Original Research Article

KNOWLEDGE AND AWARENESS ON TONSILLITIS AMONG DENTAL STUDENTS - A SURVEY

Running Title: A survey among the dental students on Tonsillitis awareness.

Abstract:

Introduction:

Palatine Tonsils are paired lymph node organs located on each side of the back of your throat. They function as a defense mechanism and help prevent body from getting an infection. When tonsils become infected, the condition is called tonsillitis.

Aim: This article aims to know the knowledge and awareness of dental students on Tonsillitis diseases.

Materials and Methods: A questionnaire of 16 questions was created and entered in the online survey creator 'Google Forms' and shared among each student of about 100 individually and privately and data were collected subject to statistical analysis using SPSS software. Statistical tests used were descriptive statistics and Chi-square tests. A P-value less than 0.05 will be considered statistically significant.

Results and Conclusion: Results of this study suggest that Third-year students more aware of symptoms of tonsillitis 20%, complications of tonsillitis 20% and symptoms associated with strep throat 18% than students of other year and they need an effective education and awareness campaign to increase their knowledge and awareness on Tonsillitis.

Keywords: Tonsillitis, Tonsillectomy, Sleep apnea syndrome, Sore throat, Streptococcus pyogenes, novel technique.

Introduction:

Tonsillitis is an infectious disease that affects the parenchyma of the palatine tonsils in children. Recurrent tonsillitis causes severe morbidity and time away from school or work, even though tonsillitis has few long-term consequences (Kvestad et al., 2006). The definition of recurrent varies, but 5 or more episodes of true tonsillitis each year, symptoms recurring for at least a year, and episodes that are severe and prevent normal functioning were recently used as a measure of severity (Brodsky, 1989). In children, a sore throat may be part of the early symptom complex of upper respiratory tract morbidity. Tonsillitis is a common childhood illness that can occur at any age. It is most commonly diagnosed in children under the age of childhood and mid-adolescence. A sore throat, swollen tonsils, and fever are some of the symptoms.

As with chronic tonsillitis, a standard treatment for recurrent tonsillitis is a tonsillectomy (1). A sore throat or tonsillitis that affects approximately 5 to 7 times in a year or at least 5 times in each of the past two years or at least 3 times in each of the previous three years is referred to as chronic tonsillitis. The first line of defense against illness is tonsils. They produce white blood cells that assist in the battle against infection in the body. Bacteria and viruses that enter the body through your mouth and nose are combated by the tonsils. Tonsils, on the other hand, are vulnerable to infection from these invaders. A virus, such as the common cold, or a bacterial infection, such as strep throat, may cause tonsillitis.

Tonsillitis can also be caused by viruses such as rhinovirus, Epstein-Barr virus, hepatitis A, and HIV. Since the Epstein-Barr virus can cause both mononucleosis and tonsillitis, tonsillitis can occur as a secondary infection in people who have mono (Goudsmit et al., 1982). Around 15 to 30% of tonsillitis disease results from bacteria. Mostly it was streptococcal bacteria, which causes strep throat, but other bacteria can also cause tonsillitis. Bacterial tonsillitis is more common in children between the ages of 5 and 15 (2). Diagnosis is by examining the throat physically and also by swabbing of the throat and will be sent to the laboratory to identify whether the infection is bacterial or viral. Chronic tonsillitis causes obstructive sleep apnea where the airways swell and disturbs normal sleeping pattern and the worsening condition is known as tonsillar cellulitis causing a buildup of pus behind the tonsils, called a peritonsillar abscess. This can require drainage and surgery (3). Complications of tonsillitis include rheumatic fever and post-streptococcal glomerulonephritis.

The purpose of the study is to analyse and create awareness about different types of Tonsilitis and its symptoms and signs along with the complications. This study aims at the knowledge and awareness of tonsillitis among dental students.

Materials and Methods:

Study design:

A cross-sectional study was conducted through an online survey from January to March 2021 among dental practitioners and specialist

Study subjects:

A simple random sampling was used to select the study participants.

Inclusion criteria: All the dental students who were willing to participate were included with a sample size of 100.

Ethical considerations:

The filled questionnaire was considered as implicit consent as a part of the survey. Ethical approval for the study was obtained from the Institutional Review Board (IRB), Saveetha Dental College.

Study methods:

A self-administered questionnaire of close-ended questions was prepared and it was distributed among dental students from January to March 2021 through the online survey "Google Forms". The collected data were checked regularly for clarity, competence, consistency, accuracy, and validity. Demographic details were also included in the questionnaire.

Statistical analysis:

Data were analyzed with the SPSS version (23.0). Descriptive statistics as percent were calculated to summarise qualitative data. Chi-square test was used to analyze and The confidence level was 95% and of statistical significance $P < 0.05$. Finally, the result was presented by using bar charts, pie charts, and percentage tables.

Results:

Table 1: Responses of the study population

Parameters	Know	Don't know
1. Tonsils functions as a defense mechanism	n=84(84%)	n=16 (16%)
2. Contagious condition of tonsillitis	n=81(81%)	n= 19 (19%)
3. Commonest bacteria causing tonsillitis disease	n=43 (43%)	n= 57 (57%)
4. Possible symptoms of tonsillitis	n= 68 (68%)	n= 32 (32%)
5. Acute tonsillitis lasts around 10days	n= 78 (78%)	n = 22 (22%)
6. The standard treatment recommended for recurrent tonsillitis	n= 58 (58%)	n= 42 (42%)
7. Genetics - strep throat and tonsillitis	n= 76 (76%j	n = 42 (24%)
8. Homemade remedies for tonsillitis	n= 67 (67%)	n= 33 (33%)
9. Symptoms of tonsillitis associated with strep throat	n= 72 (72%)	n=28(28%)
10. Halitosis	n= 79 (79%)	n=21(21%)
11. Complications of tonsillitis	n=76 (76%)	n=24 (24%)

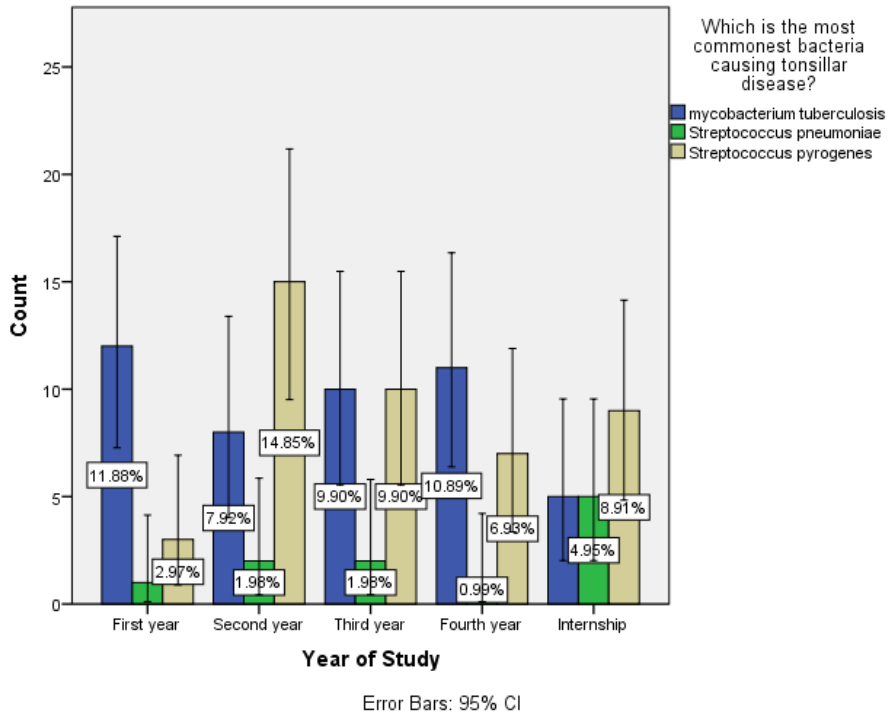

Figure-1, Bar graph representing the association between years of study and bacteria involved in causing tonsillitis. The X-axis represents the year of study and Y-axis represents the number of responses. Blue represents Mycobacterium tuberculosis, Yellow represents Streptococcus pyogenes, Green represents Streptococcus pneumonia. The majority of participants of the second-year (15%) answered correctly as Streptococcus pyogenes, first year students (5%), third year (10%), fourth year students (7%) and Internship students (9%) answered for streptococcus pyogenes commonly causing Tonsillar disease. Pearson chi-square value: >0.05, which is statistically insignificant.

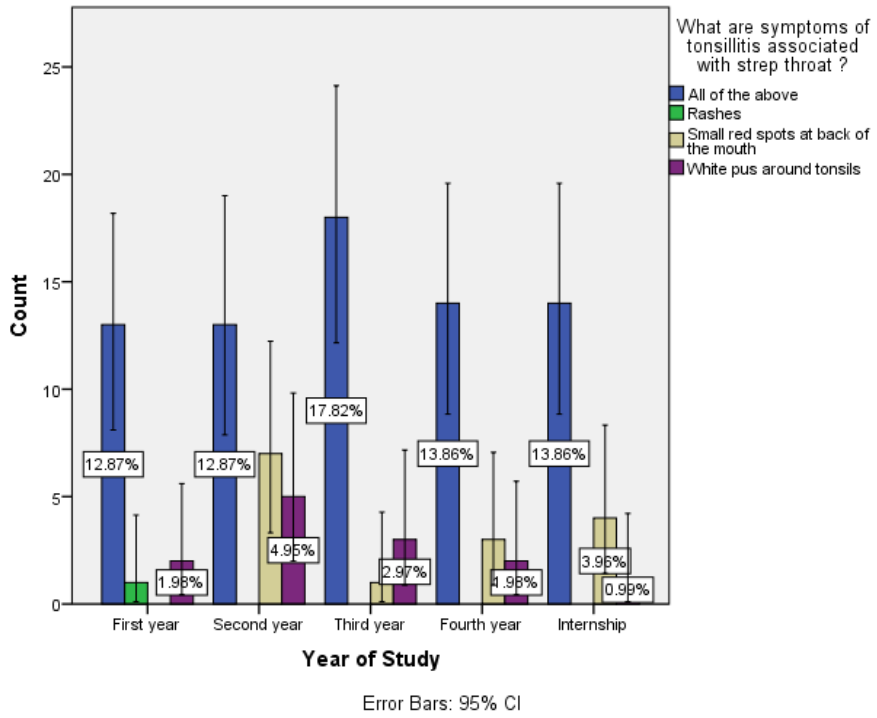

Figure-2, Bar graph representing the association between years of study and symptoms of tonsillitis associated with strep throat. The X-axis represents the year of study and Y-axis represents the number of responses. Violet represents white pus around tonsils, yellow represents small red spots at the back of the mouth, green represents rashes, blue represents all the options. The majority of the participants of the third year (18%) answered correctly for the symptoms of tonsillitis in strep throat, and first year students (13%), second year students (12%), fourth year students (14%), internship students (14%) were also answered correctly for the symptoms of tonsillitis in strep throat. Chi-square analysis showed that there is no significant difference between the year of study on awareness of the symptoms of Tonsillitis.

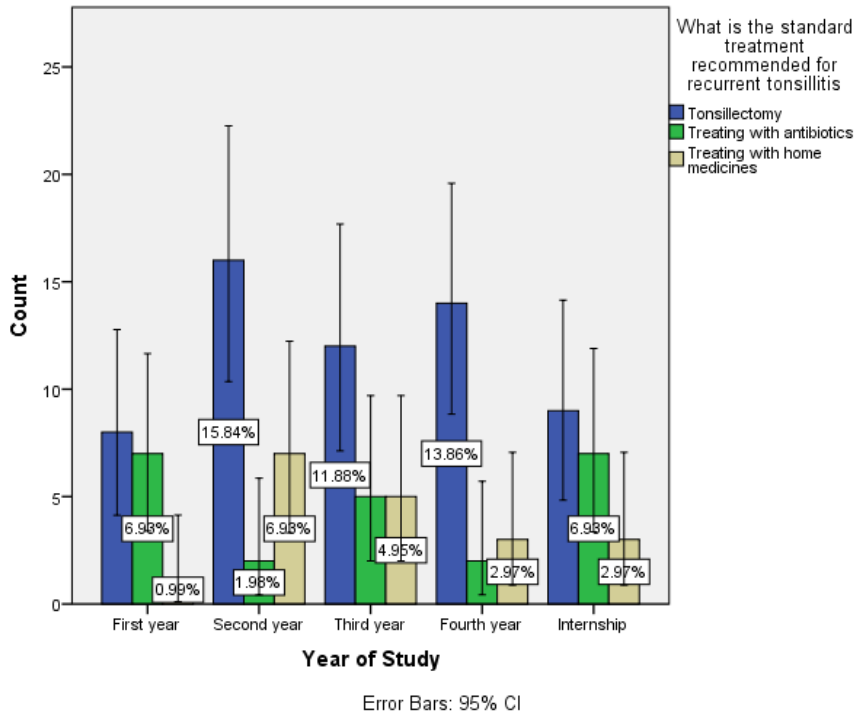

Figure-3, Bar graph representing the association between the years of study and standard treatment for recurrent tonsillitis. The X-axis represents the year of study and Y-axis represents the number of responses. Blue represents tonsillectomy, green represents treating with antibiotics, yellow represents treating with homemade medicines. The majority of the participants of the Second year (15%) and Fourth year (14%) answered correctly as Tonsillectomy, and first year students (8%), third year students(12%), internship students (9%) were also answered correctly as Tonsillectomy. Chi-square analysis showed a p-value of less than 0.05, which indicates that there is a significant association in the year of study.

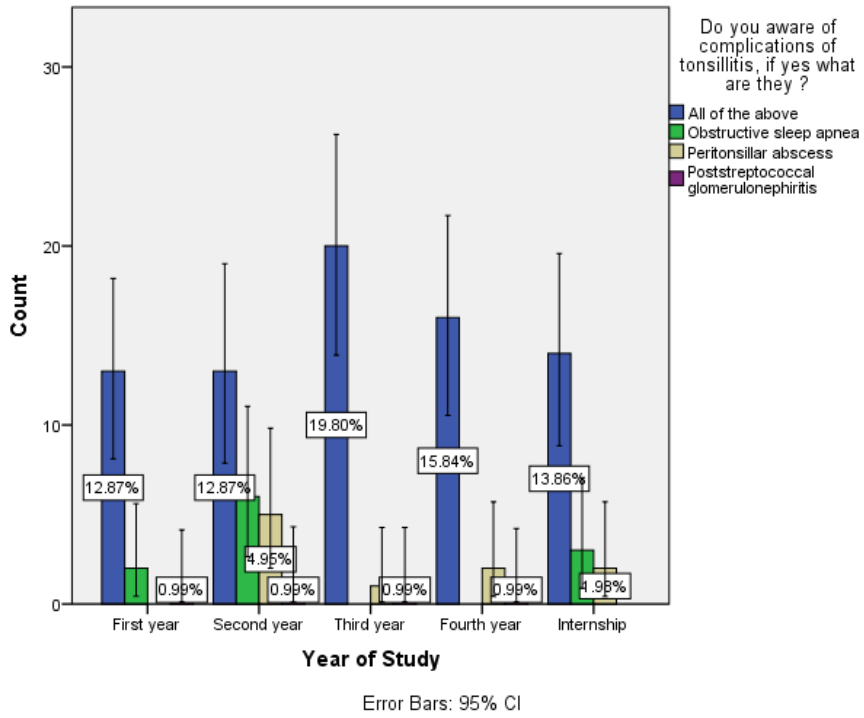

Figure-4, Bar graph representing the association between the years of study and complications of tonsillitis. The X-axis represents the year of study and Y-axis represents the number of responses. Green represents obstructive sleep apnea, yellow represents peritonsillar abscess, violet represents post-streptococcal glomerulonephritis. The majority of the participants of the Third year (20%) answered correctly for the complications of Tonsillitis, and first year students (13%), second year students (12%), fourth year students (16%), and internship students (14%) answered correctly for the complications of Tonsillitis. Chi-square analysis showed that there is no significant association between the year of study and awareness of complications of tonsillitis.

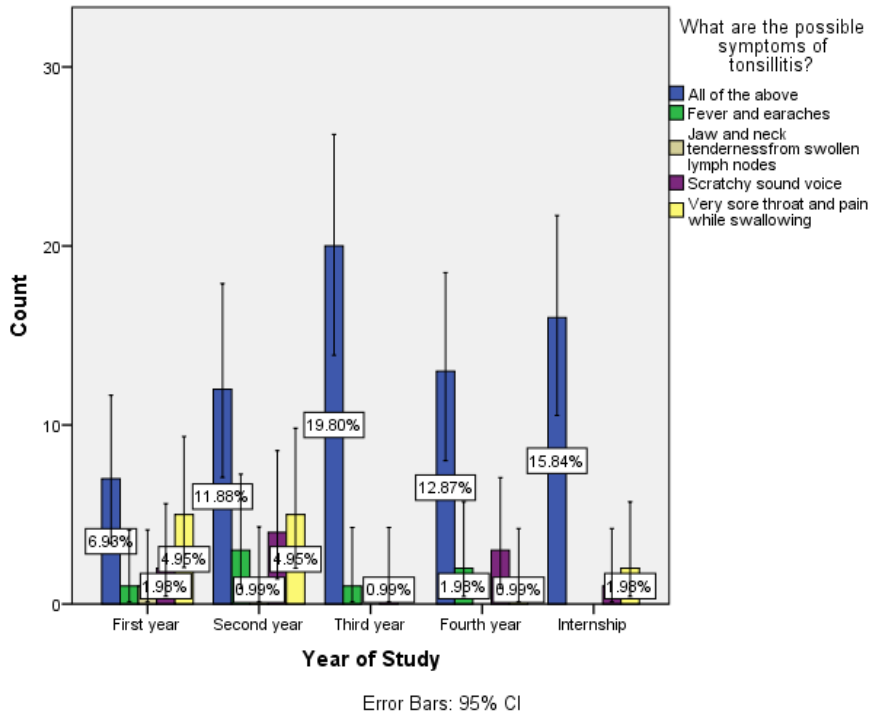

Figure-5, Bar graph representing the association between the years of study and possible symptoms of tonsillitis. The X-axis represents the year of study and Y-axis represents the number of responses. Green represents fever and earaches, orange represents jaw and neck tenderness from swollen lymph nodes, violet represents scratchy sounding voices, yellow represents very sore throat pain and pain while swallowing, blue represents all the options. The majority of the participants of the third year (20%) answered correctly for the symptoms of tonsillitis and first year students (7%), second year students (11%), fourth year students (13%) and Internship students (16%) were also answered correctly for the symptoms of tonsillitis. Chi-square analysis showed that there is no significant association between the year of study and awareness of symptoms of tonsillitis.

Discussion:

In Table-1, On Data analysis using Descriptive statistics on SPSS version 23, Among the population for the question Tonsils function as a Defense mechanism, 84% know the function of the tonsils and 26% don't know the function of the tonsils. Among the population for tonsillitis contagious condition- 81% know about Tonsillitis contagious condition and 19% don't know about Tonsillitis contagious conditions. Among the population for commonest bacteria causing

tonsillitis, only 43% know about bacteria causing tonsillitis and 57% don't know about bacteria causing tonsillitis. Among the population for symptoms of tonsillitis,- 68% know about the symptoms and 32% don't know about the symptoms. Among the population for the duration of acute tonsillitis- 78% know about the duration of acute tonsillitis and 22% don't know about the duration of acute tonsillitis (4–6). Among the population treatment for recurrent tonsillitis, 58% know about the treatment for tonsillitis and 42% don't know about the treatment for tonsillitis. Among the population for genetics association in tonsillitis, 76% know about the genetic association in tonsillitis and 24% don't know about the genetic association in tonsillitis. Among the population for homemade remedies for tonsillitis, 67% know about the homemade remedies for tonsillitis and 33% don't know about the homemade remedies for tonsillitis (7). Among the population for symptoms of tonsillitis associated with strep throat- 72% know about the symptoms of tonsillitis associated with strep throat and 28% don't know about the symptoms of tonsillitis associated with strep throat. Among the population for halitosis associated with tonsillitis, 79% know about the association of halitosis with Tonsillitis and 21% don't know about the association of halitosis with Tonsillitis (8). Among the population for complications of tonsillitis, 76% know about the complications of tonsillitis and 24% don't know about the complications of tonsillitis.

In Figure 1, On commonest bacteria causing Tonsillitis - 43% of participants answered as Streptococcus pyogenes. Pearson chi-square value: >0.05, which is statistically insignificant. Similar findings were seen in this study like Yuksek et al., in (2010) - 50% answered. The majority of them responded correctly to Streptococcus pyogenes (9,10). In Fig 2, On symptoms of tonsillitis associated with strep throat - 72% of participants answered for Small red spots at the back of the mouth, White pus around tonsils, Rashes. Chi-square analysis showed that there is no significant difference between the year of study on awareness of the symptoms of Tonsillitis. Similar findings were seen in this study like K.sarojini et al., in (2019) -80% answered. The majority of them responded correctly. (11).

In Figure 3, On standard treatment for tonsillitis - 58% of participants answered for tonsillectomy. Chi-square analysis showed a p-value of less than 0.05, which indicates that there is a significant association in the year of study. Similar findings were seen in this study like

Burton and Glasziou et al., in (2009) - 62% answered. The majority of them answered correctly. (12).

In Figure 4, On complications of tonsillitis - 76% of participants answered for Obstructive sleep apnea, Peritonsillar abscess, Poststreptococcal glomerulonephritis. Chi-square analysis showed that there is no significant association between the year of study and awareness of complications of tonsillitis. Similar findings were seen in this study like Xu et al., in (2020) - 81% answered (13,14)

In Figure 5, On symptoms of Tonsillitis- 68% of participants answered for Very sore throat and pain while swallowing, Scratchy sounding voice, Fever, and earaches. Chi-square analysis showed that there is no significant association between the year of study and awareness of symptoms of tonsillitis. Similar findings were seen in this study like K.Sarojini et al., in (2019)- 61% answered (11) Our team has extensive knowledge and research experience that has translate into high quality publications (15).(16–29) ,(30–34)

The limitations of this study were considered were a small sample size distributed only to the dental professional students and age group of 18- 24 years. Further studies can be done including all the professional students and more sample size to avoid bias.

Conclusion:

In the present study, Knowledge, and Awareness on Tonsillitis among Dental Students - A Survey was found to be moderate. During the year of study, Third-year students have more awareness of symptoms of tonsillitis 20%, complications of tonsillitis 20%, and symptoms associated with strep throat 18% than students of other years and it is clear that there is not enough awareness among the dental students about the Tonsillar diseases. Further studies with more population needed to assess the knowledge, awareness on Tonsillitis. Still, there should be more awareness-based practical classes and studies should be conducted among the selected population.

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