## Abstract

**Introduction:** Mortality and morbidity from alcohol- and smoking-related diseases are important public health issues globally. In 2016, alcohol consumption caused 3.3 million deaths, and every year approximately 7 million people die from direct tobacco use, and 1.2 million die from second-hand smoke, worldwide. In adolescents, alcohol and cigarette use pose short-term and long-term negative health outcomes. Adolescence is the critical period for cognitive, physical, social, and emotional development which lead to the formation of new set of behaviours and offers opportunities for health benefit through prevention and health intervention.

**Objective**: To investigate alcohol consumption and cigarette smoking behaviours and to determine factors that are associated with alcohol consumption and cigarette smoking among school adolescents in Lao PDR.

**Methodology:** This cross-sectional study was conducted in adolescents aged 10–19 years from eight schools in Vientiane province, Lao PDR (n=393). Data were collected using self-administered questionnaires. Knowledge, attitude, behaviours, and factors associated with alcohol and cigarette use were assessed. Logistic regression was employed to study the relationship between alcohol and cigarette use variables and knowledge, attitude, and other related factors.

**Results:** In the sample, 51.6% of school adolescents were females and 48.3% were males. Mean age of the participants was 14.4 years. About 57.5% of them drank alcohol and 6.6% of them smoked cigarettes. The results show that knowledge and positive attitude regarding alcohol was not associated with alcohol consumption, while other factors including age (AOR: 1.6, 95% CI: 1.3–1.9), some friends drink (AOR: 4.8, 95% CI: 1.4–16.1), majority of friends drink (AOR: 6.9, 95% CI: 1.8–26.2), siblings' drinking behaviour (AOR: 2.9, 95% CI: 1.4–5.8), and permission to drink at home (AOR: 3.8, 95% CI: 1.4–9.9) have more influence on alcohol consumption.

Knowledge and attitude with regard to smoking were not associated with smoking behaviours. The factors associated with smoking behaviour were gender (AOR: 0.1, 95% CI: 0.02–0.8), easiness of buying cigarettes (AOR: 6.7, 95% CI: 1.2–36.9), permission to smoke at home (AOR: 28.9, 95% CI: 2.4–348.1), majority of friends smoke (AOR: 19.1, 95% CI: 4.5–80.9), and drinking alcohol (AOR: 8.3, 95% CI: 1.1–59.1).

**Conclusion:** The results suggest that factors other than knowledge and attitude influence alcohol and cigarette use. Age was an important factor associated with alcohol use and gender was an important factor associated with cigarette use. Easiness of buying cigarettes was associated with cigarette smoking, suggesting the need for strengthening the cigarette control policy. The risk factors that alcohol and cigarette use have in common were friends' usage behaviour and permission to drink/smoke at home, which emphasise the importance of peer and household influence in alcohol and cigarette use. Raising awareness of adverse health outcomes of alcohol and cigarette use among family members and peers were suggested.

Key words: Alcohol, smoking, adolescents, knowledge, attitude, behaviors, school