Original Article :

Knowledge of Tonsillectomy Indications among Primary Healthcare Physicians in Riyadh, Saudi Arabia

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Received on May 20, 2023, accepted for publication on Sep 27, 2023, dx.doi.org/10.5455/mjhs.2023.04.006

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Abstract

Background and Aims:

Tonsillectomy is a common procedure in children and adults. Despite its popularity, many physicians still need to be adequately educated regarding the indications for tonsillectomy. Recurrent tonsillitis is the most common indication in which primary care physicians seek consultation from otolaryngology. This study aimed to assess the knowledge of indications for tonsillectomy among primary healthcare physicians in Riyadh, Saudi Arabia.

Methods:

This cross-sectional study was conducted between March and August 2022, with a sample size of 100 male and female primary healthcare physicians in Riyadh, Saudi Arabia. A questionnaire on demographic data, clinical practice and exposure, and basic knowledge of current tonsillectomy indications was administered to the participants, and data were analyzed.

Results:

Of the 73 primary care providers included in the study, almost 70% had an average-to-poor knowledge of tonsillectomy indications. Women had better knowledge than men.

Conclusions:

The results of the present study indicate that primary healthcare physicians' knowledge regarding adenotonsillectomy indications is still inadequate. Enrichment of the otolaryngology teaching at medical school and in residency programs is essential for optimization of the primary care delivered to patients.

Keywords:

tonsillectomy, knowledge, primary care, indication.

Introduction

Tonsillectomy is one of the most common surgeries performed in pediatric and adult populations. Essential indications have changed from chronic upper respiratory infection to obstruction of the upper

airway.[1] Nearly 30% of adult primary care visitors complain of tonsillitis,[2] and the number is higher in pediatric patients.[3] The most common indication for primary care referral to otolaryngology clinics is tonsil-related problems in 50% of patients.[4] Thus, it is important for primary care providers to know how to diagnose and treat common tonsil-related conditions and when to refer the patient to an otolaryngologist. Various conditions can affect the palatine tonsils, including acute, subacute, and chronic infections, resulting in hypertrophy, consequently leading to halitosis, tonsillar stones, sleep problems, and obstructive sleep apnea. In an attempt to reach a consensus on conditions for referral, multiple societies have released specialized guidelines, as summarized in Table 1.[5-8]

To the best of my knowledge, no previous studies have been conducted to assess the knowledge of primary care physicians on this particular topic or to illustrate the knowledge of tonsillectomy indications among primary health care physicians.

Therefore, this study aimed to assess the knowledge of indications for tonsillectomy among primary healthcare physicians in Riyadh, Saudi Arabia. The findings of this study will be valuable in clarifying the extent of their knowledge in Riyadh, Saudi Arabia.

Methods

Ethical approval

This study was approved by the Institutional Review Board of the university [details blinded for peer review]. Responses to the survey were anonymous, with no tracking of any identifying information. Written informed consent was obtained from all participating physicians. Participation was voluntary with the option of withdrawing at any time during the study. The study protocol conformed to the ethical guidelines of the 1975 Declaration of Helsinki as reflected in a priori approval by the institution's human research committee.

Study design

This cross-sectional study was conducted between March and August 2022. The study population comprised primary healthcare physicians in northern Riyadh, Saudi Arabia.

Sample size

Among 90 primary care physicians practicing in the northern part of Riyadh City, the sample size for the present study was calculated to be 73 using a Krejcie and Morgan9 table with the following parameters: a confidence level of 95% and margin of error of 5%. The sample population was selected via convenience sampling.

Inclusion criteria

Primary healthcare physicians practicing in northern Riyadh, Saudi Arabia.

Exclusion criteria

Participants who did not sign the informed consent form and primary healthcare physicians working outside Riyadh, Saudi Arabia, were excluded.

Data collection

A self-administered online questionnaire was distributed among primary healthcare physicians in Riyadh, and data were collected with maximum privacy, safety, and confidentiality.

Data collection method

Data used in the study were collected using the online questionnaire. The questions were designed after thorough review of the current literature and guidelines on the topic. The questionnaire was sent to clinical experts (otolaryngology and family medicine consultants in the academic and community sectors) for assessment of suitability of content. After being rated by the experts, the content validity ratio (CVR) of the questionnaire was calculated using the following formula: (CVR) = [(E – (N/2))/(N/2)], where (N) and (E) represent the total number of experts and the number of experts who rated the questionnaire as essential, respectively. The CVR of the questionnaire used in this study was 0.85, which was close to 1.0; hence, the questionnaire was considered valid.

The final version of the questionnaire consisted of 28 questions divided into the following three sections: (1) demographic data of participants (8 questions), (2) clinical practice and exposure (8 questions), and (3) basic knowledge of current tonsillectomy indications (10 questions).

Statistical analysis

All statistical analyses were performed using R Statistical Software (version 3.6.2; R Foundation for Statistical Computing, Vienna, Austria). The normality of the tonsillectomy knowledge score was analyzed using a Shapiro–Wilk normality test, which showed a normal distribution skewness of -0.30 and kurtosis of -0.58. Descriptive analyses were performed for all categorical variables including demographic data. One-way analysis of variance (ANOVA) was used to detect the correlation between the tonsillectomy knowledge score and different variables. Statistical significance was set at $P < 0.05$. To determine the knowledge level of the physicians, a percentage score was generated for each participant (points achieved/10 total points × 100) and categorized as follows: > 75%, good knowledge; 50%–75%, average or moderate knowledge; and < 50%, poor knowledge of tonsillectomy indications.

Results

In total, 73 primary care providers responded to the survey. Table 2 outlines the sociodemographic characteristics: 46 (63%) participants were aged 25–35 years. There was a slight predominance of male individuals (49 [53.4%] participants). Most participants were residents in training, followed by board-certified physicians: 28 (38.4%) and 23 (31.5%), respectively. Approximately half of the respondents (52%) worked at a primary care center, followed by 22 (30.1%) at secondary hospitals. Eighteen (24.7%) participants had good knowledge scores, 29 (39.7%) participants had average knowledge scores, and 26 (35.6%) participants had poor knowledge scores (Table 3).

Table 1. Tonsillectomy indications

Indication	Level of Evidence
Recurrent infection: 1. More than 7 episodes in one year 2. More than 5 episodes per year for two consecutive years 3. More than 3 episodes per year for 3 consecutive years	A (Pediatric) B (Adult)
Obstructive sleep apnea	A (Pediatric) B (Adult)
Halitosis, febrile seizure, and tonsillar stones	C (both)

Table 2. Demographic data of the study participants

	Counts	% of Total	Cumulative %
Age (years)			
25–35	46	63.0	63
36–45	18	24.7	87.7
46–55	5	6.8	94.5
>55	4	5.5	100
Sex			
Male	39	53.4	53.4
Female	34	46.6	100
Highest qualification			
Bachelor in medicine	13	17.8	17.8
Resident in training	28	38.4	56.2
Board certified	23	31.5	87.7
Fellowship trained	9	12.3	100
Workplace			
Primary care center	38	52.1	52.1
Secondary hospital	22	30.1	82.2
Tertiary hospital	13	17.8	100

Table 3. Knowledge score classification for tonsillectomy indications

Levels	Counts	% of Total	Cumulative %
Good	18	24.7	24.7
Average	29	39.7	64.4
Poor	26	35.6	100

Most participants answered incorrectly that tonsillar stones and halitosis (62 [84.9%] and 58 [79.5%] participants, respectively) were indications for tonsillectomy. Recurrent tonsillitis was identified correctly by more than 50% of the participants (Table 4).

Table 4. Tonsillectomy knowledge score elements

Tonsillectomy indication	Correctly answered by (Count)	Correctly answered by (%)
Recurrent tonsillitis >7 episodes per year	44	60.3
Recurrent tonsillitis >5 episodes per year for 2 years	50	68.5
Recurrent tonsillitis > 3 episodes per year for 3 years	35	47.9
Obstructive sleep apnea	51	69.9
Peritonsillar abscess	64	87.7
Unilateral tonsillar enlargement	47	64.4
Febrile seizure	23	31.5
Recurrent viral pharyngitis	29	39.7
Halitosis	15	20.5
Tonsillar stone	11	15.1

Obstructive sleep apnea was correctly identified by 51 doctors (69.9%). Peritonsillar abscesses were correctly identified as an indication for tonsillectomy by 64 (87.7%) participants. Residents in training and reading of tonsillectomy guidelines were statistically significant factors associated with good knowledge scores ($p = 0.014$ and 0.034, respectively). Being female was also associated with a better knowledge score, but it did not reach statistical significance ($p = 0.068$) (Table 5).

Table 5. Correlation between the tonsillectomy knowledge score and different variables using one-way analysis of variance (ANOVA)

Variable	Mean Knowledge score	P value
Sex	Male: 46.4 Female: 54.1	0.068
Reading tonsillectomy guidelines	Yes: 52.7 No: 41.7	0.034

Variable	Mean Knowledge score	P value
Workplace	Primary care center: 53.7 2ry Hospital: 43.6 Tertiary hospital: 50	0.158
Highest qualification	MBBS: 43.1 Resident in training : 58.2 Board Certified: 47.8 Fellowship trained: 40	0.014

Discussion

Tonsillectomy is one of the most common surgeries performed by otolaryngologists. Many patients are referred from primary care to otolaryngology clinics for the procedure, and primary care providers should have adequate and updated medical knowledge of different aspects of medical specialties, including otolaryngology. Improving primary care knowledge will help triage patients and reduce unnecessary referrals to specialized otolaryngology clinics.[10,11]

There are three opportunities for training of primary care providers in otolaryngology: The first one is at medical school in the undergraduate curriculum; the second is at the residency level, in the form of an otolaryngology rotation; the third is in clinical practice with continuing medical education. The current study findings indicate poor knowledge scores in tonsillectomy indications among primary care providers; other studies have also detected an insufficiency in otolaryngology teaching at both the undergraduate and postgraduate levels. One possible cause is the underrepresentation of otolaryngology in medical school curricula, although a large proportion of primary care complaints are otolaryngology-related.

Almost 70% of the physicians in the current study had an average or below-average knowledge score, and 50% agreed that there is a need for more otolaryngology teaching at medical school and in residency programs. A study conducted in the United Kingdom reported similar findings.

In a survey of practicing primary care doctors, almost half the respondents felt that their otolaryngology training was inadequate in medical school and residency programs, and 75% of the respondents stated that they desired further training and exposure in otolaryngology.[12]

Being in a residency training program presents an excellent opportunity to increase the exposure of training physicians to various guidelines in different specialties, including otolaryngology.

Multiple factors played a role in improving physicians' knowledge, such as reading guidelines published on the topic, and female sex was associated with better knowledge scores. Obtaining a higher qualification, such as subspecialty training in family medicine or more years of experience in practice, did not improve practitioner knowledge.

Previous studies that examined the role of guideline reading and knowledge in primary care showed that physicians who read guidelines are more satisfied and comfortable in managing their patients than those who do not.[13]

Study limitations

This study has a few limitations, such as its small sample size and cross-sectional design. Future studies involving a much larger group would assist in drawing better conclusions and finding a solution to this issue.

Conflict of interest

none

Financial support

none

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