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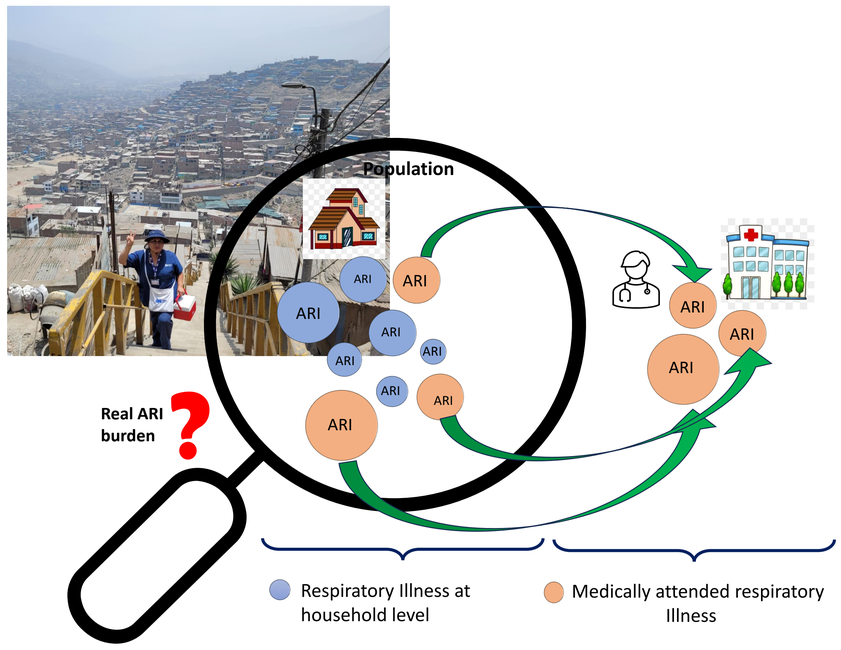
Incidence of acute respiratory illnesses in children in a peri-urban community of Lima, Peru.

Lucie Ecker[1], Carlos G. Grijalva[2,3], Leigh M. Howard[4], Bia Peña[1], Mayra Ochoa[1], Ana I. Gil[1], Omar Flores[1], Rubelio Cornejo[1], Stefano Ríos[1], Claudio F. Lanata[1,5]

[1]Instituto de Investigación Nutricional, Lima, Peru. [2]Division of Pharmacoepidemiology, Departments of Health Policy, Vanderbilt University Medical Center, Nashville, Tennessee, USA. [3]Department of Biomedical Informatics, Vanderbilt University Medical Center, Vanderbilt University, Nashville, Tennessee, USA. [4] Department of Pediatrics, Vanderbilt University Medical Center, Nashville, Tennessee, USA [5] Department of Pediatrics, School of Medicine, Vanderbilt University, Nashville, Tennessee, USA.

Background

- Acute respiratory illness (ARI) is among the leading causes of morbidity and mortality among children each year, and most occur in low- and middle-income countries.
- Traditional studies of common acute respiratory illness are mainly carried out in primary healthcare centers, emergency departments, and hospitals.
- Those do not reflect the real burden of ARI within households and communities.



Aim

The purpose of the study was to determine the incidence at household level of acute respiratory illnesses in children less than five years of age in a peri-urban community of Lima, Peru.

Methods

- We conducted a prospective household-based cohort study in a peri-urban community in Lima, Peru.
- Eligible households included at least one child 5 to 60 months of age at enrollment.
- Weekly home visits were performed to identify symptoms of ARI, defined as the presence of cough and/or runny nose with fever.
- All ARI cases were captured, those who were medically attended and those that were not.
- The characteristics of the episodes were recorded.

Results

- 145 children were enrolled and followed from October 2019 to February 2020, accruing 29.6 child-years at risk.
- The highest incidence was found in children younger than 12 months with 7.8 ARI episodes/child/year.
- Median duration of symptoms was 6 days (IQR 3-35).
- The most common ARI symptoms were cough (92.5%) and runny nose (81.3%).
- Antibiotics were used in 48 (29.6%) cases, prescribed mainly by physicians (83.3%).
- Only around 50% of the ARI episodes were medically attended.

ARI Incidence in children less than five years of age at household level

	Child years at risk	Number of ARI episodes	ARI episodes/child year (95%CI)
All ages	29.6	162	5.5(4.7, 6.4)
Age-Group			
less than 12 months	3.2	25	7.8(5.1, 11.5)
12-24 months	10.5	58	5.6(4.2, 7.2)
24-36 months	4.4	27	6.2(4.1, 9.0)
36-48 months	6.8	26	3.8(2.5, 5.6)
48-60 months	4.7	26	5.5(3.6, 8.1)

Cohort Characteristics

Number of Households included	125
Number of Children 5 to 60 months	145
Age years, median (IQR)	2.4(1.3-3.5)
Agegroup, n(%)	
<12 months of age	16(11.1)
12-24 months	49(34.0)
24-36 months	23(16.0)
36-48 months	34(23.6)
48-60 months	22(15.3)
Male Gender n(%)	79 (63.2)

Characteristics of the ARI episodes	**(N=162)**
Symptoms, n (%)	
Cough	150 (92.6)
Runny nose	132(81.5)
Fever	63(38.9)
Sore throat	76(46.9)
Earache	14(8.6)
Wheezing	12(9.8)
Difficulty breathing	40(24.7)
Duration of symptoms, median(IQR)	6(3-10)
Number of episodes, n(%)	
NO episodes	47(32.4)
1 episode	52(35.9)
2 episodes	30(20.7)
3 episodes	14(9.7)
4 episodes	2(1.4)
Received antibiotic for ARI symptoms	48(29.6)
Prescribed by doctor	40(83.3)
Adviced by pharmacyst	7(14.6)
Self-medication	1(2.1)
Was medically attended for ARI symptoms	80(49.4)
Asked Pharmacyst for advice for ARI symptoms	4(2.6)
Asked a Curandero (local healer) for ARI symptoms	2(1.3)
Was attended at emergency room for ARI symptoms	4(2.6)

Conclusions

- Our findings demonstrate a high incidence of ARI in children less than 5 years in this peri-urban community in Lima and highlights the amount of disease that remains undetected at healthcare units.
- There is high antibiotic use for ARI episodes in children less than five years of age.
- Further studies are needed to evaluate the potentially underrecognized burden of ARIs in the community, their impact on child development, and their cost to society.

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