



Evaluation of Quality of Life in Rheumatological Patients with Post-Tonsillectomy

Murat Baloğlu

Physician, Department of Physical Therapy and Rehabilitation, Gazi Yaşargil Training and Research Hospital, Diyarbakır, Turkey

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*Address for Correspondence:

Murat Baloğlu, Physician, Department of Physical Therapy and Rehabilitation, Gazi Yaşargil Training and Research Hospital, Diyarbakır, Turkey

Abstract

Aim: The main aim of the study was to determine whether tonsillectomy improves the quality of life in adults suffering from chronic or recurrent tonsillitis and in rheumatologically treated patients.

Materials and methods: This study was conducted on seropositive or seronegative patients (n=50) who were followed up with various rheumatological diagnoses (rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, etc.) at the physical medicine and rehabilitation clinic of SBU Diyarbakir Gazi Yasargil Education Research Hospital and who were diagnosed with acute or chronic tonsillitis and who applied to the ENT clinic. It was done to follow the pre- and post-operative conditions. In these patients who were decided to undergo surgical treatment, HAQ (Health assessment questionnaire) quality of life scale and VAS (Visual Analog Scala) were applied to evaluate the perception of pain before and at the 6th month after the operation.

Results: In this study of 50 adults, mean age was 28.0 years (SD 7.2 years), 38 adults were followed up in the 1st month of diagnosis, while 12 adults were followed up in the 7th month of diagnosis. All patients experienced significant improvements throughout the treatment process. According to the results of the patients' quality of life scale, it was determined that it increased significantly, primarily due to improvements in general and physical areas. 96% (96/100) of participating patients reported benefiting from tonsillectomy. Patients in the postoperative control group had significantly higher quality of life scores than patients in the preoperative case group ($p < 0.001$).

Conclusion: Adult patients who underwent tonsillectomy due to acute tonsillitis reported improvement in their quality of life 6 months after surgery. Based on this, physical examination of rheumatological patients who have rheumatological diseases and have undergone tonsillectomy and it is likely to improve general health, create a sense of well-being in patients, and improve overall quality of life. The social benefits of tonsillectomy appear to be negligible. The effects are likely to be long-lasting and have a greater impact on younger patients. The presence of chronic rheumatological disease due to tonsillar inflammation and infective symptoms are the main factors affecting the severity of the disease.

Keywords: Recurrent tonsillitis; Tonsillectomy, Rheumatological diseases, Quality of Life

INTRODUCTION

In recent years, with the increase in environmental pollution, the incidence of inflammation of the tonsils and tonsillar enlargement has increased³. Additionally, passive smoking⁴ and the use of infectious agents⁵ are causes closely related to the development of tonsillitis. Chronic tonsillitis is a long-term condition consisting of certain symptoms, including general swelling and inflammation of the pharyngeal tonsils and the back of the throat⁶. People with chronic tonsillitis, a common clinical disease in otolaryngology, may present with prolonged pharyngeal discomfort and foreign body sensation, dry and itchy throat, irritating cough, halitosis, and other clinical symptoms that seriously affect their health and quality of life⁷. In severe cases, it can be complicated by heart and kidney diseases and threaten the life safety of patients. Therefore, timely and effective treatment is essential for the prognosis of people with tonsillitis⁸. Tonsillectomy is now a common treatment for chronic tonsillitis, and the quality of life of patients after surgery is a key point of clinical concern⁹. Currently, there are few publications at home and abroad about the determinants of quality of life in patients with chronic tonsillitis after tonsillectomy. The quality of life of patients with tonsillitis after tonsillectomy remains unclear¹⁰.

Reviewing the factors affecting the quality of life after tonsillectomy in patients with chronic tonsillitis can provide a basis for improving rheumatological findings and quality of life in patients with chronic tonsillitis after tonsillitis. This study aimed to provide guidance and evidence support for patient care to improve the quality of life by examining the factors affecting the quality of life of patients after tonsillectomy and to what extent they contribute to the general life of patients¹¹.

Traditionally, the recommendation for tonsillectomy in adults depends on the frequency of acute tonsillitis attacks in the setting of recurrent (chronic) disease. Recent American Academy of Otolaryngology clinical guidelines state that patients with 3 or more tonsil and/or adenoid infections per year despite adequate medical treatment may be considered candidates for tonsillectomy¹². In addition, chronic or recurrent tonsillitis associated with streptococcal carriage and unresponsiveness to lactamase antibiotics may be considered a suitable indication for tonsillectomy. But in reality, quality of life assessments and patient preferences often influence traditional guidelines in deciding whether tonsillectomy should be recommended for adult patients with chronic tonsillitis. For example, patients who have fewer than 3

tonsillitis episodes per year but each episode results in long-term absence from work may be considered candidates for tonsillectomy.

The effectiveness of tonsillectomy for chronic tonsillitis in patients has been well studied, but similar data for adults are lacking. Accurate quality of life data will assist in patient counseling about treatment options for chronic tonsillitis.

The purpose of this study was to determine the quality of life benefit and impact from adult tonsillectomy. It is aimed that with adequate quality of life and disease impact data, more appropriate recommendations for tonsillectomy can be formulated.

MATERIALS AND METHODS

In this study, adults who underwent tonsillectomy and applied to SBU Diyarbakir Gazi Yasargil Education Research Hospital Physical Medicine and Rehabilitation Clinic and to the ENT outpatient clinic with the diagnosis of concurrent acute or chronic tonsillitis between 1 November 2022 and 28 February 2023 were selected as the study population. The inclusion criteria for the patients were as follows: patients met the standard of tonsillectomy or chronic tonsillectomy, had any rheumatological disease, were followed up, and underwent surgical treatment in the hospital; It was created from people who knew and agreed to participate in this research. The exclusion criteria of this study are as follows: people with nasopharyngeal carcinoma, nasopharyngeal fibroangioma and other nasopharyngeal diseases; People with primary systematic diseases related to the heart, liver, kidney and brain, those without any rheumatological disease, and those who did not agree to participate in this study were not included in this study.

It was conducted with patients (n = 50) who had at least one rheumatological disease and applied to the ENT outpatient clinic with the complaint of acute tonsillitis. The quality of life scale was applied before and at the 6th month after the operation to these patients who were decided to undergo surgical treatment.

Data Collection Tool

We used the following tools to survey patients six months before tonsillectomy and again when the patient returned for follow-up.

HAQ, general data survey: Designed and filled out by research group staff based on the results of the literature review. It included basic content such as age, gender, body mass index (BMI), and place of residence.

Pediatric Quality of Life Inventory Version 4.0: The scale consists of physiological function (8 items), emotional function (5 items), social function (5 items) and school function (5 items). Each item of the scale is a survey of the frequency of an event in the past month. The score of each dimension is obtained by dividing the scores of the answered items by the number of answered items. The total score and score of each dimension is 0.100. The higher the score, the better the quality of life ¹².

Statistical Analysis

The data of this study were statistically processed with SPASS23.0 software. Measurement data were expressed as mean ± standard deviation and t-test was used for

comparisons between groups. Count data were expressed as percentages and analyzed by chi-square or rank sum test. Pearson correlation analyzes were performed to evaluate the adjustment of PedsQL™ 4.0 total score and characteristics of subjects who underwent tonsillectomy. Univariate analysis and logistic regression analyzes were performed to evaluate factors affecting quality of life in people undergoing tonsillectomy. In this study, P < 0.05 was taken as a significant difference between groups.

RESULTS

A total of 50 patients who underwent tonsillectomy were included. The average age of the patients was 28.0 ± 7.2 and the average course of tonsillitis was 4.42 ± 1.27. Characteristics of patients who underwent tonsillectomy are presented in Table 1.

Table 1: Characteristics of patients who underwent tonsillectomy (n=50)

Variables	Features
Age (a)	28,0 ± 7,2
Male / Female	30/20
BMI (kg/m ²)	32,15 ± 5,21
Place of Residence	
Rural area	10 (20%)
City	40(80%)
Tonsillitis courses (year)	1,72 ± 1,07
Monthly family income (RMB)	
≤ 25000	30 (%60)
> 25000	20 (%40)

It was observed that the total score of the quality of life scale in patients who underwent tonsillectomy increased after the operation compared to before. Score details are shown in Table 2.

Table 2: Quality of Life Scale score in patients undergoing tonsillectomy

Items	Before Operation	After Operation
	Total Score	Total Score
Physiological Function	34,30 ± 15,12	54,39 ± 18,21
Emotional Function	63,10 ± 16,50	66,92 ± 19,52
Social Function	71,08 ± 10,37	80,18 ± 12,77
Total Average Score	56,16 ± 13,99	67,16 ± 16,80

As shown in Table 3, there were statistical differences in the total score of the quality of life scale among patients with different ages and monthly family income (P < 0.05). There was no significant difference in the total quality of life score between patients with different gender, BMI, and place of residence (P > 0.05).

Table 3: Univariate analysis of total quality of life score and characteristics of patients undergoing tonsillectomy.

Items	Total Quality of Life Score	P
Age (a)		0,007
≤ 25	58,05 ± 18,11	
> 25	65,29 ± 13,09	
Gender		0,097
Male	70,18 ± 15,26	
Female	70,95 ± 16,72	
BMI (kg/m²)		0,128
<35	67,45 ± 19,48	
≥ 35	69,88 ± 10,13	
Only child in the family		0,114
Yes	77,24 ± 16,82	
No	66,26 ± 11,45	
Place of Residence		0,086
Rural area	71,22 ± 10,27	
City	74,74 ± 12,82	
Tonsillitis courses (year)		0,031
≥ 3	66,19 ± 10,14	
< 3	70,21 ± 10,15	
Monthly family income	71,72 ± 10,17	0,009
≤ 25000	67,66 ± 23,18	
> 25000	69,28 ± 20,79	

As shown in Table 4, Pearson correlation analyzes showed that age ($r = 0.586$), tonsillitis courses ($r = 0.595$), and monthly family income ($r = 0.608$) were associated with quality of life ($P < 0.05$).

Table 4: Pearson correlation analysis of quality of life scale total score and characteristics of patients who underwent tonsillectomy

Items	R	P
Age (a)	0,586	0,031
Gender	0,101	0,102
BMI(kg/m²)	0,116	0,131
Place of residence	0,209	0,154
Tonsillitis courses (year)	0,595	0,037
Monthly family income	0,608	0,022

As shown in Table 5, logistic regression analyzes showed that age ≤ 25 years, tonsillitis courses ≥ 3 years, and monthly family income ≤ 25000 TL were independently affected quality of life factors in patients with tonsillectomy ($P < 0.05$).

Table 5: Logistic regression analysis on factors affecting quality of life in patients undergoing tonsillectomy

Items	β	Wald	%95 GA	P
Age ≤ 25y	0,116	0,258	1,826 ~ 2,401	0,012
Tonsillitis courses ≥ 3 years	0,109	0,189	1,688 ~ 2,547	0,019
Monthly family income ≤ 25000 TL	0,113	0,195	2,092 ~ 3,077	0,032

DISCUSSION

Tonsillectomy is one of the common surgeries that many people undergo tonsillectomy every year due to recurrent tonsil infections, decreased general quality of life and increased pain perception¹³. In people with tonsillitis or tonsillar enlargement, symptoms of pain and exacerbations in rheumatological diseases may improve in the postoperative period, but postoperative complications such as fever, pain, decreased diet, activity, and bleeding cannot be excluded^{14,15}.

In this study, the quality of life of patients who underwent tonsillectomy was combined with a standardized scale and examined according to their individual and family social demographic characteristics, and the factors affecting the quality of life of people who underwent tonsillectomy were discussed. The quality of life scale used in this study is a systematic measurement tool widely used to examine quality of life¹⁶.

This study shows that the quality of life increases in patients who undergo tonsillectomy. In addition, age, course of tonsillitis and family monthly income are related to quality of life in people who underwent tonsillectomy. For people aged ≤ 25 years, tonsillitis course ≥ 3 years, and monthly family income ≤ 25000 TL, quality of life may be lower in people undergoing tonsillectomy. To improve their quality of life, healthcare personnel should make targeted assessments and interventions for affecting factors and receive effective care in a timely manner.

In this study, it was observed that the age and duration of the disease also triggered rheumatological diseases and had a significant effect on the quality of life.

Large changes in disease-specific and overall quality of life have been found 6 months and 1 year after tonsillectomy in people with recurrent or chronic tonsillitis¹⁷. While the VAS (visual analogue scale) values of the patients were 7.8+-4.2 before tonsillectomy, they decreased to 2.7+-3.2 after tonsillectomy ($P < 0.00$). The longer the course of tonsillitis and the longer it is caused by long-term inflammatory stimulation, mucosal lesions are relatively severe, so people's quality of life within a month is relatively poor. Therefore, clinically, for people who are young and have a long course of the disease, it is necessary to follow the changes in the condition of the patients and establish the appropriate time for tonsillectomy, strengthen the education of information about the disease and pay attention to the quality of life of the patients¹⁸⁻¹⁹.

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