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KAP on the Management Strategies among Dental Students on the Treatment of Oral Manifestations of Scarlet Fever

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ABSTRACT

Good oral health is also an important part of general health but generally there is a perception that oral diseases are limited to the scope of dentistry. Poor oral health, apart from causing health problems also lead to social inequalities. Thus the prevention of oral diseases should be made a priority in many countries. Scarlet fever is an acute respiratory disorder caused by Streptococcus pyogenes (GAS). Generally doctors treat scarlet fever with antibiotics to reduce the symptoms and to reduce the spread of disease. The aim of this survey was to know about the knowledge, attitude and practices on the treatment of oral manifestations of Scarlet fever among the dental practitioners. An online survey of 17 questions was taken up by 100 dental practitioners in Chennai. The data was analyzed and studied by plotting a pie chart. The dental practitioners were aware that Streptococcus bacteria were the causative agent for scarlet fever and that it occurs mainly in children between the age of 5 to 15. According to the study the dental practitioners are aware about the treatment and preventive measure of scarlet fever. They also have knowledge about the alternative treatments. From the study it is evident that the dental practitioners were aware of the causes, symptoms, diagnosis, treatment and prevention of scarlet fever even though it was not much prevalent in India.

Key words: Scarlet fever, *Streptococcus pyogenes*, Respiratory diseases, Children, Treatment

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INTRODUCTION

Good oral health is an essential part of general health. But however, there is a widespread perception that oral diseases are limited to the scope of dentistry. There exists scarce integration between the dentists and other health-care professionals in academic, research, and professional fields [1]. Poor oral health leads to social inequalities [2]; thus the prevention of oral diseases should be made a priority in developed and underdeveloped countries in the world. Advances in the geographic information system (GIS) and related technologies have paved the way to understand diseases from different perspectives and it has been widely applied in controlling infectious diseases [3-5]. Climatic changes may also cause seasonal fluctuations of scarlet fever.

Scarlet fever is an acute respiratory infectious disease caused by Group A Streptococcus pyogenes (GAS). It is a rare disease and was first described in1900 [6]. During the nineteenth century, scarlet fever, causing an enormous number of deaths, was a common fatal childhood infectious disease [7]. GAS usually spreads via respiratory droplets or by direct contact with the mucus, saliva, or skin of an infected person. Some outbreaks of scarlet fever were even found to be food-borne [7-9]. Though anyone can get scarlet fever, children between 5 to 15 years of age are more vulnerable to scarlet fever [10]. In a few studies it was found that boys are more prone to the infection [11]. Boys mostly have more physical activities than girls and also lack personal hygiene, which increase the chances of exposure to GAS. The signs and symptoms include sore throat, high fever, skin infection, and the characteristic red rash that feels like sandpaper. During the nineteenth century, scarlet fever caused an enormous number of deaths and was considered a common fatal childhood infectious disease [6,7]. However,

3% to 5% of untreated cases can result in long-term complications, including rheumatic heart disease, hepatitis, and glomerulonephritis, that consume a large proportion of health care resources [12-14]. Generally doctors treat scarlet fever with antibiotics to reduce the symptoms and to reduce the spread of disease.

Previously our department has published extensive research on various aspects of prosthetic dentistry [15-25], this vast research experience has inspired us to research about. The aim of this survey was to know about the knowledge, attitude and practices on the treatment of oral manifestations of Scarlet fever among the dental practitioners.

MATERIAL AND METHODS

This survey was conducted in an online portal called survey planet. The survey was circulated among 100 dental practitioners in Chennai. This was a questionnaire based survey. The results were obtained from the survey planet. After the collection of the results, statistical analysis was done on SPSS software version 2.0 by IBM.

RESULTS AND DISCUSSION

This study reveals the management strategies used by dental practitioners in treating the oral manifestation of scarlet fever. From the study, it is found that 86% of the dental practitioners know the cause of scarlet fever (Figure 1). 47% of the dentists think that scarlet fever is less prevalent in India (Figure 2). 73% of the dentist practitioners know that scarlet fever occurs mostly in children between the ages 5 to 15 than in adults (Figures 3 and 4). 96% of the dentists had never encountered patients with scarlet fever (Figure 5) and majority (59%) of them consider that patients with scarlet fever rarely visit dentists (Figure 6), Maximum (57%) of them prefer to diagnose a dark red tongue as glossitis rather than scarlet fever (Figure 3) but are aware that scarlet fever causes 'strawberry tongue' . 94% of them have never diagnosed a patient to have scarlet fever at all and of the remaining 6% only 2 dentists acquired positive results for their diagnosis (Figure7). For

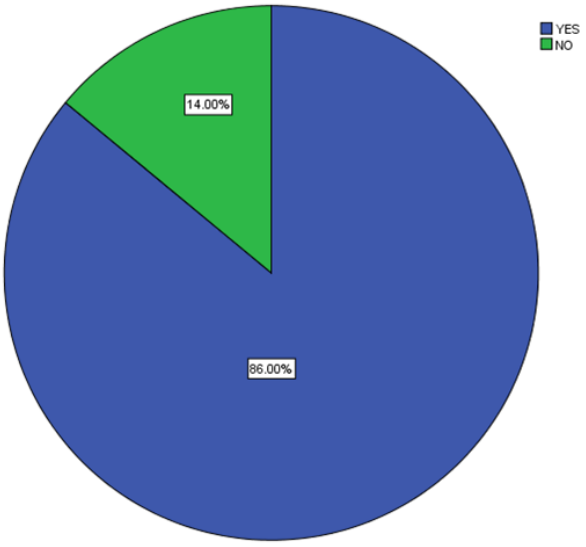

Figure 1: Pie chart shows the frequency distribution of the statement, "Are you aware of what causes scarlet fever?" Blue colour denotes yes and green colour denotes no. It is evident that 86% of the participants were aware of the causes of scarlet fever.

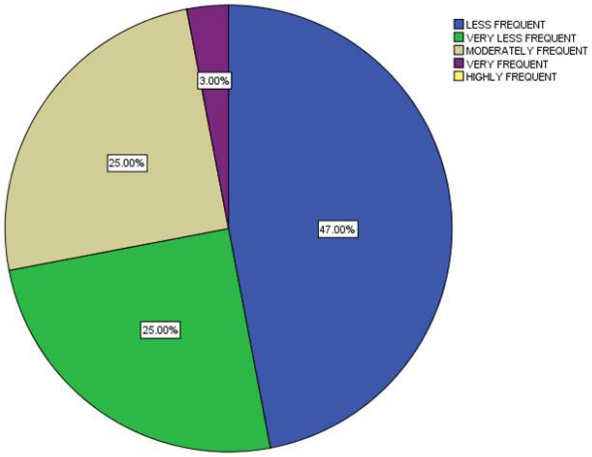

Figure 2: Pie chart shows the frequency distribution of the statement, "How much do you think scarlet fever is prevalent in India?" Blue colour denotes very less frequency, Green colour denotes less frequency, Grey colour denotes moderate frequency, Purple colour denotes high frequency and Yellow colour denotes very high frequency. It is evident from the graph that 47% of the participants answered that scarlet fever was found to be less prevalent in India.

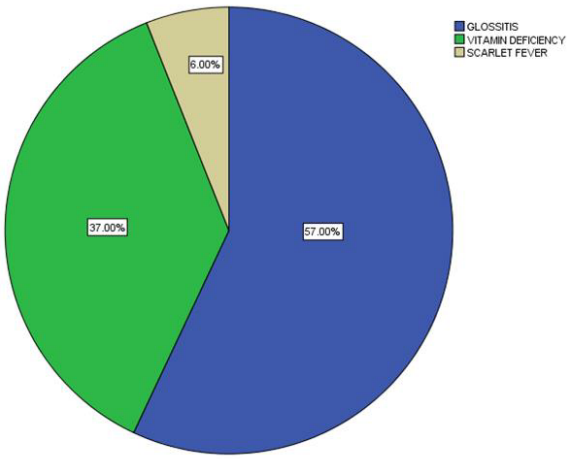

Figure 3: Pie chart shows the frequency distribution of the statement, "What would you diagnose for a patient with dark red coloured tongue ?" Blue colour denotes vitamin deficiency, Green colour denotes scarlet fever and Grey colour denotes glossitis. It is evident that glossitis was found to be more prevalent to diagnose for a patient with dark red coloured tongue.

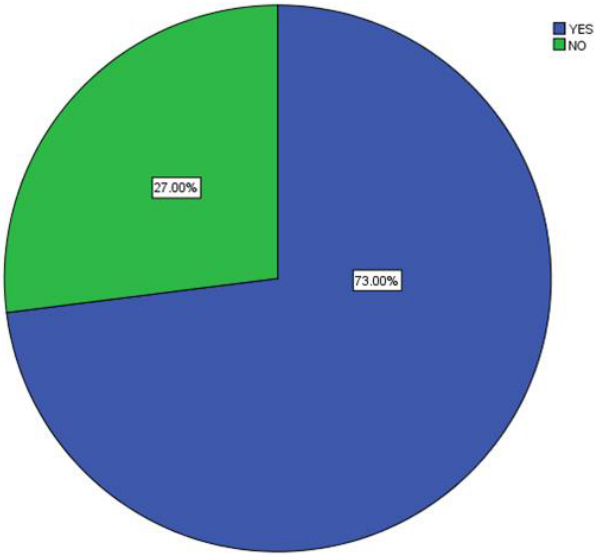

Figure 4: Pie chart shows the frequency distribution of the statement, "Are you aware that scarlet fever is more seen in children between 5-15 years of age than adults ?" Blue colour denotes yes and green colour denotes no. It is evident that nearly 73% of the participants were aware that scarlet fever is more seen in children between 5-15 years of age than adults.

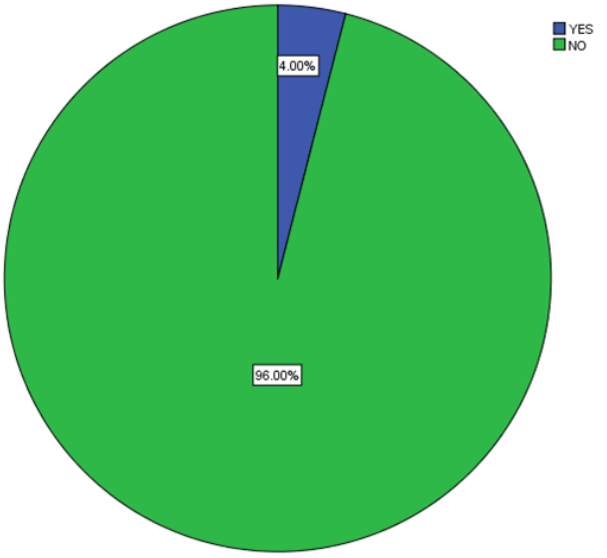

Figure 5: Pie chart shows the distribution of patients with scarlet fever who visited the dental practitioners who had taken up the survey. Blue colour denotes yes and Green colour denotes no. It is evident that nearly 96% of the patients with scarlet fever have visited the dental practitioners who had taken up the survey.

diagnosis, apart from physical examination, the majority of them prefer a throat or tonsil swab rather than opting for a rapid strep test. 63% of the dentists prefer to refer scarlet fever patients to a physician rather than prescribing antibiotics (Figure 8). But in case if a child is allergic to penicillin 45% of the dentists prefer prescribing erythromycin and 37%prefer to prescribe either erythromycin or clarithromycin (Figure 9). Majority (76%) of them prefer not to stop

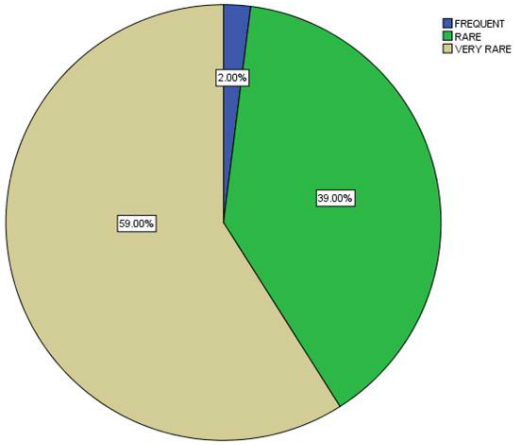

Figure 6: Pie chart shows the frequency distribution of the statement, "How often do you think a patient with scarlet fever visits a dental practitioner?" Blue colour denotes frequent, Green colour denotes rare and grey denotes very rare. It is evident that nearly 59% of the dental practitioners consider that patients with scarlet fever very rarely visit dental practitioners.

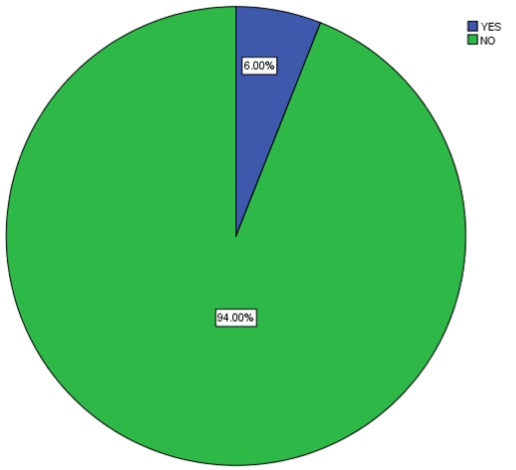

Figure 7: Pie chart shows the frequency distribution of the statement," Have you ever diagnosed a patient to have scarlet fever ?" Blue colour denotes yes and Green colour denotes no. It is evident that 94% of the practitioners said that they have diagnosed the patients with scarlet fever.

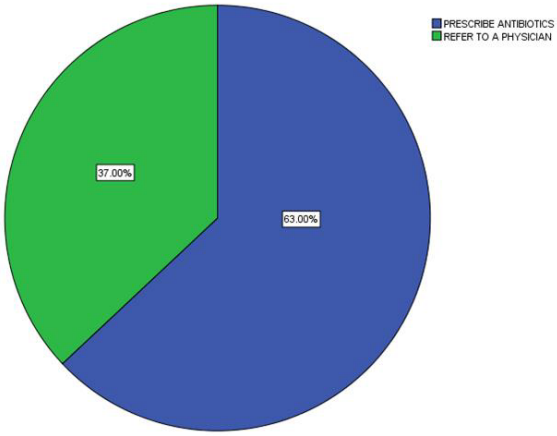

Figure 8: Pie chart shows the frequency distribution of the statement, "If a patient with scarlet fever visits you, what will be your treatment?" Blue colour denotes prescription of antibiotics and Green colour denotes referral to physician. It is evident that 63% of the dental practitioners preferred to prescribe antibiotics.

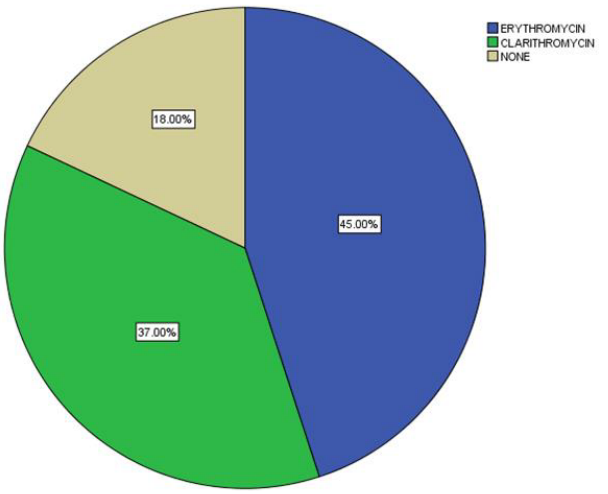

Figure 9: Pie chart shows the frequency distribution of the statement, "If a patient with scarlet fever visits you, what will be your treatment?" Blue colour denotes erythromycin, Green colour denotes clarithromycin and Grey colour denotes either of the above. It is evident that 45% of the participants answered for erythromycin as a treatment of choice.

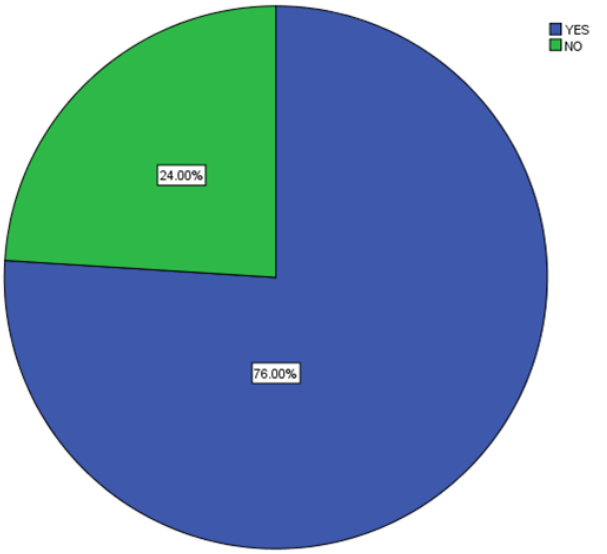

Figure 10: Pie chart shows the frequency distribution of the statement, "Would you suggest discontinuing the intake of antibiotics before a treatment of patients who had joint replacement surgery ?" Blue colour denotes yes and Green colour denotes no. It is evident that 76% of the participants suggested discontinuing the intake of antibiotics before a treatment of patients who had joint replacement surgery.

antibiotics before treatment of patients who have joint replacement surgeries (Figure 10).

25% of the dentists suggest prescribing OTC acetaminophen, 12% prefer ibuprofen, 34% prefer either of it for easing throat pain. 27% prefer other remedies such as erythromycin, strepsils lozenges, mucolite, ketorolac, disorientation gargles and antihistamine. Other dentists prefer salt water gargling to be an effective home remedy for easing sore throat pain and the study also says that most of them are not aware that eating ice creams and ice pops can reduce the pain caused by sore throat. Most dentists suggest general preventive measures such as closing mouth while coughing and sneezing, washing hands before and after a meal and after using the toilet and not sharing utensils and drinking glasses with others, while few prefer using beta dine gargle after meals. Thus it is evident that though scarlet fever is less prevalent in India dentists have knowledge about it and are prepared to treat the patient having scarlet fever. A contradiction was observed in another article [4,26]. Teachers and parents have to teach school children to wash their hands frequently, which is the effective and the first and foremost method to prevent the disease. They should also teach them to avoid sharing personal items like utensils and towels [6,10]. With improved nutrition and wide spread use of antibiotics, mortality markedly decreased and rarely occurred in the twentieth century [27,28]. Public health authorities should also effectively focus on surveillance, prevention, and the control of scarlet fever [29].

CONCLUSION

Scarlet fever caused by Group a Streptococcus pyogenes (GAS) was a common fatal childhood infectious disease during the nineteenth century. GAS mostly spreads via respiratory droplets or by direct contact with mucus, saliva, or skin of the infected person. Climatic changes may also cause seasonal fluctuations of the disease. With improved nutrition and use of antibiotics, mortality has decreased markedly and rarely occurred in the twentieth century. Generally doctors prefer antibiotics for treatment and to reduce the spread of the disease.

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CONFLICT OF INTEREST

Nil.

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