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Relative disparity of tooth loss based on education level in middle-aged and young-old: A Korean genomic rural cohort

Nam-hee Kim, Ga-yeong Lee, Sang-baek Koh, Chun-bae Kim and Won-gyun Chung
Yonsei University, South Korea

Research Objective: Education level is known as a determinant factor that not only affects individuals' health related knowledge, attitude, and behavior but also each individual's socioeconomic status and income level. It was necessary to evaluate how each individual's education level determined in the past affects their current oral health status. The aim of this study was to examine relative disparity in tooth loss over three years based on education level of middle age and elderly Koreans.

Study Design: This study is a longitudinal study which analyzed data over the last three years from Korean Genomic Rural Cohort Study, which is conducted by Korea Centers for Disease Control and Prevention (KCDC). Education level ('lower than elementary school', 'middle school', 'higher than high school') was set as the independent variable while the dependent variable was presence of tooth loss. Descriptive analysis and cross-analysis were carried out using SPSS 20.0 and the relative disparity was calculated via relative index of inequality (RII) using Health Disparities Calculator (HD Calc, version 1.2.4).

Population Studied: A total of 603 subjects aged from 40 to 75 years were selected. The data were collected via one-on-one interviews comprised of questionnaires and oral examinations from April 2010 to August 2014.

Principal Findings: Results showed that the percent of individuals who have lost one or more teeth over the last three years in this population was 45.94% ($p=0.001$). The percent of the lowest education with one or more teeth lost was 16% greater compared to the highest education. When the subjects were analyzed by dividing them into two groups; middle-aged (40-64) and young-old (65-75), a statistically significant difference was detected in the middle-aged ($p<0.05$). The relative index of inequality (RII) based on such differences was 0.597 which implied that the probability of tooth loss was greater which education level was lower. The relative disparity in terms of tooth loss was greater in the middle-aged as the RII of the middle-aged was 0.603 while that of the young-old was 0.200. The RII of the men was 0.127 and the RII of the middle-aged men and young-old men were 0.024 and -0.035, respectively. In contrast, the RII of the women was 1.032 and the RII of the middle-aged women and young-old women were 0.995 and 0.760, respectively.

Conclusions: A relative disparity in terms of tooth loss was detected in the middle-aged population based on their education levels, and the degree of disparity was the greatest in middle-aged women.

Implications for Policy or Practice: The majority of middle-aged women in rural areas of Korea are housewives. Studies show that many of these women tend to suffer from depression and sense of isolation as they are often excluded from social activities which in turn, deprive them from numerous social benefits. Thus, health and welfare policy that would eliminate health disparities in middle-aged women is necessary in order to overcome disparity issues regarding tooth loss related to education levels of such middle-aged women populations.

Biography

Nam-hee Kim has completed her PhD from Seoul National University, Social Dentistry. She is the Associated Professor of Department of Dental Hygiene, Wonju College of Medicine, Yonsei University. She has published more than 12 papers in reputed journals and has been serving as an Editorial Board Member of repute.

nami71@yonsei.ac.kr

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