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Improvement in Quality of Life after Adenoidectomy with or Without Tonsillectomy in Children

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Abstract

Introduction: Adenoid hypertrophy and tonsillar hypertrophy are common in children and can cause significant physical, emotional, and social issues. Adenoidectomy, with or without tonsillectomy, is often performed to relieve these symptoms, but its impact on quality of life (qol) needs further exploration.

Aim & Objectives: To assess the improvement in qol after adenoidectomy with or without tonsillectomy in children; to evaluate its effects on sleep and behavioural disorders; and to compare clinical symptoms before and after surgery.

Methods: Children with adenoid and/or tonsillar hypertrophy underwent adenoidectomy with or without tonsillectomy. The Glasgow Children's Benefit Inventory (GCBI) was used to assess pre- and post-operative qol across domains such as physical suffering, sleep, speech/swallowing, emotional health, and activity limitations.

Results: Statistically significant improvements were observed post-surgery in all domains:

- Suffering score: 15.81 → 3.04
- Sleep disorder: 12.22 → 2.19
- Speech/swallowing: 10.93 → 1.89
- Emotional discomfort: 10.48 → 3.30
- Activity limitation: 10.63 → 2.81
- Overall qol score improved from 51.67 to 16.63.

These changes were highly significant ($p < 0.001$), confirming substantial improvement in physical and emotional well-being.

Conclusion: Adenoidectomy with or without tonsillectomy significantly improves quality of life in children, especially in terms of physical health, emotional balance, and social functioning. Early intervention is recommended to prevent long-term complications and promote healthier developmental outcomes.

Keywords: Adenoidectomy, Tonsillectomy, Pediatric ENT, Quality of Life, Sleep Disorder, Behavioural Disorders, GCBI.

Introduction

Adenotonsillectomy is one of the most frequent surgical procedures in children across the globe. These interventions are essential to the management of children with chronic upper airway obstruction, recurrent upper respiratory tract infections and sleep-disordered breathing (SDB), of which obstructive sleep apnoea (OSA) is a subset.[1,2] In many cases, pathogenesis of these symptoms is hypertrophy of adenoids and/or palatine tonsils, leading to disturbance in normal air flow in nasopharyngeal and oropharyngeal air ways. Adenoidal and tonsillar hypertrophy can negatively impact sleep-related breathing, in the pediatric

population, with potential systemic sequelae on physical, emotional, social, and academic function. Chronic oral breathing, nasal obstruction, snoring, and disturbed sleep are the most common complaints. Children with these conditions may show irritability, lack of focus, and hyperactivity, and retardation due to disturbed sleep and decreased oxygenation.

The consequences of these circumstances are not limited to the child, but have effects on the whole family. Parents of affected children often report stress, anxiety and fatigue because their child has lingering health issues and sleep problems. This emphasizes the necessity of early detection and adequate therapy. When medical treatment fails, the surgical treatment including adenoidectomy and/or tonsillectomy plays a crucial role in regaining normal breathing, sleep pattern, and daily activity.

It is well established by several studies that these procedures can result significant improvements in quality of life (qol), including physical Functional limitation, behavioral Outcome, emotional well-being as well as social Function. Indeed, adenotonsillectomy has been reported to significantly decrease OSA symptomatology, infections, and school performance in particular. Better speech articulation may also be observed in the postoperative language.

With increasing emphasis on patient-centered outcomes, prominence has now been gained by qol measures such as the Glasgow Children's Benefit Inventory (GCBI)[3]. The instruments quantify subjective gains patients and caregivers report and provide a thorough view of treatment effectiveness. This study employs the GCBI for assessment of postoperative qol in children undergoing adenoidectomy with or without tonsillectomy. It focuses particularly upon clinical outcomes and parental perceptions.

Through this investigation, we aim to substantiate just how these widely used ENT procedures benefit patients as well as provide evidence to suggest that timely surgical intervention achieves gains that are broader in the psychosocial sense.

Aims and Objectives

Aim: To study the improvement in quality of life after adenoidectomy with or without tonsillectomy in children.

Objectives

1. To evaluate the effect of adenoidectomy with or without tonsillectomy on sleep and behavioural disorders in children.
2. To compare clinical symptoms before and after the procedure

Materials and Methods

This prospective observational study was carried out at the Department of ENT, K.D. Medical College Hospital and Research Centre, Mathura, from August 2023 to January 2025. The study received ethical approval from the institutional ethics committee.

Sample Size: 60 pediatric patients aged between 3 and 12 years who underwent adenoidectomy with or without tonsillectomy were included.

Inclusion Criteria

- Children aged 3–12 years with clinically and radiologically diagnosed adenoid hypertrophy.
- Cases with associated tonsillar hypertrophy or sleep-disordered breathing.

Exclusion Criteria

- Age below 3 or above 12 years.
- Previous history of adenoidectomy or tonsillectomy.
- Presence of cleft palate, neuromuscular disease, developmental delay, or psychiatric illness.

Data Collection

Patients underwent a detailed ENT examination. Pre-operative and post-operative symptom evaluation was

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done using the Glasgow Children's Benefit Inventory (GCBI)[1] questionnaire. The questionnaire was translated into Hindi for parental understanding and verified for internal consistency.

Glasgow Children's Benefit Inventory (GCBI)

Legend: 0 - never; 1 - almost never; 2 - sometimes; 3 - often; 4 -very often; 5 - could not be worse

Suffering

	0	1	2	3	4	5
Nasal Obstruction						
Daily Weariness						
Low Weight						
Bad Breath						
URTI						

Sleep Disorder

Snore						
Chocking/ suffocation						
Restless sleep						
Difficulty to wake up						

Problem of Speech and Deglutition

	0	1	2	3	4	5
Difficulty to swallow solid food						
Chocking						
Suffocated Speech						
Nasalized Speech						
Bad Pronunciation						

Emotional Discomfort

	0	1	2	3	4	5
Irritability						
Impatience						
Inadvertent						
Ridiculed because of snoring						

Activity Limitation

Play normally						
Take part in sports						
Goes to school or day nursery						
School performance						
Overall life						

Others

Visit to doctor and antibiotic need						

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The GCBI evaluates 24 items across four domains: physical suffering, emotional well-being, speech/swallowing, and activity limitation. Post-operative assessment was done 8–12 weeks after surgery.

Statistical Analysis

Data were analyzed using SPSS software. A paired Student's t-test was used to compare pre-operative and post-operative scores. A p-value < 0.05 was considered statistically significant.

Results

- The study included 60 patients: 35 males (58.3%) and 25 females (41.7%). The mean age was 7.4 ± 2.1 years. The pre-operative and post-operative scores across all domains of the GCBI showed statistically significant improvements. Suffering Score: Reduced from 15.81 ± 2.34 to 3.04 ± 1.42
- Sleep Disorder Score: Reduced from 12.22 ± 3.01 to 2.19 ± 1.37
- Speech and Swallowing Score: Improved from 10.93 ± 2.67 to 1.89 ± 0.97
- Emotional Discomfort Score: Reduced from 10.48 ± 2.89 to 3.30 ± 1.65
- Activity Limitation Score: Reduced from 10.63 ± 2.45 to 2.81 ± 1.10
- Others Score: Reduced from 2.89 ± 1.22 to 0.59 ± 0.57
- Total Qol Score: Improved from 51.67 ± 5.84 to 16.63 ± 4.12 ($p < 0.001$)

These results demonstrate a statistically significant improvement in qol following surgery.

Figure 1: Mean Sd Comparison Before and After Surgery

Discussion

The findings of this study align with previously published literature that supports the effectiveness of adenoidectomy with or without tonsillectomy in improving quality of life in children. Significant reductions were noted in symptoms of sleep disturbance, physical suffering, and emotional discomfort, After surgery, academic performance improved, social interaction increased, and parents felt greater satisfaction, consistent with studies by Mitchell et al.[4], Lee et al.[5], and Basha et al.[6] Improved sleep patterns caused children to become more alert, and they behaved better. These findings do highlight the broader implications of a timely surgical intervention.

This study highlights GCBI utility as a sound way of assessing qol after surgery within pediatric ENT work. Several areas get better, so these treatments do more than just treat body issues. They holistically develop the child within.

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Conclusion

Adenoidectomy with or without tonsillectomy significantly improves the quality of life in children suffering from adenoid and/or tonsillar hypertrophy. The improvement is evident in physical health, emotional well-being, speech and swallowing functions, and day-to-day activities. Early diagnosis and timely surgical intervention are essential to prevent long-term complications and enhance overall health outcomes. This study affirms the utility of the GCBI as a robust tool for postoperative assessment in pediatric ENT cases.

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