



# The Impact of Recurrent Abdominal Pain on Quality of Life in Children: A Narrative Review

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**Abstract:** This study aims to review and summarize the existing literature on the impact of recurrent abdominal pain on quality of life in children. This study employed a narrative literature review approach. Scientific articles were retrieved from PubMed, Scopus, and ScienceDirect using keywords related to recurrent abdominal pain and quality of life in children. Articles published between 2014 and 2024 and relevant to the topic were reviewed narratively to identify key themes concerning the impact of RAP on children's quality of life. A total of 10 relevant articles were analyzed in this review. Overall, the literature indicates that children with recurrent abdominal pain experience a lower quality of life compared to healthy children, particularly in the emotional and physical functioning domains. Impairments in school and social functioning were also consistently reported across studies. Psychosocial factors, such as anxiety and depression, frequently emerged as important determinants of reduced quality of life. The reviewed literature demonstrates that recurrent abdominal pain has a multidimensional impact on children's quality of life. Therefore, the management of RAP should adopt a holistic approach that addresses not only physical aspects but also the psychological and social well-being of the child.

**Keywords:** Recurrent Abdominal Pain, Quality Of Life, Children, Literature Review.

## Introduction

Recurrent abdominal pain (RAP) is recognized as one of the most prevalent chronic pain conditions affecting children and adolescents and constitutes a considerable burden on pediatric health care systems worldwide. RAP is commonly described as recurrent or persistent episodes of abdominal pain that disrupt daily activities and are frequently not linked to identifiable organic causes. Previous literature indicates that this condition is multifactorial in nature, involving interactions between biological, psychological, and social factors (Reust & Williams, 2018) (Hyman, 2016). Epidemiological data demonstrate substantial variability in the reported prevalence of RAP, ranging from 0.5% to 19% across different regions and populations, underscoring its global public health significance (Varghese & Aundhakar, 2022).

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Beyond the experience of physical pain, children with RAP often face broader psychosocial challenges. A growing body of research highlights strong associations between RAP and psychological distress, including anxiety and emotional difficulties, as well as functional impairments such as reduced school attendance and limitations in social participation. Several studies have consistently reported that children suffering from RAP exhibit significantly lower health-related quality of life (HRQOL) compared to their healthy counterparts, particularly in physical and emotional functioning domains. These adverse effects on quality of life may persist over time and, if left unaddressed, can contribute to long-term psychosocial problems extending into adolescence and adulthood (de Jesus et al, 2022) (Bradshaw et al, 2022).

Quality of life in children is understood as a multidimensional construct encompassing physical well-being, emotional status, social interactions, and school functioning. The World Health Organization conceptualizes quality of life as individuals' perceptions of their position in life within the context of their culture, value systems, goals, and expectations, shaped by physical health, psychological condition, social relationships, and environmental factors (World Health Organization, 2019) (Estoque et al, 2019). In pediatric research, instruments such as the Pediatric Quality of Life Inventory (PedsQL™) have been widely utilized to capture these dimensions and have proven particularly useful in evaluating the impact of chronic conditions like RAP.

Although numerous studies have explored the relationship between recurrent abdominal pain and quality of life in children, the findings reported in the literature remain heterogeneous. Differences in study designs, sample characteristics, diagnostic criteria, and assessment tools have contributed to variations in reported outcomes. Nevertheless, the overall body of evidence suggests a consistent pattern of diminished quality of life among children with RAP, with physical, emotional, and school-related functioning being the most frequently affected domains. A narrative synthesis of these studies provides a comprehensive understanding of how RAP influences children's daily lives and underscores the importance of adopting a holistic, biopsychosocial approach in clinical management and future research.

Therefore, the purpose of this study is to review and synthesize existing evidence regarding the impact of recurrent abdominal pain on health-related quality of life in children and adolescents. Specifically, this study aims to identify the quality of life domains most affected by RAP, including physical, emotional, social, and school functioning, and to highlight psychosocial factors associated with decreased quality of life in this population. By providing a comprehensive narrative synthesis, this study seeks to contribute to a deeper understanding of the multidimensional consequences of RAP and to support the development of more holistic and effective clinical interventions and future research directions.

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## Methodology

### Study Design

This study employed a narrative literature review design, aiming to examine, summarize, and interpret relevant scientific findings on the impact of recurrent abdominal pain (RAP) on children's quality of life. This approach was chosen to achieve a comprehensive understanding of recurring patterns, key concepts, and the multidimensional aspects of quality of life affected by RAP, without conducting quantitative analysis or meta-analysis.

### Data Sources and Search Strategy

The literature was retrieved from three major electronic databases: PubMed, Scopus, and ScienceDirect. Article searches were conducted using combinations of keywords and medical terms related to recurrent abdominal pain and quality of life in children, as follows:

("recurrent abdominal pain" OR "chronic abdominal pain") AND ("quality of life" OR "health-related quality of life" OR "HRQOL") AND ("children" OR "pediatric" OR "adolescent")

The search was limited to articles published between 2015 and 2025 and written in English, to ensure the relevance and currency of the information.

### Literature Selection Criteria

The articles reviewed were selected based on their relevance to the research topic. The literature considered included studies involving children or adolescents ( $\leq 18$  years) with recurrent abdominal pain or functional abdominal pain conditions and those that addressed quality of life using widely recognized measurement instruments.

Articles that were not relevant to the topic, involved only adult populations, or did not clearly address quality of life were not considered further in this review.

### Literature Review Process

The retrieved articles were reviewed in stages through the examination of titles, abstracts, and full texts to assess their relevance to the study objectives. The review process was conducted in a descriptive and interpretative manner, emphasizing the relationship between the content of each article and the focus of the review, namely the impact of RAP on various domains of children's quality of life.

### Data Synthesis

Key information extracted from each article included study characteristics, study populations, quality of life measurement instruments, and major findings related to physical, emotional, social, and school functioning domains. All findings were synthesized narratively to identify key themes and consistent patterns across the reviewed literature.

## Result and Discussion

**Table 1.** Impact of Recurrent/Functional Abdominal Pain on Quality of Life in Children

| No | Author & Year             | Title   | Method  | Main Findings  | Conclusion  |
|----|---------------------------|---|---|--|---|
| 1  | Sierzantowicz et al, 2020 | The Impact of an Individual Educational Program on the Quality of Life and Severity of Symptoms of Patients with Irritable Bowel Syndrome | Quasi-experimental (educational intervention) | Evaluated the effect of an individualized educational program combined with behavioral therapy on quality of life (SF-36) and pain severity in patients with irritable bowel syndrome. | Individualized education combined with behavioral approaches significantly improved quality of life and reduced pain perception, supporting the effectiveness of non-pharmacological interventions.           |
| 2  | Warschburger et al, 2014  | Health-related quality of life in children with abdominal pain due to functional or organic gastrointestinal disorders                    | Analytical observational (cross-sectional)    | Assessed HRQOL in children aged 8–18 years with functional and organic gastrointestinal disorders using KINDL-R and examined relationships between pain, coping, and catastrophizing.  | Children with chronic abdominal pain had reduced HRQOL regardless of etiology) (catastrophizing mediated the relationship between pain and HRQOL, highlighting the importance of psychological interventions. |
| 3  | Varni et al, 2015         | Health-related quality of life in pediatric patients with functional and organic gastrointestinal diseases                                | Multicenter observational study               | Compared HRQOL in children with functional gastrointestinal disorders and organic gastrointestinal diseases with healthy controls using PedsQL 4.0, including school absenteeism and   | Children with FGIDs and organic GI diseases had lower HRQOL than healthy peers, with greater impairment in FGIDs) (HRQOL is a valuable clinical outcome measure.  |

| No | Author & Year       | Title  | Method                              | Main Findings  | Conclusion  |
|----|---------------------|--|-------------------------------------|--|---|
|    |                     |  |                                     | healthcare utilization.  |   |
| 4  | Milea et al, 2025   | Anxiety, Depressive Symptomatology, and Perfectionism Traits and Their Relationship with DGBIs in Children | Cross-sectional observational study | Analyzed associations between functional abdominal pain disorders and anxiety, depression, and perfectionism traits in children. | Psychological factors were strongly associated with recurrent abdominal pain and contributed to reduced quality of life.  |
| 5  | Arsoy et al, 2025   | Efficacy and immunologic effects of a synbiotic in children with functional abdominal pain                 | Randomized controlled trial         | Evaluated the effects of synbiotic intervention on functional abdominal pain symptoms and immunological biomarkers in children.  | No significant improvement in pain symptoms was observed, emphasizing the complexity of functional abdominal pain and the need for non-pharmacological approaches to improve quality of life. |
| 6  | Löfgren et al, 2022 | Gastrointestinal Group Education for Children with FAPDs   | Intervention feasibility study      | Assessed a group education program for children with functional abdominal pain disorders and their parents.                      | Educational interventions improved disease understanding and showed potential benefits for symptom management and quality of life.  |
| 7  | Nielsen et al, 2023 | Trajectories of change in pediatric FAPDs during Internet-delivered cognitive behavioral therapy           | Single-case experimental study      | Evaluated changes in pain symptoms and psychological factors during online cognitive behavioral therapy in                       | Internet-delivered CBT effectively reduced pain and improved psychological functioning, positively  |

| No | Author & Year        | Title   | Method                                   | Main Findings  | Conclusion   |
|----|----------------------|---|--|--|--|
|    |                      |   |  | children with FAPDs.   | impacting quality of life.   |
| 8  | Tham et al, 2022     | Health-related quality of life in pediatric acute recurrent or chronic pancreatitis   | Multicenter cohort study                 | Assessed HRQOL and biopsychosocial factors in children with chronic abdominal pain due to pancreatitis.  | Pain severity and emotional distress were associated with reduced HRQOL, underscoring the role of psychosocial factors.        |
| 9  | Varni et al, 2017    | Gastrointestinal symptoms predictors of health-related quality of life in pediatric patients with functional gastrointestinal disorders | Multisite analytical observational study | Analyzed gastrointestinal symptoms as predictors of HRQOL in children with functional abdominal pain, IBS, and functional constipation using PedsQL. | Gastrointestinal symptoms were strong and modifiable predictors of HRQOL, supporting patient-centered intervention strategies. |
| 10 | de Jesus et al, 2022 | Impaired Health-Related Quality of Life in Brazilian Children with Chronic Abdominal Pain: A Cross-Sectional Study                      | Cross Sectional Study                    | Compared HRQOL between children with recurrent abdominal pain and healthy controls.  | Children with recurrent abdominal pain had significantly lower HRQOL, particularly in physical and psychosocial domains.       |

## Results Synthesis

Consistently, the literature demonstrates that recurrent/functional abdominal pain in children has a significant negative impact on quality of life, particularly in the emotional, physical, and school functioning domains. This reduction in quality of life is not solely related to pain intensity but is strongly influenced by psychosocial factors, including somatization, anxiety, depression, catastrophizing, and functional disability (Warschburger et al, 2014) (Varni et al, 2015).

The data analyzed in this study consisted of secondary data derived from previous research. The review focused on key findings related to the quality of life of children with

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recurrent abdominal pain, encompassing physical, emotional, social, and school functioning domains, as measured using validated quality-of-life instruments.

Most studies involved children aged 6–18 years diagnosed with recurrent abdominal pain (RAP), irritable bowel syndrome (IBS), or functional abdominal pain disorders (FAPDs). The most commonly used instruments to assess quality of life were the Pediatric Quality of Life Inventory (PedsQL™) and Health-Related Quality of Life (HRQOL) scales, allowing for comparisons across populations and clinical conditions (Varni et al, 2015) (Varni et al, 2017).

The extracted results indicated that all reviewed studies reported lower quality of life in children with RAP compared to healthy control groups. The most consistent impairments were observed in:

1. Emotional functioning, including anxiety, depression, and psychological distress;
2. Physical functioning, such as fatigue and activity limitations) (and
3. School functioning, including increased absenteeism and concentration difficulties (Warschburger et al, 2014) (Varni et al, 2015).

Warschburger et al. (2014) reported that catastrophizing and maladaptive coping strategies were strongly associated with reduced HRQOL and mediated the relationship between pain severity and quality of life. Meanwhile, Varni et al. (2015) demonstrated that children with functional gastrointestinal disorders, including functional abdominal pain and IBS, had significantly lower HRQOL scores across all measured domains compared with healthy children.

Several studies further identified psychological factors as primary predictors of reduced quality of life, surpassing the influence of physical pain alone. Analyses of gastrointestinal symptoms and psychosocial variables indicated that anxiety, depression, somatization, and functional disability play a critical role in shaping pain perception and overall well-being in children with RAP (Warschburger et al, 2014) (Varni et al, 2017).

Synthesis of findings across the reviewed studies indicates that the impact of recurrent abdominal pain on children's quality of life is consistent and multidimensional. Despite variations in study design, population characteristics, and measurement instruments, most studies reported similar patterns of impaired quality of life, particularly in the emotional and physical domains.

Quantitative studies provided clear numerical evidence of reduced health-related quality of life (HRQOL) in children with RAP, while qualitative and psychological approaches enriched understanding by capturing the subjective experiences of children and families coping with recurrent abdominal pain. The integration of these approaches strengthens the overall understanding of the broad impact of RAP on child well-being.

The intervention literature suggests that non-pharmacological approaches, particularly psychological interventions, yield more consistent benefits than biological therapies alone. Nielsen et al. (2023) demonstrated that cognitive behavioral therapy (CBT) contributed to improvements in pain, emotional regulation, and psychosocial functioning,

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which are directly associated with enhanced quality of life in children with functional abdominal pain disorders. These findings support the importance of a multidisciplinary, biopsychosocial approach in the management of recurrent abdominal pain in children.

## Discussion

This literature review provides a comprehensive overview of the impact of recurrent abdominal pain (RAP) on children's quality of life by synthesizing and interpreting findings from international studies published over the past decade. Unlike primary research, this review focuses on integrating existing evidence to achieve a more holistic understanding of the patterns through which RAP affects child well-being.

The findings consistently indicate that children with RAP experience significantly lower quality of life compared to healthy peers, particularly in the emotional and physical domains. These results are consistent with the findings of Warschburger et al. (2014) and Varni et al. (2015), which demonstrate that recurrent abdominal pain is associated with emotional distress, physical activity limitations, and impaired psychosocial functioning. The consistency of findings across countries and research settings suggests that the impact of RAP is cross-cultural and not limited to specific healthcare systems.

Cross-study analyses further reveal that variations in the degree of quality-of-life impairment are more strongly influenced by psychosocial factors than by biological factors alone. Factors such as catastrophizing, anxiety, depression, somatization, and functional disability have been identified as key contributors shaping pain perception and quality of life in children with RAP (Warschburger et al, 2014) (Varni et al, 2017). These findings support a biopsychosocial approach, conceptualizing RAP as a complex condition arising from the interaction of biological, psychological, and social factors.

Beyond individual health outcomes, RAP also affects children's academic and social functioning. Several studies report school-related difficulties, including increased absenteeism and concentration problems, which may negatively influence academic performance and peer relationships. These challenges may create a self-perpetuating cycle in which academic difficulties increase psychological stress, subsequently exacerbating pain perception and further diminishing quality of life.

Overall, this literature review underscores the importance of a narrative approach in synthesizing diverse bodies of evidence to capture the complexity of RAP's impact on children. By integrating findings from multiple study designs, this review provides a strong conceptual foundation for the application of a biopsychosocial framework in clinical practice and serves as a basis for future research.

## Conclusion

This literature review demonstrates that recurrent abdominal pain (RAP) in children has a significant impact on reduced quality of life, particularly in the emotional, physical, and school functioning domains. Findings from the reviewed studies indicate that psychosocial factors such as anxiety, depression, somatization, and functional disability play a crucial role in shaping the diminished quality of life of children with RAP, exceeding

the influence of physical pain alone. The literature further suggests that psychological and educational interventions tend to produce more consistent improvements in quality of life compared to biological interventions alone. Therefore, quality-of-life assessment and a multidisciplinary approach should be integral components of the management of RAP in children.

## Recommendations

Based on the findings of this narrative review, several recommendations can be proposed. First, future research should employ longitudinal and multicenter study designs to better understand the long-term impact of recurrent abdominal pain on children's quality of life and to identify potential causal relationships between psychosocial factors and pain persistence. Second, there is a need for standardization of diagnostic criteria and quality-of-life assessment instruments, such as consistent use of validated tools like the Pediatric Quality of Life Inventory (PedsQL™), to improve comparability across studies.

Additionally, future studies should explore the effectiveness of integrated, multidisciplinary interventions, combining medical, psychological, educational, and family-based approaches, in improving quality of life outcomes in children with RAP. Particular attention should be given to psychological interventions, including cognitive behavioral therapy and coping-skills training, given their consistent association with improved emotional and functional outcomes.

From a clinical perspective, healthcare providers are encouraged to routinely incorporate quality-of-life assessments into the evaluation and management of children with recurrent abdominal pain. Early identification of psychosocial distress and functional impairment may facilitate timely interventions and prevent long-term adverse outcomes. Finally, further research in diverse cultural and socioeconomic settings is recommended to enhance the generalizability of findings and to inform culturally sensitive management strategies for children with RAP.

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