

Global burden of respiratory infections due to seasonal influenza in young children: a systematic review and meta-analysis (Peer-reviewed literature)

- 43 independent population-based studies around the world (January 1, 1995 to October 31, 2010).

The pooled studies contained information for about 8 million children.

- The authors estimate that there are annually:
 - 90 million new cases of influenza;
 - 20 million cases of influenza-associated ALRI;
 - 1 million cases of influenza-associated severe ALRI (7% of cases of all severe pediatric ALRI)
- At least **28,000 to 111,500 deaths** occur in children < 5 yrs attributable to influenza-associated ALRI per year
- 99% of these deaths occurring in developing countries.



Annual Epidemiological Surveillance Report

year	Number of pt.(cases)	Morbidity rate/100,000 persons	Mortality rate(%)
2547-2551	3,000-4,000	27-34	0.01
2552(H1N1)	120,400	189.73	0.36
2553	115,183	180.82	0.198
2554	62,112	97.08	0.01
2555	62,100	97.22	0.01
2556	34,109	NA	NA
2557	32,805	51.64	0.07(47 pt)

Common Manifestations of Influenza Illness in Children

Age	Manifestation	Frequency
Infant,toddler<5 years old	Afebrile URI	+
	Febrile URI	+ + +
	Acute otitis media	+ +
	Pneumonia	+
	Laryngotracheo bronchitis	+
	Bronchiolitis	+
	Sepsis syndrome	+

Common Manifestations of Influenza Illness in Children

Age	Manifestation	Frequency
Child \geq 5 years old	Afebrile URI	+
	Flu-like syndrome*	+++
	Acute otitis media	++
	Pneumonia	+
	Myositis	+
	Myocarditis	Rare
	Encephalopathy	Rare

+++ , most common; ++ , common; + , infrequent

*Fever, cough, headache, myalgia, malaise

Table 2. Clinical features of influenza and non-influenza children

Symptom	Number of patients (%)		P-value
	Influenza (n = 39)	Non-influenza (n = 417)	
Temperature			
36.5–37.5°C	7 (17.9)	98 (23.5)	0.431
37.6–38.5°C	9 (23.1)	159 (38.1)	0.062
38.6–41°C	23 (59.0)	160 (38.4)	0.012*
Cough	38 (97.4)	408 (97.8)	0.595
Constitutional symptoms	38 (97.4)	392 (94.0)	0.715
Rhinorrhea	38 (97.4)	402 (96.4)	1.000
Myalgia	5 ^a (71.4)	14 ^b (43.8)	0.235
Vomiting	26 (66.7)	297 (71.2)	0.589
Respiratory distress	22 (56.4)	305 (73.1)	0.027*
Abnormal breath sounds			
Wheezing, rhonchi	22 (56.4)	265 (63.5)	0.377
Rale	11 (28.2)	219 (52.5)	0.004*
Inspiratory stridor	8 (20.5)	13 (3.1)	0.000*
Injected pharynx	18 (46.2)	154 (36.9)	0.256
Diarrhea	13 (33.3)	95 (22.8)	0.167
Conjunctival injection	4 (10.3)	9 (2.2)	0.019*
Seizure	4 (10.3)	31 (7.4)	0.526

^an = 7; ^bn = 32 (only in evaluable older children); *P < 0.05.