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**Background** Cough mixtures can heal or to harm. Very few literatures involved cough mixtures abuse (CMB) while we often have clinical cases basically of adolescents.

**Purpose** To investigate the epidemiology of CMB among adolescent students.

**Methods** Analyses were based on a cross-sectional survey of students (N=8529) from 22 middle and high schools in Guangzhou, China. Logistic regression models were computed to examine prospective risk factors of CMB behaviour. Cough mixtures were restricted to those prescription medicine containing codeine component drunk for upper respiratory tract treatment purpose originally.

**Results** Our findings show the prevalence of CMB varied from 5.36% to 12.54% in every age group (12 to 19). Male students were more vulnerable with a rate of 8.17% in comparison to female 5.93% ( $\chi^2$  3.263; p 0.017). Prospective risk factors of CMB included convenience to obtain (OR 1.856; 95% CI 1.012 to 2.547), depression or anxiety (OR 2.851; 95% CI 1.014 to 3.415), high study stress (OR 1.954; 95% CI 1.245 to 3.214), and single parent families (OR 3.047; 95% CI 2.184 to 3.946). Drug dependence was the adverse consequence of CMB bringing on from acute symptoms like illusion (5.26%), palpitation (7.48%) and coma (2.58%) to chronic changes such as decline of memories (78.24%), difficult to sleep (80.12%), weak appetite and digestion (85.47%).

**Significance** CMB endangering adolescent students calls for enforcement and education intervention in Guangzhou, China.