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| **SmokeFreeNZ: Designing and Evaluating the Effectiveness of a Mobile Application in Reducing Cigarette Consumption**  |
| **Background:** Smoking is one of the leading causes of mortality and morbidity in New Zealand and the greatest burden of disease in the health of New Zealanders. A novel mobile application, SmokeFreeNZ, was developed for Android phone systems.**Objective:** To investigate the efficacy of the SmokeFreeNZ app on prevalence of abstinence, self-reported number of cravings per day and Smoking Knowledge Index Measures.**Methods:** Forty Unitec smokers (30 Android users and 10 controls) were recruited. Smokers’ demographics and their smoking information were investigated at baseline. The efficacy of the mobile app was evaluated by measuring prevalence of abstinence, self-reported number of cravings per day and Smoking Knowledge Index Measures.**Results:** After the mobile app use, mean Smoking Knowledge Index Measures increased from 62(+9)% to 96(+3)% (P<0.001) compared to the control group. Maximum number of days of continuous abstinence was 5.2 (+0.5) days in the app user group and 2.1 (+0.5) days in the control group (P<0.02). The prevalence of seven days’ abstinence in users of SmokeFreeNZ was also improved significantly in comparison to the control group (26.7% in the app user group compared to 10.0% in the control group, Chi-square tests; P<0.05). These findings indicate that the SmokeFreeNZ app did help smokers at Unitec to quit smoking. **Conclusions:** The SmokeFreeNZ app provided flexible and effective approach to coach smokers about the health risks of smoking and also improved seven days’ abstinence rates in the study period. Future investigation is required to compare the cost-benefit effects and to evaluate the efficacy in smoking cessation in a larger-scale trial.Keywords: health promotion; health informatics evaluation; smoking cessation; health education |