Self-Reported Selected Zoonotic Diseases among Animal Handlers in Ahmedabad City

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Objective

The present study aims to document the burden of self-reported selected zoonotic diseases (Z/D/S) among animal handlers in urban areas of Ahmedabad

Introduction

The usual mechanism of disease or infection transmission from vertebrate animals to humans and vice-versa is classified as zoonosis [1]. Globally out of all microbial pathogenic disease, 61% are zoonotic with 13% species are regarded as emerging or reemerging [2]. Studies suggest the prevalence of innumerable known and important Z/D/S such as leptospirosis, rabies, avian influenza but the extent of burden of zoonotic diseases amongst high-risk cohorts such as animal handlers within urban geography not adequately documented

Methods

A cross-sectional study conducted amongst animal handlers residing in the urban/peri-urban areas of Ahmedabad. A purposive sample of 170 animal handlers was included in this study. The sample size estimated based on operational feasibility and response saturation for 10%. All individuals engaged in handling animals (such as cattle, buffalos, cows, goat, dog, hen, sheep etc.) recruited from three different zones (South, East, and New west zone) randomly out of six zones of Ahmedabad city, Gujarat, India. Data collected in vernacular language by using pretested questionnaire during the month of March to May 2017. Data entered into Excel and analyzed by using SPSS V.18. The burden was estimated in form of proportion of self-reported disease. The ethical permission was sought from the ethical review board of Indian Institute of Public Health Gandhinagar

Results

Total 170 animal handlers participated in this study and majority of them were females. Around 76% participants belonged to 26 to 60 years of age group with the mean age of 42±15years. There were 44% of respondents illiterate however out of total literate, 50% studied up to primary or more. Around one-third, respondents belonged to Below Poverty Line status.

The cumulative prevalence of self-reported Z/D/S was found 23% among respondents however amongst their family members was found 17%. The point prevalence of self-reported Z/D/S during the study was found to be 17% and 18% amongst their family members. Self-reported Z/D/S includes vector born, animal bite and respiratory diseases.

Average experience and hours/day spent on handling animal was reported respectively 22±15yrs (median age of 20yrs) and 5±2 hrs. It was observed that median value for types of breeds of animals was five (IQR= 3 to 8) which ranged from 1 to 70 animals. Different breeds of animals reported by the livestock keepers, which included Buffalo 64%, Cow 38%, Goat 20%, Dog 5% and Sheep & Bulls 4%.

On inquiring about their perception on acquiring by virtue of engagement in animal handling can be a cause of the disease was reported by only one-third of participants. Knowledge about common zoonotic reported for rabies (11%), respiratory disease (10%) followed by vector born disease (7%) and skin disease (1.2%).

Average knowledge on the mode of transmission of Z/D/S was reported only 4.1%.

The study also documented the commonly used methods for prevention of zoonotic disease, most common practice was found hand washing practice (83%) followed by avoiding contact to animal placenta with naked hands (68%).

Conclusions

The prevalence of self-reported Z/D/S was underestimated when compared to other studies within India. One of the common reasons could be poor awareness of Z/D/S amongst high-risk groups. Results suggest that it is important to initiate screening and improve the awareness of Z/D/S amongst animal handlers to improve the reporting of Z/D/S.

Table 1: Disease Burden of last five years possibly linked to animal handling

Variables		n=170 (%)
History of any disease among respondents	Yes	39 (23)
	No	131 (77)
Reported disease among respondents	Chickengunya	27 (15.9)
	Animal bite/Rabies	12 (7.06)
	Tuberculosis	1 (0.6)
History of disease any disease among family members	Yes	29 (17.1)
	No	150 (88.2)
Reported disease among family members	Chickengunya	22 (13)
	Animal bite/Rabies	4 (2.35)
	Influenza H1N1	1 (0.6)
	Tuberculosis	4 (2.35)
Overall Household disease condition	With disease	55 (32.35)
	Without disease	115 (67.65)

High risk practices of Animal Handlers (%)
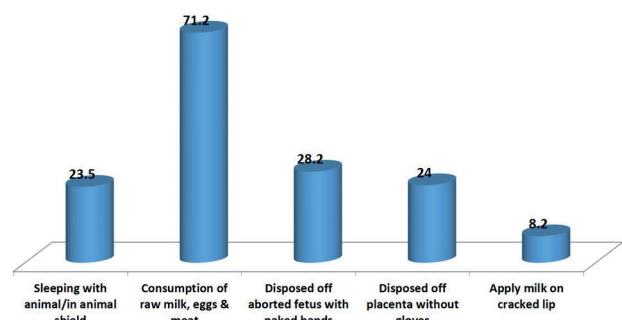
Knowledge & Practices of Animal Handlers in Urban Ahmedabad

Keywords

Self Reported; Zoonotic Disease; Animal Handlers; Urban Area; Knowledge & Practices

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