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Abstract

Associations between indoor tanning and risky health-related behaviors among high school students in the United States

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Understanding of the associations between indoor tanning and risky health related behaviors such as sexual activity and substance abuse among adolescents across the United States is incomplete. The purpose of this study is to identify risky health related behaviors among high school students utilizing indoor tanning according to region. We analyzed the results from surveys of adolescents in 14 different states administered as part of the Youth Risk Behavior Surveillance System (YRBSS) 2013. Data were collected and analyzed over a 4-month period from January 2016 to April 2016. Participants were 90,414 high school students. Sexual activity and use of substances including tobacco, alcohol, marijuana, cocaine, ecstasy, steroids, and prescription drugs was assessed.

Our data indicate that females were more likely than males to utilize indoor tanning. Multivariate analysis identified sexual activity in the past 30 days as a variable strongly associated with indoor tanning in Nebraska (adjusted odds ratio, 3.8; 95% CI, 2.4-6.2; $p < 0.001$), South Dakota (adjusted odds ratio, 3.0; 95% CI, 1.8-5.1; $p < 0.0001$), Maryland (adjusted odds ratio, 2.4; 95% CI, 2.1-2.8; $p < 0.0001$), Alabama (adjusted odds ratio, 2.2; 95% CI, 1.4-3.3; $p < 0.0001$), Florida (adjusted odds ratio, 2.2; 95% CI, 1.6-3.1; $p < 0.0001$), Idaho (adjusted odds ratio, 2.2; 95% CI 1.4-3.2; $p < 0.0001$), Colorado (adjusted odds ratio, 2.1; 95% CI 1.5-3.1; $p < 0.0001$), Montana (adjusted odds ratio, 2.0; 95% CI, 1.5-2.6; $p < 0.0001$), North Carolina (adjusted odds ratio, 1.8; 95% CI, 1.0-3.3; $p = 0.04$), and Wisconsin (adjusted odds ratio, 1.7; 95% CI, 1.0-3.0; $p = 0.04$). A weak association was seen in Ohio (adjusted odds ratio, 1.2; 95% CI 0.7-2.0; $p = 0.58$), and three states did not report this data. In Colorado, students were 7.5 times more likely to use steroids (adjusted odds ratio, 7.5; 95% CI, 4.7-11.9; $p < 0.0001$) if they also participated in indoor tanning. Any alcohol consumption within the prior 30 days was also associated with indoor tanning with the greatest association in North Dakota (adjusted odds ratio, 3.3; 95% CI, 2.4-4.6; $p < 0.0001$). Multivariate analysis identified marijuana use in the past 30 days as a variable associated with indoor tanning with the strongest association in New Hampshire (adjusted odds ratio, 2.3; 95% CI, 1.4-3.9; $p = 0.0011$). Associations were also found between indoor tanning and use of ecstasy, cocaine, prescription medications, and a history of smoking cigarettes in the past month.

When present, use of indoor tanning should raise clinical concern that warrants further screening for substance abuse and counseling of safe sex practices.