

Abstract

Influence of Self-Efficacy
on tooth loss in Construction worker

2020

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Abstract

Tooth loss affects general health, life expectancy, and quality of life, and efforts have been made to prevent tooth loss mainly in the elderly. Although Self-Efficacy (SE), which is the belief that one can successfully perform health behaviors, has been linked to oral health behaviors, few studies have examined the long-term effects of SE (longer than one year), and even fewer studies have focused on the relationship between SE and tooth loss. The purpose of this study was to investigate whether SE can predict tooth loss, oral hygiene, and oral health behavior in the long term.

Of 425 construction workers working in a certain town in Hokkaido, Japan, who received a dental checkup as part of the health checkup conducted by the company between 2009 and 2018, 160 subjects who (1) had a dental checkup at least once between 2009 and 2013, and (2) had a dental checkup 5 years after first dental checkup were included. After excluding (1) edentulous subjects, (2) non-respondents, and (3) subjects aged less than 45 years at the time of the first dental checkup, data from 61 subjects (54 males and 7 females; mean 53.68 ± 6.03 years) were analyzed. The indices used in the analyses were the number of teeth lost, Community Periodontal Index (CPI), Simplified Oral Hygiene Index (OHI-S), Self-Efficacy Scale for Self-care (SESS) subscales (brushing, dental visits, and dietary habits), presence or absence of regular dental visits, number of brushing, and smoking status. Data were collected by oral examination and self-administered questionnaires in first dental checkup and second dental checkup 5 years after first dental checkup.

The results of multiple regression analysis with each dependent variable after 5 years showed that the SE of brushing had significant standard partial regression coefficients for the number of teeth lost ($\beta = -0.34$, $p < 0.05$) and the tooth loss rate ($\beta = -0.34$, $p < 0.05$). For the OHI-S (DI: Debris Index), a significant standard partial regression coefficient was obtained only for the SE of dietary habits ($\beta = -0.33$,

$p < 0.05$). In logistic regression analysis with the presence of regular checkup as the dependent variable, a significant odds ratio was obtained for SE of dental checkup (OR=5.38, $p < 0.05$).

The results of this study showed that the higher the SE of brushing, the lower the number of teeth lost, indicating the importance of SE of brushing for tooth loss. The results of this study showed that the SE of diet had an effect on plaque buildup, and that the SE of dental visits had an effect on the presence of regular dental visits. It is suggested that efforts to improve these SE will relate to improvements in oral hygiene and oral health behaviors and prevention of tooth loss in the future.