

論文名 : Gender difference of tooth brushing motion and force on self-brushing and caregivers' brushing in dental professionals (要約)

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*Objective*

The aim of this study was to clarify the difference of brushing motion including force between self-brushing and caregivers' brushing, focusing on the gender difference.

*Background*

For the majority of people, the most common way of oral hygiene is tooth brushing. Although several studies have tried to evaluate brushing motion, the detail of brushing motion is still unclear and the gender difference is further unknown. Moreover, while the need for caregivers' brushing has increased, analysis of caregivers' brushing motion has never been reported.

*Methods*

The participants in this study were 15 male and 20 female right-handed dental hygienists and dentists. Their brushing motions and force were measured and analyzed using a manual toothbrush to which a three-dimensional (3-D) accelerometer and strain tension gage were attached. They brushed the buccal surfaces of the right lower molars in two situations: self-brushing and caregivers' brushing. Multilevel model analysis was applied to estimate variables and compare motion and forces related to the two situations and genders.

*Results*

In self-brushing, cycle duration, buccal-lingual motion and mean brushing force had significant gender difference. Whereas, in caregivers' brushing, significant gender difference was recognized on only mean brushing force. In addition, brushing force of caregivers' brushing was significantly greater than that of self-brushing on both male and female.

*Conclusion*

This study clearly demonstrated gender difference of brushing motion and force among dental professionals. Furthermore, it is also evident that there is a significant difference between self-brushing and caregivers' brushing, these results might contribute to improving the caregiver's brushing.