

Prevalence of caries, teeth misalignment, and malocclusion due to feeding bottle practices

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ABSTRACT

Introduction: The purpose of the study is to relate caries, misalignment, and malocclusion of the teeth due to feeding bottle practices. The muscular activities of the lips, cheeks, and tongue are important factors which guide occlusal development, alignment, and crowding of teeth. Hence, the practice of bottle-feeding can affect the orofacial development. **Materials and Methods:** An online survey was done by circulating a questionnaire to 108 parents which included questions to assess the details of the child's consuming, oral hygiene habits, and history of the child's oral health. **Results:** Based on the outcome of present study, the prevalence of improper alignment is 37% in children between 3 and 5 years of age group, 27.8% of children had gap between teeth, and 49.5% of children had been affected by caries more than once. **Conclusion:** The present study concluded that children with habit of bottle feeding might increase the prevalence of caries, misalignment, and malocclusion of the teeth.

KEY WORDS: Caries, Children, Feeding bottle practices, Malocclusion, Misalignment

INTRODUCTION

Dental ailments such as caries formation, malocclusion and misalignment of teeth are occurred causing esthetic problems. The muscular activity around the opening of the mouth may guide development and growth of occlusal area of jaws.^[1-3]

Bottle feeding has been known to cause a myriad of changes in the orofacial development due to different movements of the mouth. The reason for which may be due to breast feeding. However, when they feed from a bottle or suck, they use a piston-like motion to squeeze the nipple against the palate, using the mouth and lips in a sucking motion.^[4-10] This kind of movement can affect the development of muscles around the mouth, and the alignment of the jaw causes misalignment and gum-related disorders.^[11-13] A poor bite can interfere with chewing, strain the jaw and muscles, and increase the risk of breaking a tooth.^[14] Depending on the severity, a misaligned bite can also lead to the irritation of surrounding tissue, such as the

cheek or tongue, and cause secondary issues in the oral cavity.^[15]

MATERIALS AND METHODS

An online survey was done by circulating a questionnaire to 108 parents which included questions to assess the details of the child's consuming, oral hygiene habits, and history of the child's oral health. The results were represented as charts with percentages.

RESULTS

The present study has observed the following findings. They are around 44.9% of children who have the habit of consuming supplement from the feeding bottle until 3–5 years of age [Figure 1], 59.3% of children fed by bottle feeding practice [Figure 2], 37% have overlapping and crowding teeth [Figure 3], 72.2% of the children drink supplement from the feeding bottle for >15 min [Figure 4], 49.5% of the children have been affected by caries more than once [Figure 5], 47.2% of the children mostly fall asleep while drinking supplement from the feeding bottle, and 42.6% of the children going to sleep only when the feeding bottle is kept in the mouth [Figure 6].

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DISCUSSION

The present study has observed the following findings. They are around 44.9% of children who have the habit of consuming supplement from the feeding bottle until 3–5 years of age [Figure 1] and 59.3% of children with fed by bottle [Figure 2]. The effects of prolonged bottle-feeding practices showed 67.9% caries and malalignment prevalence due to overuse of feeding bottle.^[7]

A study has reported that the prolonged bottle-feeding of children with age group of 3–5 years has

shown 13% prevalence of anterior open bite trait^[16] and children practiced by breastfeeding showed less prevalence of caries.^[17] A study was conducted in 1377 children have shown that 39.1% had anterior open bite trait.^[18] Association between non-nutritive sucking and malocclusion in children – a cross-sectional study – showed that 51.03% of children had alignment issues.^[19]

The present study has observed that around 37% of children have overlapping and crowding teeth [Figure 3], 72.2% of the children drink supplement from the feeding bottle for >15 min [Figure 4], 49.5%

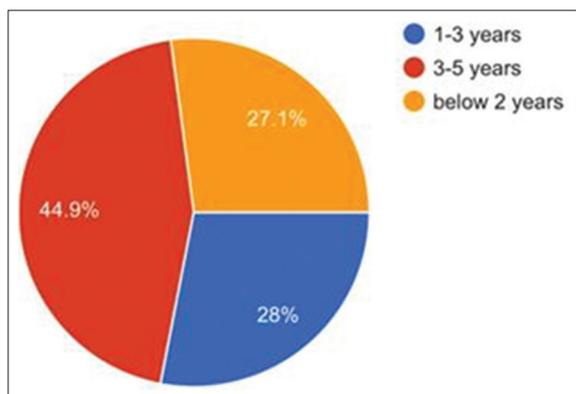


Figure 1: Habit of consuming supplement from the feeding bottle

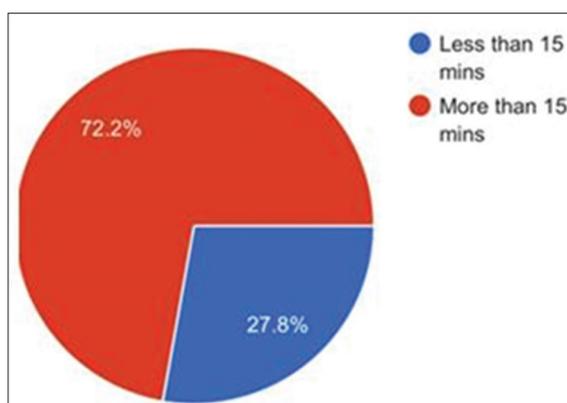


Figure 4: Duration of bottle feeding

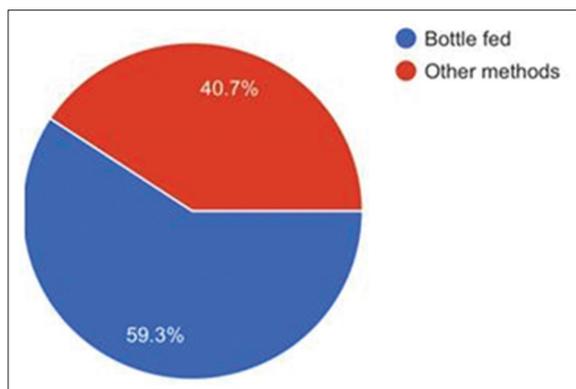


Figure 2: Children with fed by bottle

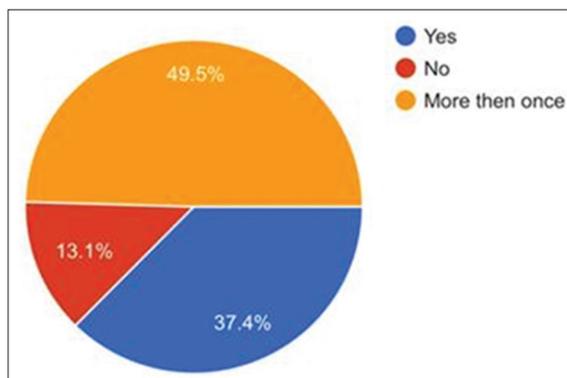


Figure 5: Prevalence of Caries

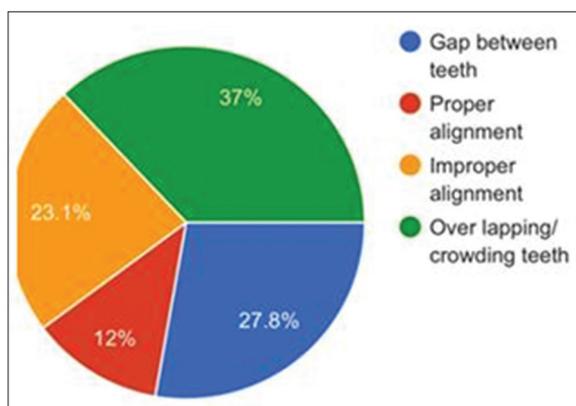


Figure 3: Misalignment of teeth

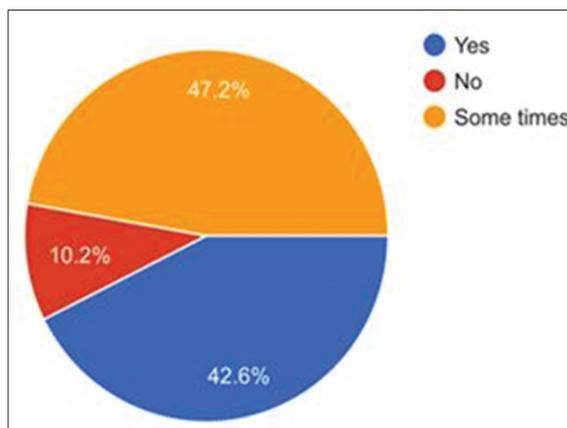


Figure 6: Sleep and feeding habit

of the children have been affected by caries more than once [Figure 5], 47.2% of the children mostly fall asleep while drinking supplement from the feeding bottle, and 42.6% of the children going to sleep only when the feeding bottle is kept in the mouth [Figure 6].

A study from the University of Milan found that babies who were bottle fed sucked their thumbs and were more likely to have misaligned teeth later in childhood, and similarly, a study showed 75.7% prevalence of improper teeth alignment in children who were exposed to prolonged bottle feeding.^[10,20]

CONCLUSION

The present study concluded that children with a habit of bottle feeding might increase the prevalence of caries, misalignment, and malocclusion of the teeth leading to cause health and esthetic issues.

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