

INCIDENCE OF ACUTE OTITIS MEDIA IN THE VACCINES ERA AGAINST PNEUMOCOCCUS IN A CITY OF THE COLOMBIA CARIBBEAN COAST: A COHORT STUDY.

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INTRODUCTION: Acute otitis media (AOM) is one of the main bacterial infection in children. Pneumococcus and Nontypeable *Haemophilus influenzae* (NTHi) are responsible for up to 80% of cases. In Colombia the pneumococcal conjugate vaccine 10 serotype was included in the immunization program since 2011.

OBJECTIVE: to determine the incidence of AOM in a cohort of newborn in Cartagena, Colombia.



Cohort of term infant

Enrollment period

December 10/2013 - March 31/2014

VARIABLES		Cohort of term infant
		876 (%) [IC95%]
Male sex		465(53.1) [49.7-56.4]
Subsized		851(97.1) [95.8-98.1]
Contributory		13 [1.5] [0.8-2.6]
Low income		756(86.3) [83.8-88.5]
Urban		644(73.5) [70.4-36.4]
Education	Never	36(4.1) [2.9-5.7]
	Elementary school	228(26.0) [23.2-29.1]
	Middle school	444(50.7) [47.3-54.0]
	High school	139(15.9) [13.5-18.5]
Civil status	University	29(3.3) [2.3-4.8]
	Married	72(8.2) [6.5-10.3]
	Cohabiting	703(80.3) [77.4-82.8]
cigarette smoke exposure	unmarried	88(10.0) [8.2-12.3]
		206(23.5) [20.8-26.5]
Biomass smoke exposure		389(44.4) [41.1-47.8]
Kids under 10 years old	≤ 2	583 (66.5) [63.2-69.7]
	≥ 3	291 [33.2] [29.5-37.2]
N° people living at home	Mean ± SD	5.4 ± 2.5
Number of rooms	Mean ± SD	2.4 ± 1.0
Sibling with AOM		97(11.1) [9.1-13.4]
Weight		3200 [2945;4650]
Size		50.6 [49;52]
Gestacional age		39 [38;39.5]

METHODS

Exclusion criteria: newborn in NICU, premature infant, low-birth-weight infant
craniofacial malformations, weight,

Follow-up: Personal/Telephone every 3 months for 15 months.



Otolaryngologist evaluated the patients by otoneumatoscopia and according to the **American Academy of Pediatrics** criteria for AOM was considered sampling (timpanoscentesis by CDT® Speculum

RESULTS

From a population of 1560 newborn at term, we enrolled a total of 876.
Cumulative incidence 5%. RR: 1.04 [0.56-1.90]

N° Follow-up	Cohort of infant	With vaccination update	Without vaccination update	% vaccination update	Loss	% of loss	Person-years	Incidence rate of AOM per 1000 person year	Cases of AOM	Cases in vaccinated group	Cases in group without vaccination update	Person years in vaccinated group	Person years in group without vaccine update	Incidence rate of AOM per 1000 person year in vaccinated group	Incidence rate of AOM per 1000 person year in group without vaccine update	RR [95%CI]
1 st	876	541	335	61.8%		0.0%	219.0	32.0	7	7	0	135.25	83.7	51.8	-	-
2 nd	678	403	275	59.4%	198	23.0%	339.0	23.6	8	6	2	201.50	137.5	29.8	14.5	2.05 [0.3-20.7]
3 rd	427	250	177	58.5%	251	37.0%	320.2	34.3	11	8	3	187.50	132.7	42.7	22.6	1.89 [0.49-6.83]
4 th	378	222	156	58.7%	49	11.4%	378.0	15.9	6	0	6	222.00	156.0	-	38.5	-
5 th	189	125	64	66.1%	189	50.0%	236.2	50.8	12	6	6	156.25	80.0	38.4	75.0	0.51 [0.13-1.91]
Total	---				189		1,492.5	29.5	44	27	17	902.50	590.0	29.9	28.8	1.04 [0.56-1.90]

DISCUSSION

Research	Run-time study (years)	Population Study	Incidence	Unit of measurement
David Teel e	1977-1984	1067	1.2	Episodes/year
Eskola	1995-1999	831- PCV7/CRM197, 831-hepatitis B = 1662	Group PCV7-CRM197: 1.16 episodes-person-years and 1.24 episodes-person-years in control group	Episodes-person-year
Fireman, Black	1995-1998	PCV 18926; Control 18942 = 37868	1.73/1.86 (PCV vs Control)	Otitis visit year
Prymula	2000-2002	PCV11:2455; control 2452 = 4907	It was 83·3 episodes per 1000 person-years of follow-up in the protein D conjugate group versus 125·2 episodes per 1000 person years of follow-up in the control group.	Episodes per 1000 person-years
Coronell-R W.	2013-2015	876	29.5	Episodes per 1000 person years

CONCLUSION: This is the first cohort study about incidence of AOM in the post PCV-10 era. The incidence is compatible with the findings of other authors (Tregnaghi, Bardach) in Latin America, where as the present study, the diagnosis was by otolaryngologist.