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Activity: Abstract

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A systematic literature review of community ARI and AGE incidence rates

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Abstract:

Acute respiratory infections (ARI) and acute gastroenteritis (AGE) are major causes of global morbidity and mortality. Most estimates of ARI and AGE incidence emphasize medically attended disease. Such data can severely underestimate true disease burden, especially in low- and middle-income countries (LMIC) where access to healthcare is limited. A systematic literature review of community-based observational studies was conducted to estimate community incidence rates of ARI and AGE. A PubMed search conducted in January 2024 identified 205 studies published between 1965-2017. Studies were included if sampling was performed at the community level with prospective monitoring for ARI or AGE. Studies of single pathogens, and those with follow-up of <12 months or insufficient data to calculate incidence were excluded. Weighted averages of incidence (cases per 1000 person-years (PY)) were calculated by age group from studies using similar case definitions. Meta-regression methods were conducted to identify differences in ARI/AGE incidence by study design characteristics. Eighteen studies of ARI incidence including 26,504 participants were identified, with 13 conducted in LMIC. Eleven studies of AGE incidence among 8,812 participants were identified, all from LMIC. The average all-age incidence rate was 1701 per 1000 PY (95% CI 1680-1723) for ARI and 320 per 1000 PY (95% CI 312-328) for AGE. Children under 5 had the highest incidence of both ARI (3188 per 1000 PY; 95% CI 3150-3227) and AGE (1349 per 1000 PY; 95% CI 1302-1398). ARI incidence was also elevated among adults ≥60 years (2405 per 1000 PY; 95% CI 2359-2453). ARI incidence rates were lower when symptom screening was performed virtually versus through in-person interviews (aIRR=0.30, 95% CI=0.13-0.68). In summary, this systematic literature review of community-based observational studies estimated a high incidence of ARI and AGE, particularly among young children and older adults. Accurate measurement of these conditions is vital to understand their burden and impact, and to help inform proper design, evaluation and implementation of related interventions.

Category (Complete): Viruses - Epidemiology

Approach and Content (Complete):

Approach: Other epidemiology

Presentation Preference (Complete): Poster

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