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KEY WORDS: Children, Group A beta-hemolytic Streptococcus, rheumatic heart disease, sore throat.

# TO STUDY THE PROFILE OF PHARYNGITIS AMONG 3–15-YEAR-OLD CHILDREN ATTENDING CLINICS FOR AN ACUTE SORE THROAT

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**ABSTRACT**

**Background-** To analysis the profile of pharyngitis among 3–15-year-old children attending clinics for an acute sore throat.

**Methods-** This was a cross-sectional hospital-based study in the ENT OPD.The study population included all children between ages 3 and 15 years presenting at the OPD.

**Results-** 27 (54.00%) were males while 23 (46.00%) were females. The mean age of the children was 8.24 ± 2.15 years (range 3–14 years). GABHS was isolated in 35 (70.00%) of the children. Streptococcus viridans was found in 6 (12.00%) while the remaining 9 (18.00%) were sterile

**Conclusion-** We concluded that the proportion of GABHS throat infection is high.

## INTRODUCTION

Group A beta-hemolytic *Streptococcus* (GABHS) is the most important cause of sore throat in children for obvious reasons. It is a causative organism of pharyngitis that is linked to the etiopathogenesis of acute rheumatic fever (ARF) and rheumatic heart disease (RHD). Post-World War II era saw a lot of efforts, research, and interventions in primary and secondary prevention of RHD leading to a drastic reduction in the incidence of the disease, especially in developed countries. Nevertheless, RHD remains among the most common acquired heart diseases in many countries, especially the developing ones. A previous report from Abeokuta showed that RHD persists as an important cause of heart disease.[1-2]

Concerning clinical manifestations, children with streptococcal pharyngitis present with fever, sore throat, and nonspecific symptoms such as headache, abdominal pain, and vomiting. The most suggestive physical findings are diffuse redness of the tonsils and tonsillar pillars and soft palate petechial mottling, with or without lymphadenitis and follicular exudates. The benefit of antibiotic treatment of GAS pharyngitis is not limited to accelerating clinical recovery. When initiated within 9 days of illness onset, antibiotic is highly effective for the prevention of ARF. Therefore, it is recommended that antibiotic therapy should not be delayed in children with symptomatic GAS pharyngitis. The drug of choice is penicillin However, allergy to penicillin precludes its use in some patients. Alternatives include amoxicillin, erythromycin, azithromycin, clarithromycin, or first-generation cephalosporins. It is important to remember that there could be local variations in antibiotic susceptibility, and this must be put into careful consideration in choosing antibiotics.[3-4]

## MATERIAL AND METHODS

This was a cross-sectional hospital-based study in the ENT OPD.The study population included all children between ages 3 and 15 years presenting at the OPD.

### Inclusion Criteria

Consecutive children aged 3–15 years who presented with sore throat or drooling of saliva and any one of these following signs and symptoms were considered eligible: fever >37.5C, cervical lymphadenopathy, inflamed tonsils, and exudative tonsils.

### Exclusion Criteria-

Exclusion criteria were denial of consent and those with significant history of vomting.

### *Specimen Collection*

Throat swabs were collected from all patients recruited into the study using aseptic technique to prevent contamination. A wooden tongue depressor is used to hold the tongue in place. Without touching the sides of the oral cavity or the tongue, a sterile swab stick is used to swab the posterior pharynx and tonsillar arches. The specimens were taken to the laboratory by a research assistant immediately after collection.

### Data Analysis:

Data was recorded as per Performa. The data analysis was computer based; SPSS-22 was used for analysis. For categoric variables chi-square test was used. For continuous variables independent samples's *t*-test was used. *p*-value <0.05 was considered as significant.

## RESULTS

**Table 1. General Characteristic**

| | |
|---|---|
| Age in yrs | 8.24±2.15 |
| Male : Female | 27 : 23 |
| Group A beta-hemolytic *Streptococcus* (GABHS) | 35(70.00%) |
| *Streptococcus viridans* | 6(12.00%) |
| Sterile | 9(18.00%) |

27 (54.00%) were males while 23 (46.00%) were females. The mean age of the children was 8.24 ± 2.15 years (range 3–14 years). GABHS was isolated in 35 (70.00%) of the children. *Streptococcus viridans* was found in 6 (12.00%) while the remaining 9 (18.00%) were sterile. The age group with the highest proportion of GABHS was age 3–6 years. The youngest age group (3–6 years) also had the highest frequency of *S. viridans* which is a normal flora.

## DISCUSSION

There appears to be a consensus that antibiotic treatment of *S. pyogenes* is an effective primary prevention strategy for ARF and RHD, both of which are its nonsuppurative complications. However, following the drastic reduction of RHD burden, especially in developed countries of the world, there seem to be divided opinions on whether acute sore throat should be investigated and treated with antibiotics as a means of primary prevention of ARF/RHD or not.[5-6] Whereas ARF and RHD are rarely seen in the developed countries and therefore weaken the basis for antibiotic treatment, RHD remains a major cause of acquired heart diseases in developing countries and may be nonuniformly distributed even within the same country. As noted earlier in this article, our hospital records, though unpublished, show persistent new cases of ARF/RHD, and therefore, the need to continue to investigate

and treat GABHS pharyngitis is key to control of RHD in developing countries.

Sadoh *et al*. in Benin,[5] Nigeria, reported that 48.72% of the bacterial isolates from throat swabs were beta-hemolytic streptococci, but no Lancefield grouping was done (Group A, B, C, and G are beta-hemolytic).

Another study in Jos, Nigeria, by Mawak *et al*.[6] reported a much lower figure of 10.45% for *S. pyogenes* among under-five age group.

## CONCLUSION

We concluded that the proportion of GABHS throat infection is high.

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