

Longitudinal Study of Dental Caries Among First Grade Primary School Children in Alexandria, Egypt

Part I: Baseline Sample Characteristics and Caries Increment

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The main aim of the study was to determine the prevalence and increment of caries and the background characteristics of the study population. The study included 814 first graders in Alexandria, Egypt who were followed over a period of two school years to study caries, its increment and a number of variables that affect caries incidence. This article reports the demographic variables, dietary habits, oral hygiene habits, attendance patterns of the children in addition to the knowledge and attitudes of the mothers as measured by their loci of control. The clinical condition of the children was also examined as regards non cavitated caries, recurrent caries, hypoplasia, plaque accumulation, gingivitis, fluorosis and occlusal morphology. Streptococcal mutans counts were determined using the tongue blade method of Kohler and Bratthal. These variables were measured at baseline and the final examination was only performed to assess the change in caries. Questionnaire and clinical data were tested for reliability using test retest percent agreement and the Kappa statistic. Tooth brushing was found in 66.6% of the sample while only 45.5% had previously visited a dentist. 92.4% of the children did not receive any form of prevention. 71.5% showed no signs of fluorosis while in only 3.4% no Streptococcus mutans growth could be detected. Caries in the permanent dentition in this age group was very low, slowly progressing and mainly occluso - bucco lingual, while in the primary second molar, it was much more prevalent and severe, more rapidly progressing and with an occluso proximal pattern. Two years after the base-line assessment 19.2% of children developed positive increment versus 46.9% in the primary second molar.

Over the recent decades, reports have consistently pointed to a trend of low caries prevalence in developed countries with the majority of disease concentrated in a small segment of the population resulting in a polarized distribution. This situation has led to the emergence of the concept of targeting caries susceptible individuals⁽¹⁾.

In Egypt, epidemiologic data collected over the past decades point to a low

to very low caries prevalence especially in children starting primary school at 6 years of age⁽²⁻⁴⁾. Current Egyptian health and education acts have ensured that children enrolled in primary schools are eligible for the services of a government organization: the Health Insurance Organization (HIO) which provides preventive and curative care. Children are screened for caries in their first school year at age six⁽⁵⁾. This screening activity