



RELATIONSHIP BETWEEN ENVIRONMENTAL TOBACCO SMOKE EXPOSURE AND DEVELOPMENT OF COMMUNITY-ACQUIRED PNEUMONIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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BACKGROUND

Pediatric community-acquired pneumonia remains to be a significant health burden in the country by being the top cause of morbidity and mortality in patients aged 1-9 years. The pediatric population is especially at risk for developing complications arising from tobacco exposure since they are not in control of their environment.

OBJECTIVES

To determine the relationship between household tobacco smoking and the risk of developing pediatric community acquired pneumonia, the risk of developing a severe form, and the risk for use of invasive mechanical ventilation.

METHODS

This is a systematic review and a meta-analysis of case-control and cohort studies reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) check list. Study quality was assessed using the Newcastle-Ottawa score. Pooled Odds Ratios were estimated using a random-effects model.

RESULTS

Of 655 studies identified, 9 studies were included in the systematic review. All of the studies included were moderate quality with a median score of 6. Meta-analysis showed that children exposed to household tobacco smoke (pooled OR 2.17, 95% CI 1.02-4.61) were more likely to develop community acquired pneumonia. There was significant heterogeneity in the primary outcome secondary to the sample size, income of country where the study was done, and the year the study was done.

CONCLUSION

Although there was considerable heterogeneity, there is a higher risk of developing community acquired pneumonia in children exposed to household tobacco smoke.