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Anti-Depressant Drug's Effect on Negative Moods May Help Smokers Quit

(Philadelphia, PA) The smoking cessation drug bupropion may help people stop smoking by alleviating the increase in negative moods, such as depression and despair, often experienced by quitters, a new study from the **University of Pennsylvania Transdisciplinary Tobacco Use Research Center** indicates. This study is the first to investigate the psychological changes that may be responsible for bupropion's effects on smoking outcomes in clinical treatment.

Lead author **Caryn Lerman, PhD**, of the **Abramson Cancer Center of the University of Pennsylvania**, and her colleagues examined 251 smokers over the age of 18. Participants were randomly assigned to receive ten weeks of treatment with bupropion or placebo, plus behavioral group counseling. At the end of treatment, or eight weeks after their quit date, 48 percent of bupropion participants were abstinent from smoking, versus 29 percent of those receiving placebo.

During treatment, participants regularly completed questionnaires that assessed their withdrawal symptoms and positive and negative moods. Changes in mood and withdrawal symptoms from before participants quit smoking to one week after the quit date were examined as mediating variables.

Among those receiving placebo, researchers observed a significant increase in symptoms of "negative affect," a technical term that includes unpleasant mood states ranging from sadness to anxiety to anger, as compared with a slight decrease in the bupropion group. Bupropion did alleviate withdrawal symptoms, compared to placebo; however, the study found that withdrawal symptoms were not strongly related to smoking relapse. Lerman explains, "This research suggests that bupropion may be especially beneficial for smokers who experience 'negative affect' and who smoke, in part, to manage these symptoms."

Previous studies have documented the effectiveness of bupropion (better known by its brand name Zyban®) in helping people stop smoking. However, little is known about the mechanisms by which bupropion facilitates abstinence. Bupropion, which contains no nicotine, is also prescribed as the anti-depressant drug Wellbutrin®.

"This study shows us that more needs to be explored in this area –future research should examine other possible mechanisms of bupropion's effects to help design more effective treatment approaches for smokers," said Lerman.

This study, entitled “Mediating mechanisms for the impact of Bupropion in smoking cessation treatment,” appears in *Drug and Alcohol Dependence* (Volume 67/Issue 2).

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Editor’s Note: *You may also find this news release online at www.uphs.upenn.edu/news.*
