Kaiser – Meyer – Olkin measure (KMO) was utilized to investigate the validity of the factor analysis.

\[
\sum \sum \bar{r}_{ij}^2 + \sum \sum \bar{r}_{ij}^2_{i}^{j} + \sum \sum \bar{r}_{ij}^2_{i}^{j} \text{ others}
\]

where \( \bar{r}_{ij}^2 \) is the total and \( \bar{r}_{ij}^2_{i}^{j} \) is the partial correlation coefficient. This measure compares the value of the partial correlation coefficients against the total correlation coefficients. The maximum value of this measure is 1 and a large value indicates that most partial correlations are small relative to the total correlations. A value of 0.9 is considered marvelous, 0.8 meritorious, 0.7 middling, 0.6 mediocre and 0.5 miserable.

RESULTS AND DISCUSSION

Based on the number of parents who consented for their child's participation in the survey and the number of valid questionnaires received, 595 children and their parents were selected for the study. Out of them, 312 were male and 283 female. A total of 101 belonged to the 4-6 year age group, 188 to the 7-9 year age group, 195 to the 10-12 year age group and 111 to the 13-15 year age group (Table 1).

The overall dental caries prevalence was found to be 69.4% and the prevalence of filled teeth was only 15.1%. Table 2 shows the age-wise caries experience. The decayed (D), missing (M) and filled (F) components were found to increase with advancing age, which was very highly significant statistically. In the deciduous dentition, the decayed (D) and filled (F) components were very high in the younger age groups, and decreased as age advanced (P=0.000). However, no difference in caries experience was found between males and females. This was comparable to findings reported by Rao A et al\(^{4}\) and Gauva K et al\(^{5}\).

When each of the clusters were correlated with the dental caries experience, the cluster 'external locus of control' was found to be significantly associated with caries experience of their children (DMFT : r= +0.1038, P=0.01 ; dft : r = +0.1224, P=0.003) (Table 3). Reisine S and Litt M\(^{6}\) in their study reported that parents who had higher external locus of control beliefs had children with a greater caries experience. Wolfe et al\(^{7}\) reported that beliefs relating to external locus of control were related to higher plaque index scores.

Table 4 shows the 15 items belonging to the 4 clusters- internal locus of control, external locus of control, self-efficacy and oral health beliefs.

Using Spearman's Rank Correlation Tests, it was found that out of the 15 items, 6 items significantly correlated with the dental caries experience. One item each belonged to the cluster Internal Locus of Control and Oral Health Beliefs whereas 2 items each belonged to the cluster External Locus of Control and Self-Efficacy.

84.4% of the parents believed that flossing teeth helped prevent cavities. Their children had a significantly lower prevalence of dental caries \( (r = -0.0976) \). Parents who believed that they knew how to brush teeth correctly \( (87.4\%) \) and who believed that they could remove most of the deposits from the teeth \( (75.5\%) \) had children with a significantly lower dental caries experience.

57.8% of the parents believed that tooth loss is a normal part of growing old. This belief had an impact on their children's oral health, i.e., these children had a significantly higher dental caries experience.

Parents who felt that 'only the dentist could prevent cavities' \( (15.1\%) \) had children who had a lower caries experience.

Mikami Y et al\(^{8}\) in their study reported a lower dental caries experience associated with an increased parental dental health knowledge. However, Chen M\(^{9}\) in his study found that parents' health beliefs did not have a significant effect on children's preventive dental behavior. Watson M-R et al\(^{10}\) in their study reported that children with a higher caries prevalence were those whose parents neither received dental treatment nor oral health advice from a dental care provider.

In the present study, 23.5% of the parents believed that 'children's milk teeth are not important'. It is interesting to note here that 67.6% of the parents did not know whether milk teeth were important or not! This belief of the mother showed a positive correlation with dental caries experience of the child in the deciduous dentition. But this belief was not found to influence the permanent dentition.

Factor analysis: Since all the correlations got were below 0.20, we used factor analysis to identify the factor, which was contributing to dental caries experience. Principal axis factor analysis was employed on the correlation matrix of 15 variables measured on 595 subjects. Variables were selected for factor analysis such that the absolute values of correlation coefficients did not exceed 0.5. Using Factor analysis, cluster components were found for each subject, giving two independent variables.

Table 5 and 6 shows the two dimensions of factor loadings for no dental caries experience. The first dimension includes items belonging to the groups, Internal Locus of Control and Self - Efficacy. The second dimension is formed by the items belonging to the groups, External Locus of Control and Oral Health Beliefs. However the total variation explained by these two dimensions was found to be only 19% in the deciduous dentition and 20% in the permanent dentition.

When the items were reduced to two factors, the KMO measure of sampling adequacy for the clusters was found to be 0.486 for the deciduous dentition and 0.502 for the permanent dentition (Table 7 and Table 8).

Based on the total scores of the 4 variables, the experience of no decayed teeth could be reduced to 2 factors, the first one comprising of Internal Locus of Control and Self - Efficacy and the second one made up of External Locus of Control and Oral Health Beliefs (Table 9 and Table 10). Both these explain about 38% of no caries in the deciduous dentition and 43% in the permanent dentition. The findings also show that the weight of internal factor loadings is higher than that for the external factors, for a dental caries experience of zero. This suggests that internal factors are protective for caries compared to external factors. Thus, parents with an External Locus of Control and with Oral Health Beliefs were those who had children with a higher dental caries experience compared to those whose parents had an Internal Locus of Control and who believed in their Self - Efficacy.

CONCLUSION

This study showed that parental beliefs do exert some effect on the dental caries experience of their children. Parents with an external locus of control and who displayed oral health beliefs had children with a higher dental caries experience whereas parents whose locus of control was internal and who believed in their self-efficacy had children with a lower dental caries experience.

Locus of control is a concept, which has a significant effect on our daily lives. Those with an external locus of control believe that their own actions do not influence future outcomes. This makes individuals less likely to work to reach their full potential due to the motivational, emotional and cognitive deficits it creates. These people would be receptive to advice about...