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Title: A detached island residents' smoking habits and their prevalence of COPD

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Body: [BACKGROUND] The prevalence of COPD is high worldwide. It has been reported that the prevalence rate of subjects aged 40 years and over is about 8.6% in Japan. However, no reports have examined the prevalence of COPD by region, such as whether there are differences in subjects living in urban areas, or on a detached island. [AIMS AND OBJECTIVES] The purpose of this study was to evaluate the influence of the region (mainland versus a detached island) on the general population's smoking habits and the prevalence of COPD or respiratory function. A general population of 5221 subjects was targeted. [METHODS] All of the candidates' health survey items (age, sex, body composition, smoking habit, Brinkman Index, respiratory function and COPD disease) were investigated. Candidates were classified into a mainland group and a detached island group according to the location of the institution that performed their medical checkup, and each health survey item and respiratory function parameter were compared. For the statistical analysis, two-sample t-tests, chi-square tests, and Mann-Whitney U tests were used. [RESULTS] The former smoker' rate (mainland 51.7% vs detached island 73.7%, $p<0.001$) and Brinkman Index (mainland 322.0 ± 494.7 vs detached island 406.2 ± 446.7 , $p<0.001$) were higher in the detached island group. Nevertheless, the prevalence of COPD was lower in the detached island group (mainland 8.5% vs detached island 7.0%, $p<0.05$). [CONCLUSIONS] According to the guidelines of the GOLD, tobacco smoke is a primary factor related to the development of COPD. Our findings indicate that the living environment is also related to the prevalence of COPD.