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PAPER

Risk factors associated with human leptospirosis in the District of Gampaha, Sri Lanka¹³

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Background & Objective:

A large number of leptospirosis cases are recorded in Sri Lanka every year. Increased numbers of cases have been reported in the District of Gampaha in the recent past. The incidence of leptospirosis is often influenced by various socio-economic, occupational, environmental and other factors. To date, a study on potential risk factors has not been conducted in the District of Gampaha. The objective of this study is to identify risk factors involved in transmission of leptospirosis to humans in the District of Gampaha.

Methods:

Data were collected at the household level, using an interviewer-administered questionnaire and by inspecting the surrounding of laboratory confirmed leptospirosis patients (n=81) and non leptospirosis persons (n=117) during the period of June 2011 to June 2013. The risk factors in the questionnaire were divided into three broad categories: environmental, contact with animals and behavioral/occupational factors. Chi-square test (The SAS System for Windows 9.0) was used for comparison of data from different categories.

Results and discussion:

95% of the leptospirosis patients were adult males (77/81) and they had a monthly income of Rs. 10,001-20,000 and 50% of them were agricultural and rental work labourers (40/81). In contrast, 56% of persons not infected with leptospirosis were adult females (66/117) and most of them (48%) were housewives or homemakers (56/117). Data on the type of premises were collected under three categories as poor, moderate and well constructed along with the land use type of the surrounding areas. There were significant statistical associations between the leptospirosis patient with the type of premises ($\chi^2=23.38$, $p=0.00$), surrounding cleanliness of premises ($\chi^2=45.05$, $p=0.00$), sanitary facilities ($\chi^2=11.66$, $p=0.00$), waste disposal method ($\chi^2=32.23$,

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p=0.00) and age level of patients ($\chi^2=21.07$, p=0.00). No significant statistical associations were observed between recorded leptospirosis cases and vegetation coverage in surrounding area of premises ($\chi^2=1.25$, p>0.05), source of drinking water ($\chi^2= 0.55$, p>0.05) and numbers of persons in family ($\chi^2=0.17$, p>0.05).

Conclusion:

Identification of the potential risk factors would help understand the transmission dynamics of the disease and formulate public health interventions.