

Epidemiology and Risk Factors of Pediatric Chest Pain: A Systematic Review

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KEYWORDS

- Chest pain • Pediatric chest pain • Risk factors • Epidemiology
- Prevalence

Chest pain among children and adolescents is common^{1–4}; however, knowledge of the epidemiology of pediatric chest pain and risk factors associated with it is scant. An understanding of the epidemiology of chest pain among children is important, because it provides information about changes that may occur in behavior, culture, and environment, not to mention risk factors and causes of chest pain. Chest pain is an important alarm symptom. In adults, the presence of chest pain conjures up the possibility of a potentially fatal cardiac event. Fear of a serious life-threatening condition also exists for parents of children with acute chest pain, but the literature suggests that pediatric chest pain is generally a benign condition.^{5–7} However, at present, there are very little mortality data related to chest pain as the primary presenting symptom, and further studies are required to validate these claims. The literature is scattered in prevalence studies and other reports on risk factors; this article aims to consolidate this literature and provide an overview of all studies assessing the epidemiology and risk factors of pediatric chest pain.

SYSTEMATIC REVIEW

The search strategy for this review included the following major electronic databases: MEDLINE, EMBASE, and Current Contents (1950–September 2010). The search strategy used combinations of the keywords (1) chest pain, (2) pediatric, (3) children, (4) adolescents, (5) epidemiology, and (6) risk factors. Additional manual searches were made using the reference lists from all published papers. No language restriction was placed on any of the literature searches. The search revealed 219 potential studies. The abstracts of all potential studies were read to determine if they were epidemiologic in nature or on risk factors. There were 69 epidemiologic studies and

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Table 1
Characteristics of chest pain studies conducted on pediatric populations

Study	Year	N	M/F	Age (Mean)	Cardiac (%)	Gastrointestinal (%)	Psychological (%)	Musculoskeletal (%)	Respiratory (%)	Idiopathic (%)
Driscoll et al ⁵	1976	40	22/18	12–19 (12.35)				22.5	12.5	45
Asnes et al ¹⁴	1981	123	41/82	4–13			29			
Kashani et al ¹⁵	1982	100					13			
Pantell and Goodman ¹²	1983	100						45		
Fyfe ³⁰	1984	67	40/27	8–19	6	1		1	2	85
Selbst ³⁴	1985	267								
Rowland and Richards ¹¹	1986	31	23/8	8–18			26			
Nudel et al ¹⁶	1987	180	112/68	5–22					18	
Selbst et al ³⁵	1988	407	180/227	2–19	4	4	9	15	21	21
Berezin et al ³⁶	1988	51		8–20		6		41		53
Selbst et al ⁹	1990	149	69/80	(11.34)	4	3	11	11	20	34
Rowe et al ³⁷	1990	336	159/166	2–18			5	28	19	12
Woolf et al ³⁸	1991	17		(14.00)		59				
Zavaras-Angelidou et al ³⁹	1992	134	74/60	1.2–19	19	7		16	12	20
Glassman et al ¹⁸	1992	83	42/39	1–20		48				56.6

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