

00136 Temporal Trends in the Incidence of Appendicectomy in a Single Institution Representing a Multiracial Tropical Climate Population

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Aims: Seasonal variation in the incidence of appendicitis is well reported. However, most studies describe temperate climate populations with few from non - temperate climates. We assess trends in incidence rate ratio (IRR), and patterns of variation with sex and ethnicity in our representative multiracial tropical population.

Methodology: This was an ethically approved retrospective study. Admissions data for all children aged <16 years with suspected appendicitis were obtained from our institutional database for 2013 - 2015. We retrieved operative logs for those who had appendicectomy for appendicitis. We analysed cases over time and according to gender, ethnicity and school session. Surgery was performed for all appendicitis cases as standard protocol. Temporal trend in children's characteristics were tested using Jonckheere - Terpstra test for continuous/ordinal data. Log - linked Poisson regression model was fit to estimate IRR over months based on gender, race and school sessions.

Result: Suspected appendicitis cases totalled 2402 children, with 691 appendicectomies performed. When analysed according to month of the year, no temporal trends were observed in the incidence of appendicectomy. Males had significantly higher rates than females (IRR 1.37, 95% confidence interval (CI) 1.19, 1.58) with no monthly trends for either sex. There were significant differences between ethnic groups ($p=0.0355$), with 2 ethnicities displaying upward trends (not significant). Appendicectomies were more likely during the school holidays compared to school term, although trends were not significant.

Conclusion: We could not identify temporal trends in the incidence of appendicitis. However, differences in sex and ethnicity bear further examination, suggesting inherent unidentified factors predisposing to appendicitis.