

Original Article

Sociodemographic characteristics of the patients of Tonsillitis attended in OPD of a district level Hospital

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Abstract:

Aim: To find out the tonsillitis patients and also find out its sociodemographic characteristics in district level of Bangladesh.

Method: This was a prospective cross sectional study, which was carried in out patients of tonsillitis attended in OPD of 250 Bedded General Hospital, Gopalganj. All the patients of acute tonsillitis, chronic tonsillitis and adenoid hypertrophy were selected from OPD irrespective of sex during the period of July 2015 to June 2016. Age ranges from 0-90 years and person residents of Gopalganj and adjacent districts.

Result: In this study 45.54% were male and 54.46% were female. Male female ratio 1:1.2. Majority of patients were age group 0-15 years (55.97%) Mean age of patient 45 years. Maximum family had monthly income TK 10,000 to 20,000 and maximum patients were dependent (30%) 5-6 family members were highest group, 60% patients lived in katcha house, 75% lived in rural area 35% patients used to bath in pond and majority of patients primary and JSC qualification. The majority of signs and symptoms were sore throat (100%), red, swollen tonsil (26%); white pus filled spots on the tonsil (38%); swollen lymph node in neck (60%) and bad breath (halitosis) (38%).

Conclusion: Tonsillitis is still high in rural area of our country and commonly found in younger age group. Thus improvement of related socioeconomic factors, health awareness campaign, improved health education and early accessibility can reduce the incidence of disease.

Key words: Tonsillitis, Sociodemographic factors, District level Hospital.

Introduction:

The tonsil begins developing early in the third month of fetal life. They arises from the endoderm lining, the second pharyngeal pouch, and the mesoderm of the second pharyngeal membrane and adjacent regions of the first and second arches. Heinrich

Wilhelm Gottfried von Waldeyer-Hartz first described the incomplete ring of lymphoid tissue, situated in the naso-oropharynx, in 1884. Waldeyer's ring consists of four tonsillar structures.(namely, the pharyngeal, tubal, palatine and lingual tonsils) as well as small collections of lymphatic tissue disbursed throughout the mucosal lining of the pharynx (Mucosa- associated Lymphoid Tissue, MALT).

Pharyngeal Tonsil (Adenoids): Situated superior-posteriorly to the torus tubaris, in the roof of the nasopharynx, the pharyngeal tonsil is primarily responsible for 'screening' the air that enters through the nostrils.

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Tubal Tonsils (Gerlach's Tonsil): The tubal tonsils are also located in the roof of the nasopharynx. They are bilateral and posterior to the torus tubaris, in the fossa of Rosenmuller (pharyngeal recess).

Lingual Tonsils: The numerous protrusions located at the posterior third of tongue are collectively known as the lingual tonsils. Mucosa-associated Lymphoid tissue (MALT) is found through out the mucosal lining of the body. The tonsils serve immune acquisition and immune defence by antigen presentation, which is why they contain T-lymphocyte, macrophages and germinal centres of B-lymphocytes. They are the first and earliest to reach station of the mucosa associate lymphoid tissue system in human. During upper respiratory tract infection (URTI), the pharyngeal and palatine tonsils become enlarge, resulting in adenoiditis or tonsillitis respectively. The inflammation is typically of bacterial origin. Consequently, hypertrophied lymphoid tissue may lead to obstruction of the airway.^{20,21,22,23,24,25} Tonsillitis is inflammation of tonsils, typically of rapid onset.¹ It is a type of pharyngitis.² Symptoms may include sore throat, fever, enlargement of tonsils, trouble swallowing and large lymph nodes around the neck.³ Tonsillitis is most commonly caused by a viral infection, with about 5 to 40% of cases caused by a bacterial infection.^{3,4} When caused by the bacterium group *Astreptococcus*, it is referred to as strep throat.¹⁹ Rarely bacteria such as *Neisseria gonorrhoea*, *Corynebacterium diphtheriae* or *Haemophilus influenzae* may be the cause.³ About 7.5% people have a sore throat in any three month period and 2% people visit a doctor for tonsillitis each year.⁶ It is most common in school aged children and typically occurs in the fall and winter month.^{3,4} The majority of people recover with or without medication.³ In 40% of people, symptoms resolve within three days and in

80% symptoms resolve within one week, regardless of if streptococcus is present.⁷ Antibiotics decrease symptom duration by approximately 16 hours.⁷

The incidence of tonsillitis is not completely known, research indicate that 15- 30% of sore throats in children and 5- 10% sore throats in adults are bacterial tonsillitis.^{8,9,10} The prevalence of tonsillitis is not completely known. Research on Norwegian twins indicates recurrent tonsillitis prevalence of approximately 11,700 per 100,000 individual.¹¹ A study on primary school children in Turkey indicated recurrent tonsillitis prevalence of approximately 12,100 per 100,000 individual.¹² Acute tonsillitis from *S. pyogenes* primarily affect children between 5- 15 years old.¹³ Research on tonsillitis patients that it is more common in female than male.^{11,14} There is no racial predisposition to tonsillitis. There is no geographic predisposition to tonsillitis.

Aim of the study: To find out the tonsillitis patients and also find out its socio-demographic characteristics among the people of Gopalganj and neighbouring districts.

Methods: The study was conducted using the following method and material.

Type of the study: Prospective cross sectional study.

Place of the study: ENT Outpatient Department, 250 Bedded General Hospital, Gopalganj.

Study population: Patients of tonsillitis attended in OPD.

Selection of patients: All the patients of acute tonsillitis, chronic tonsillitis and adenoid hypertrophy were selected from OPD irrespective of sex and religion.

Period of study : July 2015 to June 2016.

Study method: For the collection of data, we used a pretested data sheet, prior to interview verbal consent was taken and the purpose of the study was elaborate clearly.

Statistical Analysis: All the data were checked and verified throughly. The data obtain from the study were complied and standard calculator as well as computer software were used and the result of this study analysed statistically using SPSS 20 where relevant.

Result

A total 2176 tonsillitis patients attended in OPD during period of July 2015 to June 2016. In this study male 991(45.54%) and female 1185(54.46%).Male female ratio 1:1.2. Age range 0- 90 years. Mean age 45 years.

Table-I
Distribution of Tonsillitis patients in relation to age group (n= 2176).

Age group (Years)	Frequency	Percentage	Mean
0-15	1218	55.97%	
16-30	653	30%	
31-45	174	8%	
46-60	87	4%	45.0
61-75	33	1.52%	
76-90	11	0.51%	
Total	2176	100%	

Table shows the distribution of the patients by inclusive method. Majority of the patients were the age group 0-15 years and the age group 76-90 years were minimum. Mean age of patients 45.0 years (SD 26.26785).

Table-II
Distribution of tonsillitis patients by sex (n=2176).

Sex	No. of patients	Percentage
Male	991	45.54%
Female	1185	54.46%
Total	2176	100%

Male comprise 45.54% and female 54.46%.

Table-III
Distribution of tonsillitis patients in relation to monthly family income (n=2176).

Monthly Income	Number	Percentage
Upto Tk 10,000	647	29.75%
Tk 10,000- 15,000	1122	51.58%
Tk 15,000- 20,000	215	9.89%
Tk 20,000- 25,000	108	4.94%
More tha Tk 25,000	84	3.86%

Maximum families had monthly family income TK 10,000 to 15,000 (51.58%) and lowest more than TK 25,000 (2.99%).

Table-IV
Distribution of tonsillitis patients in relation to occupation (n=2176).

Occupation	Number	Percentage
Dependent	653	30%
Day labour/Famer/ Rickshaw/Auto puller	490	22.52%
Service Holder	382	17.53%
Business	109	5.02%
Other (Including house wife)	542	24.93%

Maximum 653 (30%) patients were dependents and minimum 109 (5%) were businessman.

Table-V
Distribution of family by number of family member (n=2176).

No of Member	No. of Patients	Percentage
Upto 4	544	25%
5-6	1306	60%
7-8	217	10%
9-10	109	5%
Total	2176	100%

5-6 family members 1306 (60%) were the highest group and 9-10 family members 109 (5%) were the lowest group.

Tabl-VI

Distribution of tonsillitis patients by type of housing (n=2176).

Housing Type	No. of patients	Percentage
Zupri	45	2%
Katcha	1305	60%
Semi Pakka	500	23%
Pakka	326	15%
Total	2176	100%

Maximum 1305 (60%) patients lived in Katcha house and minimum 45 (2%) lived in Zupri.

Table-VII

Distribution of Tonsillitis patients by habitat (n=2176).

Habitat	No. of patients	Percentage
Urban	544	25%
Rural	1632	75%
Total	2176	100%

Maximum patients 1632 (75%) lived in rural area.

Table-IX

Educational attainment of Tonsillar patients (n=2176).

Educational qualification	Frequency	Percentage
Primary	544	25%
JSC	544	25%
SSC	435	20%
HSC	217	10%
Degree and above	109	5%
No qualification.	327	15%

Table shows the distribution of educational attainment of tonsillar patients. Majority patients primary & JSC qualification(50%) and minimum degree and above (5%).

Table: X

Common signs and symptoms include patients with Tonsillitis (n=2176).

Common signs & symptoms ^{15,16,17,18}	Number of patients	Percentage
a. Sore throat	2176	100%
b. Red, swollen tonsil	566	26%
c. Pain when swelling	1610	74%
d. High temperature	566	26%
e. Headache	108	5%
f. Tiredness	109	5%
g. Chills	109	5%
h. A general sense of feeling unwell (malaise).	108	5%
i. White pus filled spot on the tonsils	827	38%
j. Swollen lymph node (gland) in neck.	1306	60%
k. Pain in the ears or neck.	283	13%
l. Weight loss.	109	5%
m. Difficulty in ingesting & swallowing milk/ liquid intake.	218	10%
n. Difficulty in sleeping.	350	16%
o. Nausea.	176	8%
p. Fatigue.	176	8%
q. Stomach-ache.	44	2%
r. Vomiting	44	2%
s. Furry Tongue.	44	2%
t. Bad breath (halitosis).	827	38%
u. Voice changes.	196	9%
v. Difficulty in the opening of mouth trismus.	121	5%
w. Loss of appetite.	44	2%
x. Anxiety/ fear of choking.	44	2%

Table shows the common signs and symptoms including with tonsillitis. Majority of signs and symptoms were sore throat (100%); red, swollen tonsil (26%); pain when swallowing (74%); high temperature (26%); white pus filled spots on the tonsils (38%); swollen lymph node in neck (60%) and bad breath (halitosis) (38%).

Discussion:

Tonsillitis is one of the most common throat disease of all age and its related sociodemographic characteristics provides a rich source for exploring issues. This is important both for scientific understanding and for policy analysis. It offers a unique opportunity in Bangladesh for the study of a range of topics necessary to understand the economic, social, psychological and health elements of the disease process and to inform policy in these areas. The study gives an over view of the demographic characteristics of the patient attended in out patient department (OPD) of 250 bedded general hospital, Gopalganj, such as age and sex, as well as other socio-demographic variables, such monthly family income, occupation, number of family members, type of housing, habitat, educational qualification and common signs and symptoms of patients. In our study, during the study period of one year 8,700 ENT and Head-Neck patients were attended in outpatient department, 3149 (36.20%) patients were various throat diseases. Out of these 2176 (69%) were acute tonsillitis, chronic tonsillitis and adenoid hypertrophy. And all were selected as study population. The incidence and prevalence of tonsillitis are not completely known. In this study 2176 (25%) of all ENT and Head-Neck patients were tonsillitis. Research of Norwegian twins indicates recurrent tonsillitis prevalence approximately 11.7%.¹¹ and a study of primary school children in Turkey indicated recurrent tonsillitis prevalence approximately 12.1%. Jones, Roger (2004) shown about 7.5% of people have a sore throat in any three months period and 2% of people visit a doctor for tonsillitis each year.⁶

In this study the age distribution shows that majority of the patients were age group 0-15 years (55.97%). Jones, Roger (2004) shown tonsillitis is most common in school aged

children and typically occurs in the fall and winter months.^{3, 4}

In the present study 45.54% were male and 54.46% were female. This findings suggest that sex affect in tonsillitis. Our results approved with the result of Kvestad, Ellen et.al (2005)¹¹ and Thorp MA, Isaac S, Sellars SL (2000), research on tonsillitis patients evidences that it is more common in female than male.¹⁴

In this series, monthly income of patients of tonsillitisn 29.75% patients had Tk 10,000, 51.58% had Tk 10,000- 15,000, 9.89% upto 15,000- 20,000, 4.94% upto Tk 20,000 to 25,000 and 3.86% more than Tk 25,000 monthly family income group. The study shows tonsillitis was more prevalent in lower socioeconomic conditions. In this study, most respondents (60%) had 5- 6 family members In our study, 60% families used to live in Katcha house and 23% semi Pakka house.

In the present series, maximum patients lived in rural area (75%). As study area was a district level hospital, so maximum patients came from rural area.

In this study, educational qualification of tonsillitis patients, majority was wirh primary and JSC qualification.

Considering the common signs and symptoms including in the tonsillitis, majority of signs symptoms were sore throat (100%); red & swollen tonsil (26%); pain when swallowing (74%); high temperature (26%); white pus filled spots on the tonsils (38%); swollen lymph node in neck (60%) and bad breath (halitosis) (38%).

Conclusion:

The objective of the study were tonsillitis and its related sociodemographic characteristics of patients attended in Outpatient Department (OPD), That is association of tonsillitis with age, sex, monthly family income, occupation,

number of family members, type of housing, habitat, water source for bathing and educational attainment. Tonsillitis is still high in rural area of our country and community found in younger age group. Female are more affected, lower socioeconomic group and lower educational attainment peoples are more affected. Thus improvement of these sociodemographic factors, health awareness campaign, improved health education and easy accessibility to health care facilities can reduce the incidence of this disease.

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