

Original Paper

## Atypical *Yersinia* virulence markers isolated from children with diarrhea

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### Abstract

**Background and Objective:** *Yersinia* is a gram-negative bacillus that cause diarrhea through consumption of contaminated food and water. This study was performed to identify the atypical *Yersinia* virulence markers isolated from children with diarrhea.

**Methods:** This descriptive cross-sectional study was done on 384 fecal samples of 0- 14 years old children admitted at children medical center from August 2011 to August of 2012. Fecal samples, for the enrichment, after 21 days of incubation in alkaline buffer with pH=7.2 at 4degree C, on days 7, 14 and 21 samples were cultured on CIN agar and Mac agar and then confirm the differentiation atypical *Yersinia* from other typical *Yersinia* species from fermentation of different sugars. Isolates were tested for marker of virulence including calcium dependence, auto agglutination, Congo red uptake and binding of crystal violet.

**Results:** Out of 384 stool samples, 4 (1.04%) were infected with *Yersinia* (*Yersinia frederikseni*, *Yersinia kristensenii* and *Yersinia enterocolitica*). Out of these three, only two samples in association was positive with virulence markers.

**Conclusion:** Phenotypic markers can be used to study the properties of phenotypic strains of *Yersinia*.

**Keywords:** *Yersinia enterocolitica*, Atypical *Yersinia*, Virulence marker, Diarrhea

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