Abstract

Background The proportion of elderly is growing faster than any other age group and the ageing process is just beginning to emerge in Africa region. Although oral health is one of the key concepts to improve quality active ageing, little has been reported about the impact of oral health on elderly people's life in developing countries, especially in Africa. The institute of Tropical Medicine at Nagasaki University launched a Health and Demographic Surveillance System (HDSS) in Mbita sub-county in Kenya which has limited access to dental services. The area was considered to be suitable to investigate oral health in rural area of Africa.

Objectives To assess the influence of tooth loss on Quality of life (QoL) and nutritional status of the elderly aged 60 years or older. The number and the position of teeth were determined as a part of this study. The specific objectives were to determine oral health related QoL, food choices and nutritional status of the elderly people.

Methods A community based cross-sectional study was undertaken in Mbita sub-county, Homabay county in western Kenya. Study participants were elderlies aged 60 years or older at enrolment (26 March to 20 April 2018), who resided in this sub-county. Based on the HDSS database, appropriate individuals were selected using stratified sampling and enrolled in the study. The participants were interviewed using a questionnaire designed to collect detailed information and the data was recorded into Open Data Kit. Oral health related QoL was assessed by the short-form of Oral health impact profile (OHIP-14) and the participants were asked whether they could chew some listed foods. The number and position of remaining

teeth were recorded, and weight, height and knee height measurement were conducted. Association between the number of teeth and each outcome were tested using multivariable logistic regression.

Result 179 persons aged 60 years and older were included in this study. The mean number of total teeth was 21.6 and the participants had average 8.2 occluding pairs of teeth. Most common problem among the participants with less than 20 teeth was discomfort while eating any foods. On the other hand, the participants with more than 21 teeth were less likely to have lower OHIP-14 score, poor QoL (aOR=0.19, $p<0.001$). The number of remaining teeth and occluding pairs were strongly associated with chewing ability especially on vegetable and fruit. The participants who had more than nine occluding pairs of teeth were likely to be able to chew tomato (aOR=11.91, $p<0.001$) and mango (aOR=8.12, $p<0.001$). Bivariate analysis showed an association between the number of occluding pairs of teeth and BMI, however, when further adjusting for potential confounders, the association was attenuated and no longer significant.

Conclusion This study is significant in that it has demonstrated the influence of oral health status on elderly people's QoL and chewing ability living in rural area in Africa. Additional studies on the influence of the number and position of remaining teeth on nutritional status of elderlies are suggested.