veterinary personnel. *American Industrial Hygiene Association Journal,* 48, 62-66.

Landercasper, J., Cogbill, T., Strutt, P. and Landerscasper, B. 1988. Trauma and the veterinarian. *Journal of Trauma,* 28, 1255-1259.

Reijula, K., Rasanen, K., Hamalainen, M., Juntunen, K., Lindbohm, M.L., Taskinen, H., Bergbom, B., and Jouppi, M.R. 2003. Work environment and occupational health of Finnish veterinarians. *American Journal Industrial Medicine,* 44, 46-57.

Schenker, M., Samuels, S., Green, R. and Wiggins, P. 1990. Adverse reproductive outcomes among female veterinarians. *American Journal of Epidemiology,* 132, 96-106.

Schuchman, S., Frye, F. and Barrett, R. 1975. Toxicities and hazards for clinicians in small animal practice. *Veterinary Clinics of North America.* 15, 727-735.

Schnurrenberger, P. Hansen, L. and Martin, R. 1978. Infections with erysipelothrix, leptospira and chlamydia in Illinois veterinarians. *International Journal of Zoonoses,* 5, 55.

Schnurrenberger, P. and Martin, R. 1977. Mortality in Illinois veterinarians. *Journal of American Veterinary Medical Association.* 170, 1071-1075.