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Objectives: We examine the dynamics of gambling among young people aged 16–24 years, how prevalence rates of at-risk gambling and problem gambling change as adolescents enter young adulthood, and prevention and control strategies.

Methods: A simple epidemiological model is created using ordinary nonlinear differential equations, and a threshold condition that spreads gambling is identified through stability analysis. We estimate all the model parameters using a longitudinal prevalence study by Winters, Stinchfield, and Botzet to run numerical simulations. Parameters to which the system is most sensitive are isolated using sensitivity analysis.

Results: Problem gambling is endemic among young people, with a steady prevalence of approximately 4–5%. The prevalence of problem gambling is lower in young adults aged 18–24 years than in adolescents aged 16–18 years. At-risk gambling among young adults has increased. The parameters to which the system is most sensitive correspond to primary prevention.

Conclusion: Prevention and control strategies for gambling should involve school education. A mathematical model that includes the effect of early exposure to gambling would be helpful if a longitudinal study can provide data in the future.

Keywords: differential equation, model, system, nonlinear, mathematical model, reproductive number, sensitivity index, stability analysis, youth gambling, equilibrium, stability, epidemic