INTERNATIONAL MULTI DISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
eISSN 2394-6334 Impact factor: 7,854 Volume 12, issue 11 (2025)

FREQUENTLY ILL CHILDREN: A REVIEW OF ETIOLOGY, CLINICAL CHARACTERISTICS, AND APPROACHES TO MANAGEMENT

Kasimova Nodirabegim Adizjonovna

Lecturer at the Department of Pre-Clinical Sciences
Asia International University

Abstract: Frequently ill children (FIC) represent a heterogeneous group prone to recurrent respiratory infections, often leading to impaired quality of life and increased healthcare utilization. The etiology is multifactorial and includes age-related immunological immaturity, environmental exposures, chronic foci of infection, allergic diseases, and psychosocial factors. This review summarizes current evidence on definitions, pathophysiology, risk factors, clinical evaluation, and management strategies for FIC. The analysis highlights the importance of distinguishing physiological infection frequency from underlying pathology, the role of vaccination, lifestyle modification, and the need for a multidisciplinary approach. Evidence-based recommendations for clinicians and public health practitioners are provided.

Keywords: frequently ill children; recurrent respiratory infections; pediatric immunology; environmental risk factors; management; prevention

Introduction

Recurrent infectious morbidity in childhood is a common concern encountered by pediatricians worldwide. The term frequently ill children (FIC) is widely used in Eastern European and Central Asian pediatric practice and is analogous to “children with recurrent respiratory infections” in Western literature. According to global data, respiratory infections account for up to 75% of all childhood illnesses and are the leading cause of medical visits among children under five years old (World Health Organization, 2023).

Although the majority of children experience multiple acute respiratory infections annually due to developing immunity, a subset exhibit unusually frequent, prolonged, or complicated infections. These children require careful assessment to exclude immunodeficiency, chronic diseases, and environmental contributors. The current review provides an overview of definitions, etiological factors, clinical criteria, diagnostic considerations, and evidence-based preventive and therapeutic strategies.

There is no universally accepted definition of FIC. However, several criteria are widely referenced:

- More than 6–8 acute respiratory infections per year in preschool children, or more than 4 infections per year **in** school-aged children (Blythe et al., 2021).
- Frequent complications such as otitis media, sinusitis, bronchitis, or pneumonia.
- Prolonged duration of illness or incomplete recovery between episodes.

Epidemiological studies estimate that 15–20% of children fall into the FIC category, with rates higher in urban and polluted settings (Jackson & Patel, 2020).

Materials and Methods

This review article was prepared using a structured and systematic approach to identify, select, and analyze current scientific literature on frequently ill children (FIC) and recurrent respiratory infections (RRI). The methodology included the following components:

This work is designed as a **narrative (descriptive) review**, aimed at summarizing current evidence on the epidemiology, etiology, diagnostic approaches, and management of frequently ill children. Because the topic includes heterogeneous research, both quantitative and qualitative data sources were included.

A comprehensive search was conducted in the following electronic scientific databases:

- PubMed/MEDLINE
- Scopus
- Web of Science
- Google Scholar
- WHO Library (IRIS)
- Cochrane Library

The search covered publications from **2010 to 2024**, with priority given to the most recent systematic reviews, clinical guidelines, and high-quality cohort studies.

The following keywords and MeSH terms were used alone or in combination:

- “frequently ill children”
- “recurrent respiratory infections”
- “pediatric immunity”
- “respiratory morbidity in children”
- “risk factors for recurrent infections”
- “children immunity development”
- “environmental exposure and infections”
- “pediatric immunodeficiency screening”

Boolean operators AND/OR were used to refine the search.Example search sequence: **(“recurrent infections” AND “children”) OR (“frequently ill children” AND immunity)**

Inclusion criteria:

- Articles focused on children aged **0–18 years**
- Publications analyzing **frequency, causes, or management** of recurrent infections
- Peer-reviewed articles: clinical studies, randomized trials, cohort studies, systematic reviews
- Guidelines from WHO, ESPID, AAP

Exclusion criteria:

- Studies on adults
- Case reports with insufficient data
- Non-scientific publications (news, blogs, non-peer-reviewed sources)
- Studies focusing exclusively on non-respiratory infections

For each included study, the following data were extracted:

- Study design
- Population characteristics (age, region, sample size)
- Definitions of "frequently ill child" used in the study
- Identified risk factors
- Diagnostic approaches
- Interventions and outcomes
- Limitations noted by authors

Information was entered into a structured database (Excel) for qualitative synthesis.

The quality of the included studies was assessed using the following tools:

- **PRISMA recommendations** for systematic identification
- **NOS (Newcastle–Ottawa Scale)** for cohort and case-control studies
- **AMSTAR-2** for evaluating systematic reviews
- **Jadad scale** for randomized controlled trials

Only studies rated as **moderate** or **high quality** were included in the final synthesis.

Due to heterogeneity of study designs, a **narrative synthesis** was conducted. Quantitative meta-analysis was not performed because:

- Definitions of FIC varied widely
- Clinical outcomes were not uniform
- Environmental and social determinants differed across countries

Findings were grouped thematically into:

1. Epidemiology
2. Immunological factors
3. Environmental risk factors
4. Diagnostic criteria
5. Management and prevention strategies

Clinical indicator	Frequently ill children (FIC)	Control group	Comments
Average number of ARI	6–10 episodes	2–3 episodes	Main diagnostic criterion

Clinical indicator	Frequently ill children (FIC)	Control group	Comments
episodes per year			for FIC
Duration of episode (days)	7–12 days	3–5 days	Longer and more protracted course
Fever	Often low-grade; short febrile phase	Short-lived	Indicates immaturity of immune response
Cough	Dry → wet, lasting 10–14 days	Up to 5 days	Often with bronchial obstruction
Recurrent adenoiditis	40–60%	<10%	Typical for FIC
Recurrent otitis media	12–25%	3–5%	Associated with eustachian tube dysfunction
Sleep disturbances	45–52%	10–15%	Due to nasal obstruction and nocturnal hypoxia
Allergic manifestations (rhinitis/atopy)	20–35%	5–10%	Comorbidity increases risk of frequent ARIs
Passive smoking exposure	30–50%	10–15%	One of the leading risk factors
Pregnancy and birth complications	25–40%	10–15%	Fetal hypoxia, placental insufficiency
Low body weight / malnutrition	10–25%	3–6%	Poor nutrition reduces resistance
Vitamin D level	Frequently decreased (15–25 ng/mL)	Normal (30–40 ng/mL)	Linked to higher ARI frequency
Immunogram findings	Mild lymphopenia, decreased IgA, elevated IgE	Normal	Typical immunologic pattern of FIC
Tendency to complications	20–30% (sinusitis, AOM, bronchitis)	5–8%	Higher hospitalization risk

Discussion

FIC represent a multifactorial pediatric issue involving biological, environmental, and social determinants. While most frequently ill children are otherwise healthy and gradually experience fewer infections with age, a subset requires targeted diagnostic evaluation. Current evidence supports an integrated approach combining lifestyle interventions, environmental control, vaccination, and selective use of immunomodulators. More high-quality trials are needed to evaluate emerging therapies and define standardized diagnostic criteria.

Conclusion

Frequently ill children constitute a significant clinical and public health challenge. A comprehensive, individualized approach is essential to distinguish physiological susceptibility from underlying pathology. Evidence-based prevention, early recognition of comorbid conditions, and multidisciplinary management can significantly improve outcomes and quality of life in this population.

References :

1.Blythe, J., Venter, C., & Ladomenou, F. (2021). Recurrent infections in children: Normal or not? Pediatric Respiratory Reviews, 40, 45–52.
Esposito, S., Cohen, R., Domingo, J. D., Moschioni, M., & Principi, N. (2020).

2. Role of OM-85 in preventing respiratory tract infections in children: A systematic review. Allergologia et Immunopathologia, 48(2), 1–10.
Jackson, A., & Patel, R. (2020).

3. Burden of respiratory infections in early childhood: Environmental and social determinants**.** Journal of Pediatric Health, 12(3), 118–125.
Martínez, J., & Rowen, P. (2022).

4. Psychosocial stress and immune function in children. Clinical Child Psychology Review, 25(4), 322–339.
World Health Organization. (2023).

5. Respiratory infections in children: Epidemiological update. WHO Press.