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Knowledge, Attitude and Practices Related to Leptospirosis among Risk population in periphery of South Chennai in India

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Abstract

Leptospirosis is a zoonotic disease with worldwide in distribution. To understand the Knowledge, Attitude and Practices Related to Leptospirosis, a cross- sectional study was conducted among risk population in periphery of South Chennai in India. Of the total 728 participants, 298 (40.9%) were known about leptospirosis. Only less than 20% participants were aware about transmitting agent Rat. Almost all the population participated in this study was involved in any of the risk factor involved in disease transmission like working without gloves and boots, and cleaning open sewers and garbage. Among the participants 699 (96%) reported seeing animals visible around house during daytime and also there houses were surrounded by more animals (720, 98.9%). 266 (36.5%) reported that they cleaned an open sewer recently. All the participants are using at least any one activity to prevent rodent population including trap and poison. Based on findings it is known that knowledge about disease was very poor measures to be taken to improve awareness and also for good practices.

Keywords: Leptospirosis, zoonosis, KAP, Risk population.

Introduction

Human leptospirosis, which results from direct or indirect exposure to urine of animals infected with spirochetes of pathogenic *Leptospira* species, is one of the most common zoonosis in the world.[1] Human infections primarily result after exposure to the urine of infected animals either directly or indirectly through contact with contaminated water or soil.[1] The principal reservoirs for the bacteria are rodents, cattle, swine, and canines.[2,3] Leptospira and an environment favorable to its transmission, particularly during periods of heavy rainfall.[6,10–12] Although considered to be the most geographically widespread zoonosis,[2,3] it has traditionally been a sporadic disease of rural and tropical settings, restricted to risk exposures associated with specific occupational groups, such as farmers, miners, and abattoir and sewer workers,[1–3] and recreational activities.[14]

Study design

About 728 individuals were randomly selected from risk group population. All are responded for the study. Cross sectional descriptive study was designed as a pilot study. Study area was selected in the periphery of south Chennai, Tamilnadu, India. It is approximately 10km away from central Chennai, which has an area if around 50km. The study group was selected based on the locality of their habitant (where open sewage

dumped garbages, inadequate flood water drainage) and also categorized based on occupation ,where there is a high risk for exposure of Leptospirosis Study was conducted between the period of March- August 2015. The study persons involved in this work was served at least 5 months and it was made sure that they are constantly engaged with work activity. Among the study population about 60% are contract worker.

Objective of study

The study was focused on the Knowledge, Attitudes, Practices related to Leptospirosis.

Survey instruments

Oral interview was conducted during household visit using standardized survey instrument which was adapted following the recommendations for knowledge, attitudes, practices studies. The Questionnaire consist of about 59 questions, which includes demographic data, socioeconomic characteristics and information on knowledge (symptoms , mode of transmission and prevention) , attitudes, practice. Three different languages (Tamil, Telugu, Hindi) were used for oral interview. The study was conducted among risk population including construction worker, sewage worker, pet handlers, farmers and veterinarian.

Data analysis

Questionnaires reviewed completely and the numerical data were entered into an electronic database and validated in SPSS Version 20.0. Categorical data was presented as Frequency Table and Percentage.

Results

Of the 728 interviewed 298(40.9%) identified leptospirosis is a disease and 129(17.7%)were answered it is transmitted by rat and also reported that when people contact with flood water (16%) walking without shoes (8.7%) during cleaning on open sewers (1.4%), what contact with garbage (7.8%) but majority of participants (62%) does not know the transmission route. More than50% of the people, 455 (62.5%) said all the listed symptoms. More frequently listed symptoms were fever (113-15.5%), Myalgia (9-1.2%). Jaundice and Headache were common in 7(1%) of cases. Least symptom stated was gastrointestinal pain (0.1%). About 72.5% of them are unaware of curability, 26% answered it is curable and 25.7% said is deadly. Only small proportion 0.8-1.5 said it is not curable and deadly respectively.

Table 1
Knowledge about leptospirosis among risk group population in periphery of south Chennai, India

Knowledge regarding leptospirosis	Number (N=728)	%
What is leptospirosis?		
It is a disease	298	40.9
It is a disease transmitted by rat		
It kills people	228	31.3
Do not know	500	68.7
Mode of transmission?		
Contact with urine of rats	129	17.7
Walking with out shoes	63	8.7
Contact with flood water	16	2.2
Cleaning open sewers	10	1.4
Contact with garbage	57	7.8
Do not know	453	62.2
What can be done to avoid leptospirosis?		
Using shoes	41	5.6
Avoiding contact with water	51	7.0
Avoiding contact with garbage	144	19.8
Using protective clothing	33	4.5
Do not know	459	63.0

What are the symptoms of leptospirosis?		
Fever	113	15.5
Headache	7	1.0
Myalgia	9	1.2
Jaundice	7	1.0
Chills	6	.8
Gastrointestinal Pain	1	.1
All of the above	455	62.5
Do not know	130	17.9
Does leptospirosis have cure?		
Yes	189	26.0
No	11	1.5
Do not know	528	72.5
Can leptospirosis kill?		
Yes	187	25.7
No	6	.8
Do not know	535	73.5

Among the total people interviewed about the knowledge of is source, they received same form School (13.7%), Radio (7.4%) and TV (6.5%) were almost in equal place to share the knowledge of leptospira. Still more than half % of people (68.7%) were unaware.

Table 2
Source of leptospirosis Knowledge among risk group population in periphery of south Chennai, India

Source of knowledge regarding leptospirosis	Number (N=728)	%
TV	47	6.5
Friends	8	1.1
Health Services	1	.1
Education	100	13.7
Newspapers	13	1.8
Radio	54	7.4
Community association	5	.7
Do not know	500	68.7

Among those interviewed 699(96%) reported seeing animals visible around house during daytime and also there houses were surrounded my more animals (720,98.9%). Among the participants 266(36.5%) reported that they were cleaned an open sewer recently. About 159 (21.8%) of the participants were aware and they uses both gloves and boots, where as 285(39-1%) was not using any protective wears because they felt it was very difficult for them to work.

Most of the participants involved in this interview were know about leptospirosis and its preventive measures but knows only when it explained in their regional or colokiyal language. Majority of the participant Know the need or necessary to control of leptospirosis. 239 (32.8%) participants uses rat traps to control followed by closure of rat access to house 171(23.5%), 117(16.1%) reported the use of rat poison and 75(10.3%) was not taking any step to control rat population. Among those interviewed almost all the participants reported that garbage was eliminated at the maximum (29%) of 5-6 days per week and the minimum of 21.6% of 1-2 days per week. This practice was strictly followed by the local body and also by their own awareness to control disease and transmitting agents like rats.

Table 3

Individual behavior and household level practice related to sewage, garbage and rat among resident of risk group population in periphery of south Chennai, India

Practice regarding leptospirosis	Number (N=728)	%
Type of protection used		
Cleaned an open sewer	266	36.5
Gloves	7	1.0
Boots	11	1.5
Gloves and boots	159	21.8
Nothing	285	39.1
Activities to prevent rodent at home		
Use of any poison	117	16.1
Use of illegal poison	22	3.0
Closure of rodent access to house	171	23.5
Closure of rat burrows	104	14.3
Use of rat traps	239	32.8
Nothing	75	10.3
Frequency of garbage elimination		
7 days per week	197	27.1
5–6 days per week	211	29.0
3–4 per week	163	22.4
1–2 days per week	157	21.6

Table 4

Attitudes regarding leptospirosis among resident of risk group population in periphery of South Chennai, India

Attitudes regarding leptospirosis	Number (N=728)	%
Animal around house		
Cat	2	.3
Dog	6	.8
More animals	720	98.9
House location		
High land	190	26.1
Low land	538	73.9
House surrounding		
Wet	550	75.5
Dry	178	24.5
Animal behavier		
Animals visible around house during day	699	96.0
Rat can access living area	29	4.0

Discussion

The study on KAP of leptospirosis in selected risk group people in periphery of south Chennai shows differences in the level of Knowledge. But regarding control and strategies there was no much differences, Among the risk group majority of sewage worker has very poor knowledge of leptospirosis followed by formers, Specifically regarding the causative agent and their symptoms. Majority of the participants in this study known that leptospirosis is fever. Unfortunately they don't know the term leptospirosis 31% of the participants where known that Leptospirosis can lead to death. 31% of the participants gained knowledge only from school education and they were well known about rat fever and it is transmitted through rat urine. This study survey also shows that more than 95% of the people living in area surrounded by more animal even in the day time and also their residing in low and wet land. This study found that leptospirosis prevention practice source increased significantly

with younger and high income group where as people with increasing age and lower income level groups were less likely to engages in leptospirosis prevention practices particularly in sewage and construction workers. Even though majority of risk group having poor knowledge and with very low attitude level participants have good prevention practices. Result obtained in this study was also similar to that of previous study conducted in various parts of the world.[5-8]

Conclusion

The present survey show variation in the prevailing knowledge and attitude of the participants with various prevention practices. So it is necessary to create awareness programs for more audience and also to design broad repeated community based health education (most of them diverse in language) especially for those with low education and with less control efforts. This study also suggest that member of the local body should also take measure to reduce their exposure to sources of leptospirosis. And it is also suggest that public should also been informed about leptospirosis via conducting campaign.

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