

# The Nicotine Challenger

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## A View From The Director

by *Jonathan Foulds, PhD*

### *Are Menthol Cigarettes More Dangerous?*

Every now and again when conducting research one stumbles across an unexpected finding that leads the research in a whole new direction. This happened here at the Tobacco Dependence Program recently when we were analyzing the factors that are related to successfully quitting smoking in our Tobacco Dependence Clinic. While our first study (Foulds et al, 2006a) found some expected relationships (e.g. those who smoke first thing in the morning have a lower quit rate), we also found that people who smoke menthol cigarettes have a lower one-month quit rate than those smoking non-menthols, even when controlling for differences in other predictive factors. This led us to wonder what could have caused this effect. Our colleague, Dr. Jill Williams, had recently published a study examining nicotine intake in smokers suffering from schizophrenia, compared with smokers without schizophrenia (Williams et al, 2005). She found that smokers with schizophrenia get higher nicotine, cotinine and carbon-monoxide levels per cigarette. However, we had never examined the effect of menthol cigarettes on nicotine intake in that study. When Dr. Williams reexamined the data, she found that smokers of menthol cigarettes obtained higher nicotine, cotinine and carbon monoxide levels than smokers of non-menthols, regardless of whether or not they suffered from schizophrenia. In that study, the blood and carbon monoxide samples were taken immediately after participants smoked an afternoon cigarette and so appear to be more related to increased smoke intake from menthol cigarettes, rather than metabolic differences.

While were we trying to understand these results, a paper was published in the *New*

## Proyecto Vida: Latino Deje de Fumar— An Update

By *Roena Vega*

In the previous Challenger issue, we introduced Proyecto Vida: Latino Deje de Fumar which translates to, Project Life: Latino Quit Smoking. This project was funded in July 2005, by the New Jersey Health Initiatives, Robert Wood Johnson Foundation. The project goals were to increase the number of Latinos seeking tobacco cessation services at the Tobacco Dependence Clinic. Proyecto Vida:

Latino Deje de Fumar has now been in operation for 10 months and the number of Latinos seeking tobacco cessation services at the Tobacco Dependence Clinic has grown substantially.

The overall strategy for increasing use of services was to create a community marketing campaign that included community outreach, neighborhood canvassing, advertising in Latino-focused venues and partnering with grass roots organizations that would serve as conduits for information dissemination. Free nicotine replacement therapy has been made available for this project.

The marketing strategy coupled with providing culture and language appropriate services has proven to be a successful method for increasing the number of Latinos seeking services to quit smoking from the Tobacco Dependence Clinic. As the ultimate goal is to reverse the upward trend of Latino smokers, education and prevention have also become important components to Proyecto Vida via community outreach providing information on the harms of tobacco at various middle schools and high schools.

Proyecto Vida: Latino Deje de Fumar kicked off in January 2006 and since then the number of Latino clients entering the clinic for services has gradually increased. To compare with the previous year's data: in January 2005, 8% of clients seeking tobacco cessation services were Latino, in January 2006, the rate had increased to 19%. In February 2005, the percentage of Latino clients was 8%; in February 2006, the rate had increased to 13%. In March 2005, 9% were Latino clients; in March 2006, there were 18% Latino clients. Most impressive have been the increases in April and May 2006, where the percentage of Latino clients has been 21% and 35%, respectively.

The next step of the project will be to train other smoking cessation organizations to provide culturally sensitive services and market their services to Latino communities throughout New Jersey.

In May, our website [www.proyectovidanofume.org](http://www.proyectovidanofume.org) is scheduled to go live and will be providing information and education for organizations providing smoking cessation services for the Latino community.



*England Journal of Medicine* showing that African American and Native Hawaiian smokers have much higher rates of death from lung cancer than other ethnic and racial groups. The study did not measure whether the participants smoked menthol or non-menthol cigarettes, but we were aware that a much higher proportion of African American smokers (around 70%) smoke menthols as compared with other groups (20-30%). For our hypothesis that menthol cigarettes could play a role in these increased lung cancer rates to be correct, it would require that Native Hawaiians also have high rates of menthol cigarette smoking. When we looked into this, we found that sure enough, Native Hawaiians are the only other ethnic/racial group to smoke menthol cigarettes at a rate comparable to African Americans. The *New England Journal of Medicine* agreed to publish our letter highlighting the potential role of menthol cigarettes in explaining the differential lung cancer rates (Foulds et al, 2006b).

But we still had to try to figure out the likely mechanism whereby menthol cigarettes appear to be harder to quit, deliver higher amounts of nicotine and carbon monoxide, and may be more likely to cause lung cancer. Dr. Kunal Gandhi, a researcher who had helped analyze our clinic data as part of his Master's degree in Public Health research project, continued to examine the clinic data to try to explain the fact that the menthol/non-menthol difference in quit rates was much bigger in our Latino and African American patients than in our White (non-Latino) patients. He found that Latino and African American menthol smokers smoke fewer cigarettes per day than non-menthol smokers, but that this wasn't the case for Whites. He found that when we looked at unemployed White patients, their quit rates were much lower if they smoked menthols as compared to those smoking non-menthols, whereas for employed Whites, there was only a slight menthol effect on quit rates (which were higher regardless of the type of cigarettes smoked). These findings led to our current theory of how menthol cigarettes can be more addictive and more harmful to health. Our hypothesis is that this "menthol effect" is much stronger in circumstances in which the smoker reduces their daily cigarette consumption. Typical situations where a smoker would do this are (a) if the price increases so that they can no longer afford to smoke as many cigarettes or (b) when smoke-free legislation restricts smoking in public places. In this situation, a pack-a-day smoker may be forced to cut down to only 10 cigarettes per day. We know that the natural reaction of the nicotine addict to such a reduction in cigarettes per day is to increase their puff volume per cigarette in an attempt (often subconscious) to obtain their

usual nicotine dose. For a smoker of regular cigarettes it is more difficult to inhale twice as much smoke per cigarette because of the harshness of the smoke. However, the menthol smoker will also inhale twice as much menthol, with its cooling effects to counteract the harshness. Thus we believe that menthol makes it easier to inhale more smoke (and therefore nicotine) per cigarette via its inherent cooling properties, and that this effect is most apparent when the smoker is reducing cigarette consumption. In New Jersey, we have recently had the largest increase in cigarette taxes in the nation, and so groups with lower incomes (e.g. unemployed Whites) have been forced to reduce their cigarette consumption. However, in those groups, those smoking menthol cigarettes are able to inhale more nicotine per cigarette, and hence become more addicted.

Clearly we need more research to help us understand the effects of mentholation and other cigarette design and ingredient characteristics on smoker behavior. But we are now fairly confident about these menthol effects and are concerned about the implications for high risk groups here in New Jersey. Latino smokers in New Jersey are increasingly smoking menthol brands, as are young smokers. Our studies suggest that this may cause these groups to become more addicted and to suffer higher rates of smoking-caused diseases. Also warranting concern here are pregnant women who smoke menthol cigarettes. If our hypotheses are correct, these women may believe they are reducing the harmful effects by reducing the number of cigarettes they smoke, but the menthol may enable them to inhale much more from each cigarette, thus causing more harm to their health and that of their unborn child. For now, we think the evidence is clear and consistent enough that we should be warning menthol smokers about the increased risks associated with smoking these cigarettes.

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