
ORIGINAL ARTICLE

Awareness among Pig Farmers towards Brucellosis in the Punjab Region of India

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ABSTRACT

This study evaluated the awareness and knowledge of swine brucellosis among 100 pig farmers in the Punjab Region of India. The respondents were selected by simple random sampling. The study found out that 32% of the respondents were aware of swine brucellosis and their chief source of information were their fellow farmers. Overall, the respondents did not have even a fair knowledge on swine brucellosis. The study recommends that the extension agencies and training institutes need to focus their attention towards providing information to pig farmers on swine brucellosis.

Keywords: Awareness, Information, Pig Farmers, Swine brucellosis

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INTRODUCTION

Brucellosis is one of the most common zoonoses prevalent worldwide [1]. The disease occurs due to ingestion of raw milk or meat from infected animals or close contact with their secretions. The disease affects almost all domestic animals [2], number of wild animals and all age groups of humans. Brucellosis in pigs occurs due to *Brucella suis*. The species *B. suis* consists of five biovars, but the infection in pigs mainly occurs due to *B. suis* biovar 1, 2 or 3. Biovar 2 is rarely pathogenic in humans, whereas biovars 1 and 3 are highly pathogenic causing severe disease. European hares are also a reservoir for biovar 2. Biovar 4 mainly affects reindeer and caribou and is not normally found in pigs, although is genetically very closely related to biovar 1. Biovar 5 occurs in rodents in the former USSR. Biovar 5 is distinct from other *B. suis* biovars, and may be more closely related to marine mammal *Brucella* isolates [3]. Porcine brucellosis is of widespread occurrence; however the prevalence is low, with the exception of South America and South-east Asia where high prevalence has been reported [4]. In humans, *B. melitensis* is the most pathogenic species, followed by *B. suis*, whereas *B. abortus* is considered as the mildest type of brucellosis [5]. The source of human infection always resides in domestic or wild animal reservoirs. All ages are susceptible, both sexes are affected and even congenital cases have been reported [6,7]. The main routes of transmission are ingestion, contact and inhalation [8,9]. In humans, the infection is usually confined to those who are occupationally exposed to pigs, and to laboratory workers [4]. High risk groups include those exposed through occupation in contexts where animal infection occurs, such as slaughter house workers, farmers and veterinarians [6]. In Punjab, the overall prevalence of brucellosis in pig farmers was reported to be 3.25% per cent [10]. It is important to control this endemic in the Punjab pig farming population because it carries along health and economic burdens with it. So to examine the awareness level of pig farmers who could be infected by diseased pigs and also act as a source of infection to pigs a timely study of this nature has been planned.

MATERIAL AND METHODS

Between August and December 2016, a cross sectional survey was conducted in randomly selected pig farmers located in different locations of Punjab to assess the awareness of the communities about swine

brucellosis. Age of respondents who were interviewed was minimum of 18 years or above. The eligibility of the study was purely based on willingness of the respondents to be interviewed. A total of 100 pig farmers were selected as respondents for the study by simple random sampling method. A self-completed questionnaire was designed with both open and closed ended questions for data collection.

RESULTS AND DISCUSSION

Awareness of swine brucellosis

Table 1: Awareness of the swine brucellosis

Awareness	Frequency	Percent
Yes	32	32.0
No	68	68.0
Total	100	100.0

The greater part of the pig farmers representing 68% indicated that they were unaware about the disease swine brucellosis. Only 32% indicated that they were aware of the disease.

Main Source of Information for Farmers on Swine Brucellosis

Table 2: Main Source of Information for Farmers on swine brucellosis

First Source of Information	Frequency	Percent
Fellow farmers	14	46.0
Veterinary Officer	8	23.0
KisanMelas	5	17.0
Newspaper	2	4.0
Internet	3	3.0
None	68	68.0
Total	100	100.0

The popular response of the respondents (14%) specified their fellow farmers as the main source of information which was followed by veterinary officers. Regular identification of these information sources is necessary so as to enable effective information dissemination among farmers by the concerned organizations.

Knowledge Responses on Swine brucellosis

Of all the statements on swine brucellosis, the most far and wide known among the farmers was swine brucellosis infects pigs which was responded correctly by 32% of the respondents. Thirty percent (30%) indicated rightly that abortion is the main symptom associated with brucellosis in animals which was followed by the response that swine brucellosis can spread from infected pigs to uninfected pigs by 29% respondents. Only 24% of respondents indicated that brucellosis from swine can infect humans. It that can be seen most of the statements testing respondents' knowledge on swine brucellosis were poorly known among the farmers. For instance, it can be realized that the farmers do not have much knowledge about the practical issues on the disease.

It will be important to upgrade knowledge of all respondents as this will enable the pig farmers to implement effective biosecurity measures against swine brucellosis disease by which they will be able to prevent as well as control infections from the disease.

CONCLUSIONS AND RECOMMENDATIONS

Results of the study indicate that majority of pig owners had a low awareness about swine brucellosis. The fellow farmers were the chief source of information on swine brucellosis for the aware pig farmers followed by the veterinary officers. Educational efforts should be intensified to bring up to date the knowledge of pig farmers about the swine brucellosis disease and this can be done by increasing extension activities and more interactive sessions between farmers and veterinarians. So these factors should be duly considered during framing any educational programmes. The study indicates that swine brucellosis still remains a major public health problem among the pig farmers in this area. The community does not have even a fair knowledge on swine brucellosis. The study highlights that one of the major strategies in prevention and control of brucellosis is to improve the information about knowledge, attitude and practices regarding swine brucellosis in this area. The extension agencies and training institutes need to

focus their attention towards providing information to pig farmers on swine brucellosis. As the pig industry in India is rapidly growing it is very important for the government to take immediate steps regarding the same.

Table 3: Knowledge Responses on Swine brucellosis (N=32)

Variables	Yes		No	
	Frequency	Percent	Frequency	Percent
Swine brucellosis affects pigs	32	32.0	0	0.0
Cause death in piglets	24	24.0	8	8.0
Spread from infected pigs to uninfected pig	29	29.0	3	3.0
Spread from pigs to humans	24	24.0	8	8.0
Swine Brucellosis affects humans	24	24.0	8	8.0
Prevention through vaccination	25	25.0	7	7.0
Swine brucellosis can spread by eating raw meat	26	26.0	6	6.0
Abortion is main symptom associated with Swine brucellosis spreads due to unprotected contact with aborted fetus and other materials	30	30.0	2	2.0
Fever and joint pains are main symptom associated with humans	14	14.0	18	18.0
Regular hand washing with soap after handling infected animal can be used to prevent infection	22	22.0	10	10.0
Wearing gloves/sleeves during handling infected animals helps prevent infection	21	21.0	11	11.0

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