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RETROSPECTIVE ANALYSIS OF FOOD BORNE OUTBREAKS BURDEN IN SRI LANKA

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ABSTRACT

Estimates of the overall number of food borne outbreaks are helpful for allocating resources and prioritizing interventions. A retrospective analysis was conducted based on data collected from food borne outbreak incidents for consecutive four years from year 2012 to 2015. Research was carried out at Food and Water laboratory, Medical Research Institute, Sri Lanka. Data were gathered and analyzed from Public Health Inspector request forms, laboratory work sheets and laboratory results obtained throughout the years from active and passive surveillance. Out of total 54 food borne outbreaks reported, highest (39%) was reported in year 2012. Colombo district reported the highest (20.3%) number of outbreaks. Out of all the sectors, nearly one third of outbreaks were reported from school sector. Considerable number of outbreaks were associated with industrial zones (22.2%) and military establishments (7.4%) as well. 61 food items (41.7%) out of total 146 tested were 'unsatisfactory' and not suitable for human consumption. In addition 13 were positive with potentially hazardous pathogens. Out of 13 samples with potentially hazardous pathogens, 12 food items were "rice and curry" and one was a chicken curry. Further, cooked rice and curry was the major food item brought in to be tested from outbreaks and 90% of them were identified as microbiologically unsatisfactory. Food borne pathogens *Salmonella* sp., *Bacillus cereus* and *staphylococcus aureus* were isolated from these outbreaks over years 2012 to 2015. Several gaps were identified in existing procedure of food samples sending from foodborne outbreaks to the laboratory. Inadequate information about outbreaks in the request forms sent by PHIs, non-availability of implicated food for testing by the time an authorized person attends the outbreak and unsuitable samples for processing due to improper packaging such as leaking were some of the gaps identified during the study period. Continuous microbiological surveillance of food, training of food handlers, regular training and education of authorised offices, awareness programmes on food borne outbreaks to the public will help to reduce food borne outbreaks and to collect more evidence based scientific data.

Keywords: Food borne outbreaks, Retrospective analysis, Hazardous pathogens, Food