

ABSTRACT

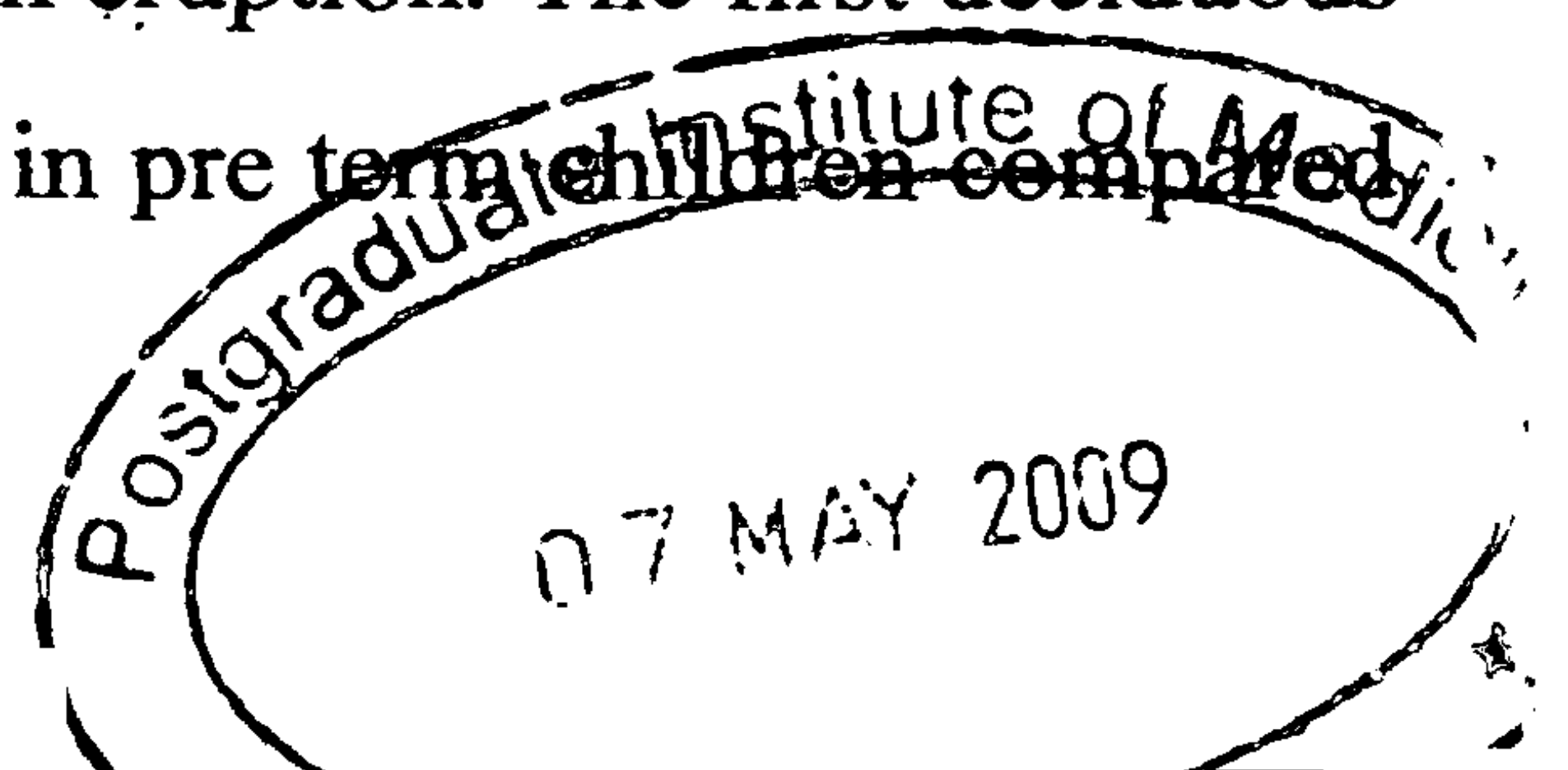
A research project was conducted to study the effects of socio-demographic, maternal and childhood characteristics on deciduous dentition among children in the Kalutara district in order to achieve the following objectives.

1. To determine the mean eruption time (MET) of the first deciduous tooth and identify socio-demographic, maternal and childhood factors that affect the eruption of the first deciduous tooth.
2. To determine the prevalence of developmental defects in the deciduous dentition and its' association with socio-demographic, maternal and childhood factors.
3. To determine the prevalence of dental caries among two years old children and their association with socio-demographic, maternal and childhood characteristics.
4. To assess the relationship of dental caries experience between mothers and their children.

Child Welfare Clinic based descriptive study was carried out from June 2006 to December 2007. A cohort of 517 children aged 6-7 months was followed up and at the end of the study period their mean age was 25.3 (SD±0.4) months. Information pertaining to basic socio-demographic, maternal and childhood characteristics was collected by administering a pre-tested validated self-administered questionnaire to the mothers of selected group of children.

Mean eruption time of the first erupted deciduous tooth was 8.6 (SD±2.0) months with a range of 2.5 months to 14.0 months. It was earlier (8.4 months) among boys than girls (8.7 months). The lower central incisor tooth was the first to erupt among 96% of children. Mean number of teeth present at the end of the study period was 16.1(SD±0.2); which was slightly more (16.1) among boys than girls (16.0).

Three characteristics, namely gestational age (as term/pre term), mother receiving vitamin and mineral supplementation at least first four months after the delivery and growth assessment according to CHDR in first year (in turn a nutritional indicator) had independent effects on the time of the first deciduous tooth eruption. The first deciduous tooth was three times more likely to erupt after 9 months in pre term children compared to term children.



However, significant associations were not found between the number of teeth present in the mouth and socio-demographic, maternal and childhood characteristics. Therefore, the results suggest that correct practices such as diet and nutrition after the first year of child may catch up any previous disadvantaged period and leads to normal eruption time of primary teeth later.

The prevalence of DDE in the present study was 12.5%. It was 11.2% among boys compared to 13.9% among girls. The most commonly (50%) affected teeth were incisors. Of the incisors, 75% of the DDE were present on labial surfaces of maxillary incisors.

Gestational age, mother receiving vitamin and mineral supplementation at least first four months after the delivery, starting breast-feeding within ½ hour to 1 hour following delivery and growth assessment according to CHDR were found to have independent effects on DDE. Out of those, breast-feeding initiation within ½ hour to 1 hour had the greatest effect on DDE in deciduous teeth. ($p=0.002$) It reflected the highly sensitive nature of the enamel secreting cells, ameloblasts during the period of deciduous teeth development.

The prevalence of dental caries at the end of the study was 53.0%. The active caries prevalence was almost same as teeth were extracted or filled in very few children. Therefore, missing (m) and filled (f) components were very low and negligible. Mean dmft and dmfs were 2.06(SD±2.42) and 3.98(SD±5.23) respectively. Caries were commonly observed adjacent to the gingival margin of the labial surfaces of maxillary central incisors.

Mean age of the mothers of selected children at the examination was 28.2 (SD±5.9) years. The prevalence of dental caries (DMFT/S) among mothers was 84.0% and for active caries (D/S), it was 55.4%. In the present study, mean DMFT and DMFS among mothers were 4.30 (SD±3.57) and 18.16 (SD±16.26) respectively.

When mothers' active caries status (DT/S) was considered, the difference was noticeable. The prevalence (58.8%) of children affected with caries was higher among those whose mothers had active caries than children whose mothers did not experience active caries (46.7%) and the difference was statistically significant ($p=0.008$).

When the mothers' caries severity was considered, there was a statistically significant trend between mothers' active caries severity (DT/S) and children's caries severity (dmft/s) ($p < 0.001$).

It was found that mothers' highest educational attainment, mothers' age at the delivery and childhood behaviours like breast feeding at night, feeding formula milk at night and frequent sweet consumption were independently associated with early childhood caries. Out of those, frequent sweet consumption had the greatest effect on caries among children.

The results of the present study suggested that both prenatal and postnatal nutritional conditions during the course of deciduous teeth development would play a role in eruption time of first deciduous tooth and development defects of enamel in deciduous teeth.

Furthermore, the result of the study was supportive of the multifactorial aetiology for dental caries. Its' close association with dietary practices and behaviour; life style related aspect was emphasized again.