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Introduction

Early childhood caries is a multi-factorial disease that involves the susceptible tooth and host, fermentable carbohydrates in the diet, cariogenic micro-organisms and time; [1,2]. Early childhood caries (ECC) has been defined as the presence of one or more decayed (non-cavitated or cavitated lesions), missing tooth or teeth (due to caries), or filled tooth surfaces on any primary tooth in children up to 71 months of age. In the recent decades, there have been considerable improvements in the oral health of pre-school goers in many developed countries [3]. However, dental caries still affect a considerable number of children. Recent studies have shown that dental caries have decreased in Latin America and the Caribbean [4]. In Brazil, there was a 17% decrease in dental caries from 2003 to 2010, and the decayed, missing, and filled teeth index (dmfi index) for 5-year-old children decreased from 2.80 to 2.30 [5]. Researchers have attempted to expand the basic microbiological

years age group of pre-school children within the Aseer region of Saudi Arabia.

Method and Design

A cross-sectional study involving the young pre-school Saudi child population, aged between 4 and 5 years in the Aseer region—a region located in the Southern part of Saudi Arabia, was conducted. For this purpose, information was obtained using prevalence data—percentage with caries. In the present study, the participants were children aged between 4 and 5 years who were treated at dental clinics in five selected Primary Health Care Centers in the Aseer region, Saudi Arabia with their parents or at least one of them throughout the period between March to May 2015. For this, a self-administered questionnaire to obtain information regarding selected social and behavioral variables was prepared. The questionnaire consisted of 24 items varying between Multiple Choices Questions (MCQs), Likert scale and short essay questions. Moreover, the questionnaire was pretested on 30 randomly selected individuals who came to the Alkhoush Primary Health Care Center, one of the previously selected centers. The investigators were the dentists working at the selected dental clinics after we assured that they were aware of the WHO criteria for detecting caries by means of interviews. The investigation was conducted using the decayed, missing, and filled teeth index (World Health Organization Methodology) and detection criteria for non-cavitated lesions. A tested, self-administered questionnaire was administered to one of the parents among all the participants to obtain information about their socio-behavioral characteristics. Then, the data were modelled using chi square test at the 5 per cent level of significance using SPSS software.

Results

Of the 422 children examined, the prevalence of caries was seen in $N=328$ (77.73%). The prevalence of caries in female children was higher i.e., 96% compared to those among male children, which was 68%. The difference in the prevalence of caries was statistically significant i.e., $X^2=43.13$, $df=1$, $Pvalue=0.00001$ (Table 1 and Figure 1).

Children aged between 24-36 months showed a higher caries prevalence of 89% ($N=124$) and there was a statistically significant

relation between age of children and the prevalence of dental caries viz. $X^2=15.32$, $df=2$, $Pvalue=0.000471$ (Table 2_1). With regard to occupation of mothers, more than 70% ($N=299$) of children had employed mothers and 29.14% with mothers who were housewives, out of which 80.27% of the children with employed mothers had caries. There was a statistically significant relation between occupation of mothers and the prevalence of dental caries i.e., $X^2=7.009$, $df=1$, $Pvalue=0.00811$ (Table 2_2)

Of the sample, 69.2% ($N=292$) favored sweets in meals and during day over salts, while 30.8% ($N=130$) and 53.79% had eaten chocolates every day at least once. In addition, 92.12% of children, who favored sweets, had caries. There was a statistically significant correlation of dental caries prevalence with type of favored meals viz. $X^2=113.50$, $df=1$, $Pvalue=0.00001$ and with eating sweets and chocolates $X^2=125.11$, $df=2$, $Pvalue=0.00001$ (Table 2_3 and 2_4).

According to data, only 25.36% of children ($N=107$) brushed their teeth, 63.55% of them had no caries; whereas, of the 78 out of 422 children who used Siwak to brush their teeth, 82.1% of them had caries. The majority of children in this study ($N=191$) recorded in the “Mixed group”, used both toothbrush and Siwak to brush their teeth. It is found that 94.76% of children in the “Mixed group” had caries. There was a statistically significant correlation between caries prevalence and the method to apply oral hygiene i.e., $X^2=144.17$, $df=3$, $Pvalue=0.00001$ (Table 2_5). The majority of sample ($N=291$) 68.96% chose soft drinks, out of which 94.16% had caries. There was a statistically significant relation between prevalence of dental caries and type of drinks i.e., $X^2=159.76$, $df=2$, $Pvalue=0.00001$ (Table 2_6-2_8).

A total of 97.87% ($N=413$) of the total sample recorded that they

of the child and ECC. The prevalence of ECC among female children (95.5%) was more than that in male children (68%), which is contrary to many studies conducted in Saudi Arabia and other parts of the world [29-36]. Significant association was also found between the age of the

The current study has identified risk factors for presence of ECC in pre-school children within a Saudi community. ECC risk can

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