A Knowledge, Attitude and Practice towards Leptospirosis among Rural Population of Valsad district

Ravikant R. Patel1, Hinal Baria2, Hinaben R. Patel3, Diwakar Sharma4, Rajesh Mehta5, Priti Solanki6

1Associate Professor, P.S.M. Dept. GMERS Medical College Valsad
2, 6Assistant Professor, P.S.M. Dept. GMERS Medical College Valsad
3Assistant Professor, Obs. & Gynec. Dept., GMERS Medical College Valsad
5Professors, P.S.M. Dept. GMERS Medical College Valsad

ABSTRACT

BACKGROUND: Leptospirosis primarily zoonotic disease and transmitted accidentally to human beings. It is a worldwide public health problem, particularly in tropical and subtropical regions. Leptospirosis is caused by Leptospira Interrogans and transmitted from animals to humans and associated with occupational exposure. Aims and Objective: This study was conducted to assess the Knowledge, Attitude and Practice of regarding leptospirosis among rural population of Valsad district where the disease is an endemic in nature. MATERIAL AND METHOD: This study was conducted from 1st September-2013 to 30th October-2013 among rural population of Valsad district. Villages were selected by multistage sampling. Number of frequency was express as Percentages and proportion test was performed for comparison between two groups. P value <0.05 was taken as level of significance. Data were entered and analysed by Epi info software. RESULTS: 85.71% study population heard about Leptospirosis. Male (48.03%) had greater risk of occupational exposure to Leptospirosis as compared to female. 51.88% don’t have correct knowledge regarding its preventive measures. The main source of information about leptospirosis in rural population is ASHA worker (63.13%) but knowledge about Leptospirosis was partial or incomplete. Educational status of population associated with the knowledge of Leptospirosis and found statistically significant. 20.63% had negative attitude towards the Leptospirosis. CONCLUSIONS: All the study population had an average level of knowledge regarding Leptospirosis, the study also identified several important gaps in specific areas regarding Leptospirosis.

Key words: Leptospirosis, Knowledge, Attitude, Practice.

INTRODUCTION

Leptospirosis is the most widespread re-emerging zoonotic disease. It is a worldwide public health problem, particularly in tropical and subtropical regions where climatic conditions provide an optimal environment to support the survivability of Leptospira.1, 2, 3 and there is increase incidence of disease in developed and Developing countries.4

Leptospirosis is caused by Leptospira Interrogans and is considered an occupational disease of persons engaged in agriculture, sewage works, forestry, and butchery etc.

According to World Health Organization from their currently available reports, the incidence of Leptospirosis ranges from 0.1–1 per 100000 per year in temperate climates and 10–100 per 100000 in the humid tropics. The incidence may reach over 100 per 100000 in high-exposure risk groups and during outbreaks.5 Ten millions people are estimated to be affected annually resulting in 350000 to 500000 cases of severe disease.2, 6

In Asia pacific region, Latin America and in Southeast Asia, it is highly prevalent7 and there has been a marked increase in the number of outbreaks and case reported
during last two decades. Even though the disease is mostly endemic in rural settings, an increasing number of cases and frequent outbreak among urban dwellers is recent finding worldwide. All available evidence suggest that disease is now emerging in India as an important public health problem. Leptospirosis was first detected in Gujarat in 1994. Surat, Tapi, Navsari and valsad district of Gujarat state are mainly affected every year in monsoon. In spite of this, leptospirosis remains a grossly neglected disease and increasing awareness is essential for identify the disease burden in community. This disease has great potential for outbreaks, so the disease surveillance as well as awareness programs should be stepped up and sustained.

Surveys of knowledge, attitudes, and practices (KAP) are a common strategy for collecting information and to assess the safe work practice among populations at risk. The surveys also provide a suitable format to evaluate existing programs and to identify effective strategies for behavior change. Indeed, a good KAP among population at risk is essential in ensuring successful prevention and control of the disease. Unfortunately few researches have been conducted so far in this area in Valsad district. This study presents the results of a study on KAP on Leptospirosis among populations at risk of infection. We hope the study will provide a baseline data to assist policy makers in developing appropriate evidence-based strategies to prevent and control Leptospirosis in Valsad district.

The knowledge of disease and healthy behavior is crucial in prevention of Leptospirosis. Thus there is direct need to assess the level of knowledge and extent of risk practices among population particularly in rural areas.

MATERIAL AND METHODS
A cross sectional study was conducted in Valsad district between period of 1st September 2013 to 30th October 2013 where the disease is known to be an endemic. A sample size was calculated by formula 4pq/L^2 with 95% confidence limit. p is taken as 50% as expecting 50% of population had correct knowledge of Leptospirosis. Sample size is 544 with 10% non response rate. A four village was selected from each of five blocks by multi-stage sampling. Of which two villages were those having Leptospirosis positive case where reported and two villages having no any case of Leptospirosis in study Year. To get desire sample size each village was divided in to four equal quadrants from the center of the village, then from each of four quadrant seven house was surveyed. Total of 28 houses were surveyed from each of villages. 112 houses were surveyed from each of block and total 560 houses were surveyed from Valsad district. Information was collected from head of family present in the home at the time of survey but excluded to those head of family who are aged more than 60 years and non working. Preliminary information, demographic information and Information regarding Knowledge, Altitude and Practice of Leptospirosis was collected in preform performa in Local Language.

Knowledge question was started asking whether the respondent had ever heard the Leptospirosis and they were asking to specify their source of information. Only those who had ever heard the disease were allowed to proceed the answer the rest of knowledge questions. Question on attitude and practice was asked which covered the safe work practice, use of personal protective equipment and general practice. Data were entered and analyze in Epi info software. Appropriate statistical test was applied when needed.

RESULTS
Out of 560 study subjects 65.71% were male and 34.29% were female. 61.96% study subject has occupational risk of exposure to the Leptospirosis of which Male (48.03%) had greater risk of occupational exposure to Leptospirosis infection as compared to the female (13.19%) due to their Outdoor Life style and Occupation and this difference was statistically significant.(Table-1)
Out of 560 study subjects 480 (85.71%) ever heard about Leptospirosis of which 22.29% knows that Leptospirosis is an infectious disease. 99.79% study subjects having correct knowledge about mode of transmission about Leptospirosis but 52.08% don’t have correct knowledge about mode of entry for this disease. 99.16% having correct knowledge that Leptospirosis is associated with occupational exposure (Common in Certain risk groups). 31.46% study subject don’t have knwoledge for source of infection for Leptospirosis and 51.88% don’t have correct knowledge regarding its preventive measures. (Table 2).

Educational status of study population and knowledge of Leptospirosis found statistically significant. \( P<0.001 \), \( \chi^2 = 78.5 \)

Table-3 shows that main source of information about Leptospirosis in rural population is ASHA worker (63.13%) followed by Hospital and multiple sources (17.29%). But knowledge about Leptospirosis may partial or incomplete.

### Table-1 Occupational risk and Sex wise distribution of Study Subjects

<table>
<thead>
<tr>
<th>Sex</th>
<th>Occupational Risk</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present</td>
<td>Absent</td>
</tr>
<tr>
<td>Male</td>
<td>269 (48.03)</td>
<td>99 (17.68)</td>
</tr>
<tr>
<td>Female</td>
<td>78 (13.93)</td>
<td>114 (20.36)</td>
</tr>
<tr>
<td>Total</td>
<td>347 (61.96)</td>
<td>213 (38.04)</td>
</tr>
</tbody>
</table>

\( P<0.0001, \chi^2 = 56.45 \)

### Table-2 A Knowledge of Study subjects for Leptospirosis(n=480)

<table>
<thead>
<tr>
<th>Knowledge Questions</th>
<th>Correct knowledge Numbers (%)</th>
<th>Incorrect knowledge Numbers (%)</th>
<th>Don’t know Numbers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infectious Disease</td>
<td>107 (22.29)</td>
<td>92 (19.17)</td>
<td>281 (58.54)</td>
</tr>
<tr>
<td>Mode of Transmission</td>
<td>479 (99.79)</td>
<td>01 (0.21)</td>
<td>00 (00.00)</td>
</tr>
<tr>
<td>Source of Infection</td>
<td>329 (68.54)</td>
<td>06 (1.25)</td>
<td>145 (30.21)</td>
</tr>
<tr>
<td>Mode of Entry</td>
<td>230 (47.92)</td>
<td>113 (23.54)</td>
<td>137 (28.54)</td>
</tr>
<tr>
<td>Sign and Symptoms</td>
<td>389 (81.04)</td>
<td>05 (1.04)</td>
<td>86 (17.92)</td>
</tr>
<tr>
<td>At Risk Group</td>
<td>476 (99.16)</td>
<td>03 (0.63)</td>
<td>01 (0.21)</td>
</tr>
<tr>
<td>Preventive measures</td>
<td>231 (48.12)</td>
<td>193 (40.21)</td>
<td>56 (11.67)</td>
</tr>
</tbody>
</table>

In this study questions were asked regarding attitude towards the Leptospirosis and categorized in to Positive and Negative attitude. Out of 480 subject 20.63% had negative attitude towards the disease. For prevention of Leptospirosis 25.42% prefer to wear shoes, 15.42% washing the hand & feet, 17.29% going for treatment of injuries but 18.54% of study population doesn’t use any kind of preventive. 83.12% of people prefer to attend the hospital for disease,
DISCUSSION

Valsad is known to be endemic for Leptospirosis with the majority of population exposed to the disease during rainy season with considerable morbidity and mortality. Suitability of environment for the survival of organism appears to be critical factor in maintaining the infection and transmission to human in Valsad district.

Wiwanitkit V A in their study in rural villagers Thailand found that the 80% of villagers had a poor knowledge of Leptospirosis, there was significant correlation of level of education and occupation of the subjects to the level of their knowledge (p < 0.05). Same were found in our study also.

A study conducted by Wildo Navegantes de Araújo et al among urban slum resident of brazil showed that 90.3% of population heard the name of Leptospirosis and had higher level of knowledge about the symptoms and modes of transmission of leptospirosis. In our study 85.71% heard about Leptospirosis of which only 22.29% knows that Leptospirosis is infectious disease. 99.79% study subjects having correct knowledge about mode of transmission.

Study conducted by Mohd Rahim S, Aziah BD et al among town service worker found that 87.2% worker had poor knowledge regarding Leptospirosis and 64.5% worker had unsatisfactory practice score. In their study identified weakness was noted in knowledge as well as in practice level. In study conducted by Mohd Rahim S, Aziah BD et al among town worker the main source of information was television and newspaper. A study among the canoeist in North Wales, (1991) revealed a very high proportion (95%) of respondents who had ever heard of the disease because they were exposed to a good health promotion program. A study done by Wildo Navegantes de Araújo, Brooke Finkmoore et al the main source of information for Leptospirosis was Television( 43.9%), Friends/neighbor(41.2%), Health Services(39.2%), School (29.9%) etc. In our study the main source of information was ASHA worker (63.13%) followed by Hospital (Subcentre, PHC, CHC). But this knowledge was found to be incomplete or partial.

A study conducted by Andrea R.M Mohan, Dave D, Chaud found that 52.4% had heard of Leptospirosis but approximately half of these did not know any signs or symptoms of the disease. There was a positive attitude towards general health and good sanitary practices, but there was also a lack of knowledge of leptospirosis. Mohd Rahim S, Aziah BD et al in their study found that 35.1% had unsatisfactory attitude towards the Leptospirosis.

In our study 85.71% heard the name of Leptospirosis but 17.92% people don’t have any knowledge regarding sign and symptom disease. 20.63% people had negative attitude towards the disease.

CONCLUSION

As the disease is endemic in South Gujarat most of the rural populations are aware about the Leptospirosis. But majority of them have incomplete or incorrect knowledge about the diseases. So improvement of knowledge regarding Leptospirosis through various IEC activities among rural population of Valsad district may lead to improvement of their practices and attitude towards the Leptospirosis and this will helpful in prevention and control of this disease.

REFERENCES