Prevalence of tonsillitis among sore throat patients attending OPD Department at Zawia Central Hospital, Libya

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Abstract

Tonsils are the body's first line of defense at the oropharyngeal pathway as a part of the Waldeyer's ring. They intercept bacteria and viruses that enter the body through the mouth or nose. Acute tonsillitis is a common infectious disease among sore throat cases, which contribute a significant social-economic impact worldwide that encountered E.N.T. practice. The inflammation in the oropharynx causes sore throat, which may be Acute Tonsillitis, pharyngitis or upper respiratory tract infection. Therefore, the management of this condition is often empirical with the using of antibiotics where the incidence of organism's resistance, due to misusing of antibiotics, is increased. The present study was conducted to identify the prevalence of Tonsillitis among sore throat patients.

Study Design: A retrospective descriptive cross-section study, it spanned a 12-months period from Mars 2019 to end of February 2020 on patients visited the Otorhinolaryngology outpatient department (ENT OPD) of Zawia Teaching Hospital (ZTH), Libya.

The data gathered from medical records of the hospital, after taking concept of department head manager.

During this period 9553 patients consulted in ENT OPD in ZTH, a series of 1160 cases of sore throat was collected, 400 (34%) were Tonsillitis, with female predominance (65.75%) throughout the seasons. 48.5% of patients with tonsillitis were from mid age group (15-45 years) then 41% were from children age group (1-15 years). The peak prevalence of tonsillitis was at March, the highest age group at March were from children, while mid age group shows high prevalence of tonsillitis in July.

Keywords : Tonsillitis, Prevalence, palatine tonsils, sore throat, seasons, Libya.

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Introduction

The palatine or faucial tonsils are the body's first line of defense at the oropharyngeal pathway as a part of the Waldeyer's ring. Which is a ring of lymphoid tissues within the pharynx consists of the palatine tonsils ('tonsils'), pharyngeal tonsils ('adenoids'), tubal tonsils (just posterior to the eustachian tube opening), and lingual tonsils (on the posterior aspect of the tongue)17. The palatine tonsils are in the lateral oropharynx, found between the palatoglossal arch anteriorly and the palatopharyngeal arch posteriorly, known as the palatine arches or pillars 1,2,5. The human palatine tonsils represent a mucosa-associated lymphoid tissue with a significant function in mucosal protection against alimentary and airborne pathogens 3. Tonsillitis refers to the inflammation of the parenchyma of the palatine tonsils and pharyngitis, an inflammation of the remainder of the pharynx 4,5,6. Individuals with acute tonsillitis present with fever (>38°C [>100.5°F]), tonsils become swollen and congested giving rise to sore throat, foul breath, dysphagia (difficulty swallowing), odynophagia (painful swallowing), and tender cervical lymph nodes., and patients may have headache, abdominal pain, nausea, and vomiting 7,8.

In addition, Difficulty swallowing and tender lymph nodes on the sides of the neck, in case of recurrence of the disease they cause a significant morbidity, including time lost from school or work.

The clinical distinction between tonsillitis and pharyngitis is unclear in the literature, and the condition is often referred to simply as 'acute sore throat'.7

Its Vidin that sore throats can have a range of causes 10, and not specific for tonsillitis, pharyngitis nor URTI and can be caused by other conditions, such as gastro esophageal reflux, postnasal drip secondary to rhinitis, persistent cough, thyroiditis, allergies, a foreign body, and smoking.9

While URTI is defined to patient presented with one or more of the following; infection of the throat (including the pharynx and tonsils), nose (rhinitis) and Ears (first stage of acute otitis media).3

In addition, pharyngitis diagnosed when there is a congestion of oropharynx whatever the cause is allergic, viral or bacterial infection.

From previous studies, the aim of the evaluation of patients with sore throat is to exclude potentially dangerous causes, to identify any treatable causes, and to improve symptoms 4. The evaluation includes a thorough history, focused physical examination, and investigation in selected patients, establishing an accurate diagnosis and initiating appropriate treatment are key components of managing this common pathologic process 10.

In other hand, It is crucial to prevent acute tonsillitis complications which could happen in the absence or low dose of antibiotic, Untreated or incompletely treated tonsillitis can lead to potentially life-threatening complications 11.

This study aimed to detect the prevalence of tonsillitis among other sore throat causing illnesses (URTI – pharyngitis).

Methods and materials:

Study design and participants

A retrospective descriptive cross-section study, it spanned a 12-months period from Mars 2019 to end of February 2020 on patients visited the Otorhinolaryngology outpatient department (ENT OPD) of Zawia Teaching Hospital (ZTH), Libya.

The data gathered from medical records of the hospital after taking consent from ENT chief department.

During this period 9553 patients consulted in ENT OPD in ZTH, a series of 1160 cases of sore throat was collected, 400 0f them were tonsillitis.

Inclusion criteria are all patients visited ENT OPD of ZTH during the study period, complaining of sore throat Exclusion criteria are NONE.

Data collection technique:

The data was collected using form that designed by researcher and the form divided to two parts the first discussed the demographic questions; age and sex and the second discussed the clinical data; diagnosis and season.

Data analysis

The variables studied were the other sore throat casing illness like pharyngitis and URTI. Study based on clinical picture of the patients; an effective ENT examination focused on the pharyngeal sphere performed in all our patients. The diagnosis based on the patient's history and clinical symptoms 12.

The completed data were checked, cleaned, and entered into Microsoft excel 2013 for Windows 10 for analysis. Descriptive statistics including frequencies, percentages and graphs were used to summarize the different variables

Ethical consideration:-

Permission taken from hospital manager and chief department of ENT unit

Results:-

1. **Prevalence of sore throat pt. among other ENT pt.**

Out of 9553 patients visited ENT OPD in study period, 1160 (12.14%) were sore throat.

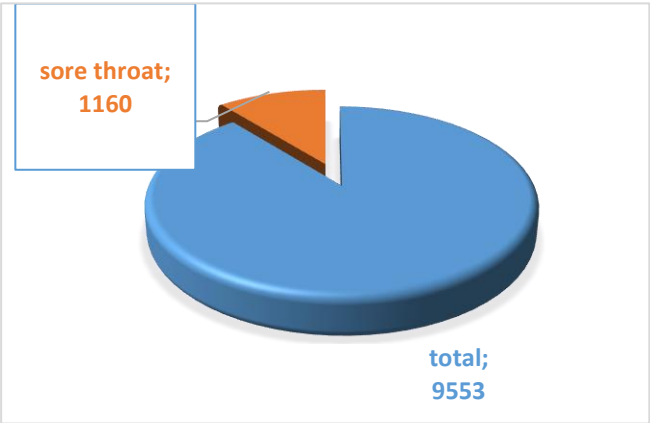

Fig 1: Prevalence of sore throat pt. among other ENT pt.

1-Socio-demographic characteristics of the study population: Among 400 patients had tonsillitis, 194 (48.5%) were aged 14-45 years, with female predominance 56.8%. (Table 1)

Table 1: Socio-demographic data of the study population.

Variable	Socio-demographic data	
Age group	No.	Per.
1-13	164	41%
14-45	194	48.5%
> 45	42	1%
Gender	No.	Per.
Male	173	45.75%
Female	227	56.75%

2. **Prevalence of tonsillitis among season**

The results showed that the most patients with tonsillitis were attended to the hospital at March (48), followed by September (41), Jul (40). While the lowest number of patients was in May (19).

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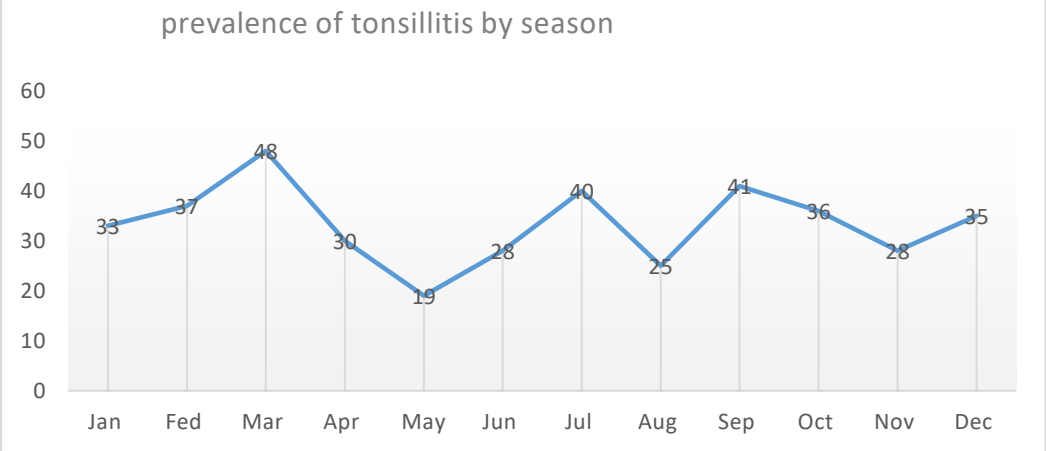

Fig 2**:** Prevalence of tonsillitis among season

3. Prevalence of upper respiratory tract infection URTI among season

From the figure 386 patients with upper respiratory tract infection, 82 patients were attended to the hospital at December, followed by October 38 patients and March 37 patients.

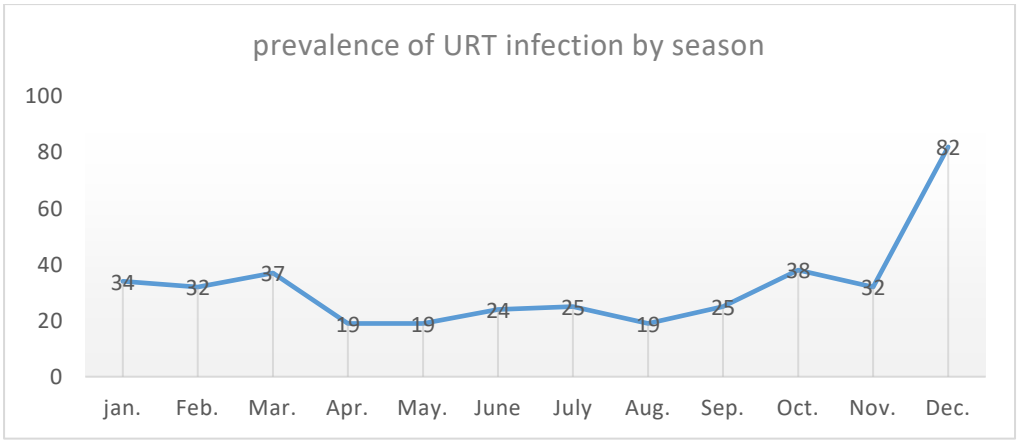

Fig 3: Prevalence of upper respiratory tract infection among season

4-Prevalence of tonsillitis, according to gender in relation with season

From the figure, there is female predominance throughout the seasons attended to the hospital with tonsillitis with peak at March (33) female patient, except at January.

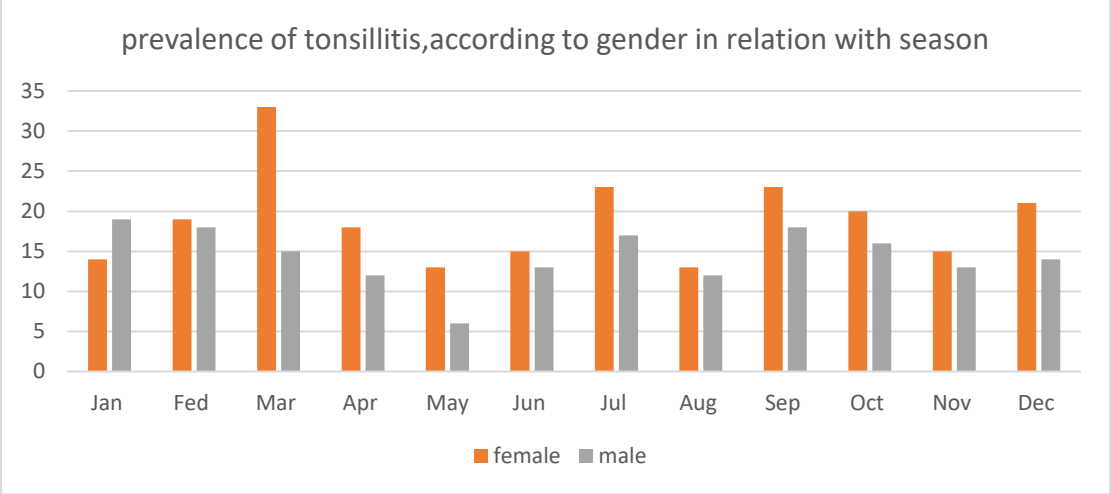

Fig 4: prevalence of tonsillitis, according to gender in relation with season.

5-Prevalence of tonsillitis among other sore throat cases in relation with season

Out of 1160 patient presented with sore throat, 400 (34%) cases were tonsillitis, with peak at March.

Table 2: Prevalence of tonsillitis among other sore throat cases in relation with season.

Data		Variable											
		Season											
	T	Jan	Fed	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AT	400	33	37	48	30	19	28	40	25	41	36	28	35
Phr.	374	32	29	34	30	37	40	37	13	27	33	25	37
URTI	386	34	32	37	19	19	24	25	19	25	38	32	82
total	9553	748	633	855	969	662	908	1004	615	822	880	604	853

6-Prevalence of tonsillitis, according to age group in relation with season

Out of 400 cases had tonsillitis, 194 (48.5%) were the age group from 14-45, with peak at July for this age group.

Table 3: prevalence of tonsillitis according to age group in relation with seasons.

Total	age group	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec

164	A(1-13)	13	18	23	14	10	7	12	11	21	10	9	16
194	B(14-45)	15	16	21	15	7	14	26	12	17	21	15	15
42	C > 45	5	3	4	1	2	7	2	2	3	5	4	4
400	Total	33	37	48	30	19	28	40	25	41	36	28	35

Discussion

Tonsillitis has poor epidemiological studies in developing countries including Libya; however, it is a common throat disorder. This study revealed the overall prevalence of sore throat in general is to be 12.14% Fig1. Tonsillitis represented 34% of it, and this finding is almost similar to other studies done by Georgalas CC in UK17, Kvestadet in a Norwegian town 8, Choudhry in Turkey 22 and Waheed Atilade Adegbiji in Nigeria13, which found the prevalence of tonsillo-phayngitis to be 10%, 11.7%, 12.1% and 12.7% respectively. This prevalence was lower than findings from other studies done by Shah et al in Bangladesh, Zephania Saitabau Abraham in Tanzania and Karevold in Oslo Norway14-15, which reported the prevalence of tonsillitis to be 19.9%, 20.6% and 21.6% respectively. While Hannaford in Scotland 16, reported the prevalence of tonsillitis to be 30.8% .Such differences may be attributed by different geographical distribution of the studied population, their cutler, and study design and sample size.

Unlike other study done by Christos Georgalas in UK 7, were children shows high prevalence of tonsillitis, in this study adult age group from (14-45) years had higher prevalence of tonsillitis 48.5% followed by children age group from (1- 13) years 41% table 1. Which explained by a statistic result done in 2020 19, shows the median age of the population in Libya corresponded to 25.8 years. In addition it may be explained from author's view, by that data was gathered from ENT OPD while most of children with this complain is seeking pediatricians' consultation rather than otolaryngologists.

In this study, prevalence of tonsillitis was found to be higher in female 56.75% compared to male 45.75% table 1. Such finding appears similar to what has been reported by Kvestad (14.1% female predominance) 8, and the other from Benin (1.3:1 female to male ratio) 13. In other hand findings is dissimilar to what was found by Waheed Atilade Adegbiji in Nigeria 13, and a study done by Abdel and Agrawal in Tanzania14, were the prevalence of tonsillitis was found to be higher in males 55.5%, 51% compared to females 44.5%, 49% respectively.

In this study, the peak prevalence of tonsillitis was at March, followed by September and July while the lowest number of patients with tonsillitis

presented at May fig. 2. The highest age group at March were children from 1-15 years old (23 patients) table 3.This study is partly going with the study done by Christos Georgalas in UK 7, were the prevalence is highest in winter and early spring, and correspond to the prevalence of URTI as seen in fig3. While age group from 15-45 years old (26 patients) shows high prevalence of tonsillitis in July, while no clear peak for age group > 45 yrs. The high prevalence of tonsillitis for this age group is similar with study done by Chen J in People's Republic of China 20, which found the high temperature was associated with an increased incidence of acute tonsillitis. With female prominence in all age groups fig. 4. Which can be explained, as most of people seeking medical advice in the study society is from female gender from authors view. Which is conform to study done by Bertakis KD in University of California 21, sows women had a significantly higher mean number of visits to their primary care clinic and diagnostic services than men.

Conclusion:

Tonsillitis is a common throat disorder with poor epidemiological studies in developing countries including Libya. The study found tonsillitis encountered more than third of cases complained of sore throat in our hospital with slight female preponderance. During the study, we find that there is no national clinical practice guideline for diagnosis and management of tonsillitis and URTI.

List of abbreviations:

ZTH – Zawia Teaching Hospital.

OPD – Out Patient Department.

ENT – Ears, Nose and Throat.

URTI– Upper Respiratory Tract Infection.

Pt. – patient.

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