Development and Validation of the Locus of Control Scale for Oral Health Behavior

Sakiko SOUTOME1), Kazumi KAJIWARA2) and Takahiko OHO3)

Abstract: Objective: To develop a locus of control scale for oral health behavior (LOCOH) that could be used to evaluate changes in both patients' behavior and consciousness regarding oral health, and to examine its reliability and validity.

Method: First, an original scale comprising 38 items was designed and applied to 185 students. Next, by item analysis, we developed an original LOCOH comprising 16 items. The LOCOH score of each student was evaluated on the basis of the sum of all scores. The relationship between the LOCOH score and observed values on the self-efficacy scale for oral health was examined using Spearman's rank correlation coefficient.

Results: As a result of factor analysis, two factors were extracted: “external control for oral health” and “internal control for oral health”. High-level reliability of the LOCOH was verified through sufficient internal consistency (Cronbach’s α=0.77–0.83). The LOCOH score showed a significant correlation with the generalized locus of control, suggesting its validity. The self-efficacy scales showed significant correlations with total, internal, and external scales of the LOCOH.

Conclusion: High-level reliability and validity of the LOCOH indicate that it may be useful for the prediction and improvement of oral health behavior.

Key words: Instructing patients, Locus of control, Oral health behavior, Self-care

Introduction

The effectiveness of oral health care depends on both patient self-care and professional care. Many psychological theories have been developed to understand the health beliefs of target populations because personal characteristics and personality are known to influence behavior. Psychological factors, such as the locus of control and self-efficacy, have been demonstrated to play an important role in adaptation to chronic illnesses, such as rheumatoid arthritis and diabetes.

The term “locus of control”, which was created by Rotter in 1966, refers to an individual’s generalized expectations regarding the forces that determine reinforcement and reward. Rotter believed that the locus of control is an important component of an individual’s personality and is useful to predict whether they attribute success and failure to things within their control or to external entities, in other words, who or what is responsible for what happens. It is classified into two categories: internal and external control. Individuals with a strong internal locus of control believe that their own behavior drives their destiny; conversely, individuals with a strong external locus of control believe that external forces are primarily responsible for their fate.

The locus of control was later modified by Levenson to include three dimensions: internal HLC, powerful HLC, and chance HLC. The multidimensional health locus of control scale (MHLC), which was developed by Wallston et al., consists of three Forms: Form A, B and C. Each Form contains three subscales: internal HLC, powerful HLC, and chance HLC. Powerful HLC and chance HLC are regarded as external beliefs, and internal HLC is regarded as an internal belief. In dentistry, Kent et al. analyzed the association of the LOC with oral health, and Lenčová et al. examined the relationship between the parental LOC and caries.