

Mechanisms Underlying the Effects of School-Based Internet Intervention for Alcohol Drinking Behaviours among Chinese Adolescent

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Abstract : Objectives: Underage drinking is an important public health problem both locally and globally. Conventional prevention/intervention relies on unidirectional knowledge transfer such as mail leaflets or health talks which showed mixed results in changing the target behaviour. Previously, we conducted a school internet-based intervention which was found to be effective in reducing alcohol use among adolescents, yet the underlying mechanisms have not been properly investigated. This study, therefore, examined the mechanisms that explain how the intervention produced a change in alcohol drinking behaviours among Chinese adolescent as observed in our previous clustered randomised controlled trial (RCT) study. Methods: This is a cluster randomised controlled trial with parallel group design. Participating schools were randomised to the Internet intervention or the conventional health education group (control) with a 1:1 allocation ratio. Secondary 1-3 students of the participating schools were enrolled in this study. The Internet intervention was a web-based quiz game competition, in which participating students would answer 1,000 alcohol-related multiple-choice quiz questions. Conventional health education group received a promotional package on equivalent alcohol-related knowledge. The participants' alcohol-related attitude, knowledge, and perceived behavioural control were self-reported before the intervention (baseline) and one month and three months after the intervention. Results: Our RCT results showed that participants in the Internet group were less likely to drink (risk ratio [RR] 0.79, $p < 0.01$) as well as in lesser amount ($\beta -0.06$, $p < 0.05$) compared to those in the control group at both post-intervention follow-ups. Within the intervention group, regression analyses showed that high quiz scorer had greater improvement in alcohol-related knowledge ($\beta 0.28$, $p < 0.01$) and attitude ($\beta -0.26$, $p < 0.01$) at 1 month after intervention, which in turn increased their perceived behavioural control against alcohol use ($\beta 0.10$ and -0.26 , both $p < 0.01$). Attitude, compared to knowledge, was found to be a stronger contributor to the intervention effect on perceived behavioural control. Conclusions: Our internet-based intervention has demonstrated effectiveness in reducing the risk of underage drinking when compared with conventional health education. Our study results further showed an attitude to be a more important factor than knowledge in changing health-related behaviour. This has an important implication for future prevention/intervention on an underage drinking problem.

Keywords : adolescents, internet-based intervention, randomized controlled trial, underage drinking

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