

Determinants of weight concerns among smokers in a physical activity (PA)-based cessation program

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Significance

Concern about weight gain is a barrier to smoking cessation, but how it relates to PA behavior and perceptions is unclear. This has implications for targeting PA as a cessation strategy.

Method

Baseline data were analyzed from a cessation trial of 392 adults who received nicotine patch and cessation counseling and were randomized to community-based PA or general wellness counseling. Outcomes were 1) use of smoking to control weight ("control"; continuous score) and 2) anticipating relapse if weight gain occurred ("relapse"; yes vs. no) using validated instruments. Exposures were self-reported PA and PA perceptions (self-efficacy, enjoyment of organized and unorganized PA, personal and environmental barriers). Covariates were treatment group and known determinants of post-cessation weight concerns including socio-demographics, smoking behavior, diet, and BMI. From bivariate models examining main and sex interaction effects, significant variables were entered into a generalized linear regression model or a logistic regression model to identify determinants most strongly associated with control and relapse, respectively.

Results

Both control and relapse were significantly ($p < 0.05$) associated with being female (standardized $b = 0.52$, $SE = 0.10$), white (-0.12 , 0.05), and less motivated to quit (-0.14 , 0.05). Higher control scores also were associated with engaging in less moderate intensity physical activity (-0.10 , 0.05) and higher BMI (0.21 , 0.05). A significant interaction indicated that men with higher BMI anticipated relapsing if weight gain occurred, but no such association was found for women ($OR = 2.54$, $95\% CI = 1.42-4.56$). No other PA behaviors or perceptions were associated with weight concerns.

Conclusion

Smoking to control weight was associated with engaging in less moderate intensity PA, but was not associated with perceptions about PA. Anticipating relapse if weight gain occurred was not associated with PA behavior or perceptions. These results indicate that concerns about post-cessation weight gain are unlikely to influence engagement in PA in the context of a community-based smoking cessation program.