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Original Article

EDUCATIONAL INTERVENTIONS TO INCREASE KNOWLEDGE OF LEPTOSPIROSIS IN NAVSARI DISTRICT

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Abstract

This study was conducted to create awareness about Leptospirosis, an important zoonotic disease, in two villages of Navsari district using street play and poster exhibition. The pre-intervention assessment revealed poor knowledge scores on various aspect of leptospirosis which significantly improved after intervention ($p<0.05$). Street play in local language and pictorial posters are effective health educational tools amongst illiterates and repeated use, before the transmission season, for maximum impact.

Key words: Leptospirosis, Street play and poster exhibition, awareness levels

INTRODUCTION

Leptospirosis, an infectious disease that affects human and animals, is considered as the most common zoonosis in the world.[1-2]The organisms enter the body when mucous membrane or abraded skin comes in contact with contaminated environmental sources.[3] Infected wild and domestic animals pass leptospirosis causing shedding of bacteria in urine. People get leptospirosis by contact with fresh water, wet soil, or vegetation contaminated by the urine of infected animals.[1-2] The infection causes a systemic illness often leads to renal and hepatic dysfunction.[4] Occupational exposure accounts for 30-50% of human cases; farmers, veterinarians, and field agricultural workers being the main group at risk.[5]

After a first case reported in Valsad district during 1994, leptospirosis emerged as an important public health problem in Gujarat.[6] Initially the cases were concentrated only in Valsad district but in 1997 cases reported from Surat district which became the epicenter of disease later on. The disease gradually also spread to Navsari district of south Gujarat.[7-8]

Awareness regarding the disease is very important in prevention and control of the disease. Knowledge of clinical features and complication also play an important role to decrease morbidity and mortality. Due to lack of risk perception, many a time people ignore the fever of leptospirosis and delay treatment. Late referral to higher centre was one of the main reasons behind the majority of deaths.[7]

Most of the villagers working in agriculture are illiterate. In such Cases Street plays in local language was thought to be a good media for communication. This study was conducted to measure the effectiveness of health communication media like street play and poster display to increase knowledge regarding the leptospirosis disease among the selected villages.

MATERIAL AND METHODS

This is an interventional study conducted in Dhanori and Pipaldhara village of Navsari district during the year 2005. All the residents of both villages aged 18 to 60 years were included in the study. Mostly these people are involved in agricultural work and so at risk of leptospirosis. A pretested questioner was used to assess knowledge of participants. Information regarding cause, mode of transmission, prevention, control, symptoms etc. was obtained by conducting house to house visit.

After the completion of pre interventional survey, knowledge was imparted using street plays and poster exhibition in local language. Street play was of 30 minutes long and was performed by 10 personnel in Gujarati language with local pronunciations. The same play is repeated twice in each village by the same performers at different location during the month of august 2005. After the street play poster showing information regarding leptospirosis were displayed for about an hour on the same place. The street play and poster mainly covers the cause, mode of transmission, preventive measures and symptoms of leptospirosis disease.

Two month later, in October 2005, a survey was conducted to re-assess the knowledge of villagers regarding the leptospirosis. The same questioner was used to assess the knowledge. The data were analyzed using epi info 2002 software. Chi square test was used to establish statistical significance among the variables and the difference was said to be significant when p value is less than 0.05.

RESULT AND DISCUSSION

During the pre intervention and post intervention survey 610 and 532 (87.2%) persons were interviewed to assess knowledge on leptospirosis. The October month is cultivation season in both

villages which might be the reason for less participation despite repeated home visit in post intervention study.

Agriculture was the main occupation for most of the participants (87.43%). Ninety four percent of the female participants use to milk animal regularly. Table 1 shows awareness level of participants regarding various facets of leptospirosis before and after the IEC interventions. In both the villages, every year more than one cases of leptospirosis were reported, still only 44 percent of participants had heard of leptospirosis. However after two month of street play and poster exhibition 91 percent were remembered of leptospirosis. Before intervention only 23 percent aware of leptospirosis case in their village which increase to 87% after giving information.

Table 1: Pre and post intervention awareness

Awareness	Pre intervention (n=610)	Post intervention (n=532)
1. Heard of Leptospirosis	268 (43.93)	486 (91.35)
2. Cases of leptospirosis in their village	140 (22.95)	463 (87.03)
3. At risk group		
Farmer	50 (8.20)	402 (75.56)
Agriculture laborer	125 (20.49)	398 (74.81)
Animal handler	14 (2.30)	156 (29.32)
4. Animals spread leptospirosis		
Rat	84 (13.77)	320 (60.15)
Cow	33 (5.41)	96 (18.05)
Buffalo	31 (5.08)	108 (20.30)
Dog	4 (0.66)	46 (8.65)
5. Mode of transmission		
Working bare foot in farm	87 (14.26)	257 (48.31)
Working bare foot in animal shed	62 (10.16)	163 (30.64)
Contact with contaminated water	12 (1.97)	246 (46.24)
Milking animal without glows	2 (0.33)	56 (10.53)
6. Symptoms		
Calf muscle pain	58 (9.51)	132 (24.81)
Fever	55 (9.02)	386 (72.56)
Conjuctival suffusion	25 (4.10)	79 (14.85)
Oliguria	18 (2.95)	136 (25.56)
Jaundice	5 (0.82)	264 (49.62)
7. Need referral if above symptoms	55 (9.02)	150 (28.20)
8. Preventive measures		
Use of gum boot in farm	59 (9.67)	188 (35.34)
Use of gum boot in animal shed	36 (5.90)	178 (33.46)
Use of glows during milking animal	1 (0.16)	42 (7.89)

(Figure in parenthesis indicate percentage)

Agriculture work was the main occupation in both villages but very few people were perceiving risk of leptospirosis in initial survey. Only one fifth of respondent feel that person involve in agriculture work can get leptospirosis and only two percents see milking animal as risk factor for leptospirosis. Risk perception is very important indicator of felt need. Those who perceive that they are at risk had greater felt need and seek preventive and curative care more often than others. In the study street play and poster exhibition were proven very effective ($p<0.001$) to realize risk of leptospirosis.

To impart knowledge regarding the animal spreading leptospirosis is one of the issues covered in the IEC activities which significantly increase awareness regarding various animals like rat, cow, buffalo and dog responsible for spreading the disease.[9]

Knowledge regarding the various mode of transmission was very poor ranging from less than one percent for ‘milking animal without glows’ to 14% for ‘working bare foot in farm’. Better

knowledge on mode of transmission of leptospirosis help person to avoid undue direct or indirect exposure to contagious material of infected animal. Methods used to give information were very effective to increase it.

Many cases of leptospirosis develop serious life threatening complications within a week of appearance of first symptom. Early recognition of symptoms and early referral is vital in such cases to decrease mortality of disease. Awareness of various symptoms was found to be poor in initial survey ranging from less than one percent for 'jaundice' to 9.5 percent for 'calf muscle pain'. Post intervention survey after two months revealed that IEC intervention significantly increased awareness of participants ($p<0.001$). However awareness found in post intervention survey still needs to be improved for higher rate of early referral.

No hospitalization facility available in any of the village. This fact augments the importance of early referral of leptospirosis cases to save lives. However, only nine percents felt the need of hospital referral in case of symptoms suggestive of leptospirosis in initial survey. Importance of early referral was emphasized in the street play which improved awareness regarding early referral.

Knowledge of preventive measures was found to be less in first survey which improved significantly ($p<0.01$) after street play and poster exhibition.

CONCLUSION AND RECOMMENDATION

The study reveals that community awareness in both villages regarding leptospirosis was very poor. Street play in local language and pictorial poster exhibition can serve as very effective communication tool to provide health education particularly when the large segment of community is illiterate. However such activities should be carried out frequently at regular interval to keep awareness level high. IEC campaign at every year before the transmission season would be more effective.

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