

Research Article

AWARENESS OF FARMERS REGARDING HYGIENIC HANDLING OF THEIR CATTLE TO PREVENT ZOOBOTIC DISEASES

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ABSTRACT: Villagers have got the habit to remain in close contact with their cattle which may lead to spread of zoonotic diseases. Once concept of hygienic animal handling is assessed, effective measures can be taken to prevent the zoonotic transmission of diseases. With this aim, 270 farmers from nine villages of nine Gram Panchayet of Murarai-II block of Birbhum district, West Bengal, India were selected randomly. They were personally interviewed with twelve questions related with such knowledge. A score of 1 was given for correct answer and 0 for other answer including wrong and unknown answer. After analysis of data, a mean score of 7.96 was obtained by the farmers. Only significantly higher result was scored by the age group of 20-30 years farmers but in the rest age groups there were no significant differences. Positive correlation was observed between the knowledge score and education level. Better knowledge score was noted among the farmers having more number of animals. Male respondents and respondents having training related to animal husbandry scored better ($P < 0.05$). In the present study most of the farmers found to have minimum knowledge about the hygienic handling of their cattle.

Key Words: Zoonosis, Hygiene, Knowledge, Cattle owner.

INTRODUCTION

Incidences of zoonotic diseases among the farmers are of increasing concern nowadays due to close contact with their animals and traditional food consumption customs (Nicoletti 1984). Most of the cattle naturally carrying some diseases like brucellosis, anthrax, babesiosis, leptospirosis, giardiasis, taeniasis, bovine tuberculosis etc. which can also affect

the human being. Those diseases can be transmitted through the direct contact or consumption of contaminated animal products. Spread of the milk borne diseases also takes the upper hand with the increasing demand for milk and milk products among the city dwellers. Zoonosis is also an occupational health hazard. Infection may also occur through the conjunctiva, inhalation, and abraded skin. These

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routes of infection play the important role for causing occupational exposure (Omer *et al.*, 2002). Chances of transmission of diseases from human to human mainly from mother to infant have also been reported but the incidences are very rare (Palanduz *et al.*, 2000), whereas the infection rate from animal to human is very high. These diseases are sometimes difficult to diagnose early and need proper laboratory testing for confirmation. Zoonosis is mainly associated with poor hygienic handling of their cattle. It is wise to assess the knowledge level of the farmers regarding hygienic handling of their animals with an objective to minimize the chances of transmission of zoonotic diseases among the human population. Keeping this view, the present pilot study was undertaken to access the present scenario.

MATERIALS AND METHODS

The present study was undertaken at Murarai-II block of Birbhum district, West Bengal, India. One village of each nine Gram panchayat of Murarai-II block was selected randomly and 30 cattle owners from each village were taken into consideration having at least one Cattle in their houses for conducting the survey. Therefore a total of 270 nos. of respondents (farmers) were interviewed personally with 17 nos. of questions. The questionnaire were made in local Bengali language and designed in a simple form so that it can be understood easily by the farmers. It was written in two pages including the cover page that contained the research name and purposes of study. Questionnaire was in two sections: personal profile (5 questions) and statement regarding hygienic handling of their cattle (12 questions). From the first section, information about gender, age, education,

training status and number of animals were obtained and the second section was represented with 12 nos. of questions having three point scale of answers (yes, no and can't say). In case of illiterate farmers, the answers of the questions were filled up by the researchers. After analyzing the answers of the second section, a score of 1 was given for correct answer and 0 for other answers including wrong, missing or can't. Each blank space was considered as missing value. Twelve was the maximum score if respondent could able to produce all the correct answers. The farmers were divided into four groups like 20-30, 31-40, 41-50, and 51-60 years. Their education level was also divided into six groups starting from Illiterate (no education), Primary, Eight Pass, Madhyamik (10th), Higher Secondary (12th) and Graduation. The independent sample t-test was performed between the score obtained by male, female and between the scores of training status. One way ANOVA was performed among scores obtained in the different age groups, different educational qualification groups and nos. of animals reared. Data was analyzed using the Statistical Package for Social Science (SPSS) software (version 21.0).

RESULTS AND DISCUSSION

Comparative evaluation of personal profile and scores of knowledge.

Average Knowledge score of farmers of Murarai-II block was found to be 7.96 ± 0.57 . It has been observed from the survey that the male occupied 72.96% where as female occupied 27.03% of the sample. Knowledge score of the male was significantly higher ($P \leq 0.05$) than female (Table 1) and this might be due to the fact that males are more exposed to information sources than females. The present findings

Table 1. Comparative statement between the character mentioned in the personal profile and score obtained from statement regarding hygienic handling of their cattle.

Characters Mentioned in Personal Profile		No. of Farmer	%	Score
Gender	Male	197	72.96	8.74±0.89*
	Female	73	27.03	7.18±0.68
Age	20-30 Yrs	64	23.70	9.37±0.56 ^a
	31-40 Yrs	88	32.59	8.18±0.48 ^{ab}
	41-50 Yrs	72	26.66	7.19±0.61 ^b
	51-60 Yrs	46	17.03	7.13±0.22 ^b
Educational Qualification	Illiterate	31	11.48	5.81±0.39 ^c
	Primary	125	46.29	7.15±0.28 ^b
	Madhyamik	58	21.48	8.11±0.68 ^b
	H. S.	37	13.70	8.92±0.52 ^{ab}
	Graduation	19	7.04	9.77±0.98 ^a
No of Animal	1-2	171	63.33	7.21±0.89 ^b
	3-5	69	25.55	8.02±0.72 ^{ab}
	6 and above	30	11.11	8.66±1.02 ^a
Training	Yes	17	6.29	9.71±1.04*
	No	253	93.70	6.20±0.68

* a, b, c superscripts in a column differed significantly (P=0.05).

agreed with the earlier observations of Singh *et al.* (2012).

All the farmers were within the age group of 20 to 60 years. Maximum percentage of respondent (32.59%) was found within the age group of 31-40 years followed by 41-50 yrs, 20-30 yrs and 51-60 yrs. One way ANOVA analysis showed that significant score obtained by the farmers of age group of 20-30 yrs than the other age groups. There was no significant ($P \leq 0.05$) difference among the rest groups.

This is due to the fact that 20 -30 yrs age group farmers are belonged to the younger generation having better education level with more innovative mind. Hence they are more exposed to the recent information sources than its respective counterparts.

The present investigation also revealed that most of the respondents (46.29%) had primary education followed by Madhyamik (21.48%), Higher Secondary education (13.70%) and Graduation (7.04%). About 11.48 percent

Table 2. Percentage of farmers responding their answer according to each question.

Questionnaires	Answered “Yes”	Answered “No”	Answered “Can’t” or Blank Answer
Disposal of dung away from their houses	88.89% (240/270)	11.11% (30/270)	0.00
Udder should be washed with warm water before milking	17.78% (48/270)	76.29% (206/270)	5.92% (16/270)
Use of gloves to handle animal dung	2.59% (7/270)	97.40% (263/270)	0.00
Washing of hand with soap after animal handling	72.59% (196/270)	24.07% (65/270)	3.33% (9/270)
Proper disposal of dead animal in a pit	91.48% (247/270)	4.81% (13/270)	3.70% (10/270)
Drinking of fresh raw milk	12.96% (35/270)	87.04% (235/270)	0.00
Discard of milk for human consumption if antibiotic treatment of animal is going on	17.04% (46/270)	66.67% (180/270)	16.29% (44/270)
Drinking of milk from diseased animal like FMD, HS, BQ and other infectious diseases	15.18% (41/270)	80.00% (216/270)	4.81% (13/270)
Eating of meat of diseased cattle after death	7.04%(19/270)	92.96%(251/270)	0.00
Eating or drinking or both in the animal shed	11.85%(32/270)	88.18%(238/270)	0.00
Use of mosquito net at the animal shed	38.88%(105/270)	61.11%(165/270)	0.00
Regular checking of animals for ectoparasites and need to be treated immediately	70.74%(191/270)	29.26%(79/270)	0.00

farmers were illiterate but no respondent was found eight pass in our present survey. Scores of the farmers varied significantly ($P \leq 0.05$) with the education level (Table 1). Respondents having no education also gained their knowledge from day to day life. These observations confirmed that level of education which plays a very vital role for gaining knowledge of scientific handling of their livestock.

In Murarai-II block, 63.33% farmers were having cattle between 1-2 nos. followed by 25.55% and 11.11% of farmers possess the cattle between 3-5 and 6 nos. and above respectively. It was found (Table 1) that the respondent having 6 and above nos. of cattle scored significantly higher than the respondents having 1-2 nos, whereas the farmers having 3-5 nos. of cattle, there was no significant ($P \geq 0.05$) variation from the rest groups. This might be due to the fact that the farmers handling more number of animals, gathered lot of experiences from their daily problems but contradicts with the earlier findings of Singh *et al.* (2012). Maximum numbers of farmers (93.70%) were found untrained and the training status of the respondents was found significantly ($P \leq 0.05$) related to the knowledge score.

Question wise response of farmers

Most of the farmers (88.89%) dispose the dung away from their houses but usually keep at one corner of their land. Later it is used as fertilizer and also as fuel. Proper disposal of dung is not only an issue of public health concern but also it may lower the environmental pollution. Rest of the farmers should be encouraged for proper disposal of dung. About 76.29% farmers do not use warm water to wash the udders before milking and 5.92% farmers were not interested to give any comments as

milking is done by “goala”. This matter should be highlighted to prevent the zoonotic diseases. Use of gloves is nothing but show off. These views prevent them from using the gloves during dung handling and the above results are reflected in the Table 2. About 24.07 percent animal owners were recorded to wash their hands with soap after animal handling. It is noted as a good sign that most of the respondents (91.48%) dispose their cattle in pit after death and only a few percentage of animal owners (12.96%) still believe that drinking of fresh raw milk provide more nutrients than the boiled milk. It is a matter of great concern that 66.67% of the farmers don't discard the milk of their cattle during antibiotic treatment. Concept of antibiotic residues in milk is still not well known among the people of rural villages but concept of not drinking of milk from the diseased cattle has been grown up to 80.00%. Rest 15.18% of animal owners should be brought under the umbrella of this concept. Awareness should be developed among the 7.04% of respondents for not consuming the meat of diseased cattle after death. Poor livelihood pattern and lack of common health awareness forces the farmers (11.85%) to eat or drink their food in the animal shed which seems to be the most unhygienic for their health. Incidences of disease outbreaks by the mosquitoes are increasing day by day although about 61.11% of farmers do not use mosquito nets in the animal sheds. Nowadays ectoparasites of animal origin (Pal *et al.*, 2014) are considered for spreading the diseases to human too. Hence nearby 29.26% of the respondents should be well acquainted regarding the immediate treatment for ectoparasites of the animals. Hence it is clear that concept of zoonosis is merely understood

by the rural dwellers of Murarai-II, as also observed in other parts of the Bengal (Chattopadhyay *et al.*, 2006) and it need proper planning for reducing the health hazards of these marginal farmers.

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