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S. typhi and S. paratyphi cases in Om Hospital and Research Center, Kathmandu, Nepal 2010-2012

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Background: Enteric fever continues to remain a major cause of morbidity and mortality in Nepal. Likewise, *S. Typhi* and *Paratyphi* have developed resistance to antibiotics used so it is required to study the current pattern of resistance to antibiotics. Om hospital has been tracking the records of laboratory confirmed *S. Typhi* and *Paratyphi* cases of both male and female cases between the ages 5 years and 55 years to assess the trend in enteric fever.

Methods & Materials: In the laboratory, the blood culture containers are immediately incubated at 37° C for 48 hours using various media like Brain Heart Infusion Growth, Blood Agar base, Muller Hinton and Mac Conkey Agar. The disk diffusion method of Kirby and Bauer is used for sensitivity testing of *S. Typhi* and *S. Paratyphi* to antibiotics. Blood culture reports are followed up to 5 days. Subculture is done when there is obvious turbidity in the broth on any day.

Results: Out of 6,978 blood culture performed, 306 (4.4%) were enteric fever cases. 110 (36%) cases were *S. Typhi* and 196 (64%) cases were *S. Paratyphi*. Among 306 cases of the total *S. Typhi* and *Paratyphi* cases, 32 (10.4%), 82 (26.8%), 86 (28.1%), 54 (17.65%) and 37 (12.09%) were from less than five years, five to fifteen years, fifteen to thirty years, thirty to fifty five years and above fifty five years respectively. Similarly, 150 (49.02%) and 156 (50.98%) cases were male and female respectively. 15% of the cases were resistant to azithromycin, cephalixin and amoxicillin and 5% cases were resistant to cefixime.

Conclusion: The study of the enteric fever cases are consistent with other reports from Nepal showing high burden of enteric fever. However, we realized that the numbers come from a hospital based study and may not represent the population level estimates. Nevertheless, there are more cases of *S. Paratyphi* than *S. Typhi* which indicates the importance of needed intervention for control of *S. Paratyphi* through measures other than vaccines since there is no vaccine available for paratyphi infection. In addition it is imperative to make a case development of vaccines for preventing enteric fever.

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Serological prevalence of tularemia in Sistan and Baluchestan Province

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Background: *Francisella tularensis* is etiologic agent of tularemia that is a zoonotic pathogen. In Iran, antibodies against *F. tularensis* have been detected in domestic animals (cattle and sheep) in the northwest, and in a porcupine in the southeast (Zabol county) in 1973. *F. tularensis* antibodies were also detected in an Afghan porcupine in the same year. The first human case of tularemia in Iran was reported in the city of Marivan, southwest Kurdistan (western Iran) in 1980. Since then, there have been no official reports of human tularemia in Iran. Butchers and slaughterhouse workers are considered as an occupational group at risk of tularemia. The aim of this study was to assess the rate of tularemia seropositivity among butchers and slaughterhouse workers in southeastern of Iran.

Methods & Materials: In this study, 184 sera samples collected from butchers and slaughterhouse workers in 10 counties of Sistan and Baluchestan province. Sera were tested to detect specific IgG antibodies of tularemia using ELISA test.

Results: Seroprevalence of tularemia was 6.52% (95% CI: 3.58%-10.82%). There was no statistically different in seroprevalence of tularemia between butchers (5%) and slaughterhouse workers (9.38%). Tularemia seroprevalence in north part (9.30%) was more than the south (2.22%) and central (6.25%) parts of this province. The highest seroprevalence observed in Zabol (10.53%) and Nikshahr (10%) counties.

Conclusion: In this study, a relatively high seroprevalence of tularemia were observed among slaughterhouse workers and butchers in south eastern Iran. It is suggested that similar studies be done on other high risk groups, domestic and wild animals in this region to help the clarification of the epidemiological aspects of tularemia in south eastern Iran.

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