

SURVEY OF PATHOGENS IN PEDIATRIC DIARRHEA PATIENTS ATTENDING A WOMEN'S AND CHILDREN'S HOSPITAL IN SINGAPORE

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Abstract. As official data tend to be skewed towards notifiable diseases, a study was conducted to gather insights into frequency and distribution of foodborne pathogens, which may be causing diarrhea in the community, particularly among children. Residual fecal samples ($n = 200$), collected from symptomatic pediatric patients (<1-19 years of age, median 3 years of age) within three days of admission to a hospital, Singapore from September 2014 to March 2015, were screened for the presence of 15 possible foodborne pathogens using a commercial multiplex molecular assay. Target organisms were detected in 61% [95% confidence interval (CI): 55-68] of the samples, the most frequently encountered organisms being norovirus genogroup II (15%, 95% CI: 10-20), group A rotavirus (14%; 95% CI: 10-19), toxigenic *Clostridium difficile* (toxin B) (12%; 95% CI: 8-17), and *Clostridium perfringens* (10%; 95% CI: 6-15). Positivity rate of *Salmonella* spp and *Campylobacter* spp was 8.0% (95% CI: 4-12) and 5% (95% CI: 2-9), respectively. None of the samples contained detectable level of verocytotoxigenic *Escherichia coli* O157:H7, *Vibrio* spp or *Yersinia enterocolitica*. As norovirus infection is a non-notifiable disease in Singapore, greater priorities placed on research, surveillance and mitigation efforts against norovirus infections and norovirus contamination in food and the environment are recommended.

Keywords: infectious diarrhea, non-notifiable disease, pediatric hospital patient, Singapore

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