Evaluation of Tobacco Users' Intentions Toward an Oral Tobacco-derived Nicotine Pouch Product as the Result of Viewing Promotional Materials

ABSTRACT

FDA must determine whether a new tobacco product is appropriate for the protection of public health to grant authorization for marketing a new tobacco product. One of the considerations in this determination is evidence regarding the impact of promotional material on likelihood of using the new tobacco product among users and nonusers of tobacco products. We present here results from a study examining this impact for a portfolio of on!® nicotine pouches, an oral product containing ingredients that are either pharmaceutical grade or used in food and do not contain cut or ground tobacco leaf. Results for tobacco users are presented here.

A quota-based sample of self-reported adult smokers planning to quit (n=660), adult smokers not planning to quit (n=662), adult dual users of cigarettes and smokeless tobacco (ST) (n=663), and adult ST users (n=671), participated in this online quasi-experimental survey study. Participants were assigned to either a (1) full exposure (print marketing materials, a digital video ad, front pack shots of on![®] nicotine pouches), or (2) reduced exposure (front pack shots) condition. Participants completed pre- and post-test surveys which included ALCS's validated intention metrics as well as measures of likelihood. Statistical comparisons were made only for the intention measures.

Average pre-test intention to use and switch composites generally corresponded to somewhat disagree/agree across groups and exposure conditions. There were no statistically significant differences in intentions following exposure to the promotional materials for any of the tobacco user groups. The proportion of adult tobacco users classified as likely to use on!® nicotine pouches at pre-test ranged from 35.2% to 62.7%. The proportion of adult tobacco users likely to switch to on![®] nicotine pouches was 27.6%-53.6% (cigarettes), 43.5%-55.7% (ST), and 50.2%-55.4% (cigarettes and ST users). Generally, a modest increase was observed in the likelihood to use and switch from cigarettes to on![®] nicotine pouches in adult smokers after exposure to promotional materials.

BACKGROUND

- FDA must determine whether a new tobacco product is appropriate for the protection of public health to grant authorization for marketing a new tobacco product.
- One of the considerations in this determination is evidence regarding the impact of promotional material on likelihood of using the new tobacco product among users and nonusers of tobacco products (Premarket Tobacco Product Application Proposed Rule, FDA, 2019).
- ▶ We present here results from a study examining this impact for a portfolio of on![®] nicotine pouches, oral tobacco-derived nicotine products containing tobacco and non-tobacco ingredients. They do not contain cut, ground, powdered or leaf tobacco. The on!® products are available in 5 nicotine levels and 7 flavor variants.
- Specifically, we present data regarding behavioral intentions (intentions to try, use, dual use, and switch from cigarettes and/or smokeless tobacco to on![®] nicotine pouches) and likelihood (likelihood of trial, use, dual use, and switching from cigarettes and/or smokeless tobacco to on![®] nicotine pouches) for tobacco users.

CONCLUSIONS

For cigarette smokers, we generally observed a small to modest increase in the likelihood to use and switch from cigarettes to on![®] nicotine pouches after exposure to promotional materials.

STRENGTHS AND LIMITATIONS

STRENGTH

The current study utilized quota-based sampling to increase the generalizability of results to adult cigarette smokers, adult smokeless tobacco users, and adult dual users of cigarettes and smokeless tobacco products in the United States.

LIMITATIONS

- Although participants were able to view the promotional materials as needed throughout the study, one limitation of this study is that participants were only formally exposed to the marketing materials at a single timepoint. While there was not a significant impact of promotional materials on intentions, it is possible that with multiple exposures, as would likely occur in the real world, the promotional materials may have a greater impact on adult smokers' trial and use of on![®] nicotine pouches.
- In the current study, we utilized self-report of behavioral intentions as a proxy for actual behavior to address FDA guidance. Self-reported behavioral intentions and likelihood outcomes may be overinflated and might not reflect actual use behavior. Additional data from actual use studies with adult tobacco users will be important to complement and extend these findings. Additionally, the science could benefit from research exploring the predictive relationship between the ALCS behavioral intention metrics and actual behavior.

METHODS

STUDY DESIGN

- We used an online survey design where participants were quasirandomized to either
- (1) full exposure (print marketing materials, front pack shots of on![®] nicotine pouches, website screen shot, health information) (2) reduced exposure (front pack shots, health
- information) condition.

PARTICIPANTS

- This study included 6 groups, including 4 tobacco user groups, which will be the focus of this poster (Figure 2).
- Target quotas for gender, age, race/ethnicity, education and region for each of the study groups was based on the 2018 National Health Interview Survey.



igure 1. Study Flow		STUDY MI	STUDY MEASURES			
SCREENER (Intentions to quit smoking & tobacco, intentions to use cigarettes & other tobacco or nicotine products) PRE-TEST (Intentions to try, use, purchase, dual use, switch; Risk perceptions) Quasi-Random Assignment Quota-Filled PROMOTIONAL MATERIALS: FULL EXPOSURE (Print materials, Website screen shots, Health information, Picture of lineup of products) POST-TEST (Intentions to try, use, purchase, dual use, switch, quit smoking & quit tobacco; Risk perceptions; Appeal assessment) SURVEY EXIT QUESTIONS AND DEBRIEF (Demographic questions and debrief)		Participants completed pre- and post-test surveys which included ALCS' validated intention metrics (Parker Zdinak et al., 2018; McCaffrey et al., 2020) as well as questions pertaining to purchase intent.		Intention to 3 items utiliz or (2) from " The 3 items Intention to 4 items utiliz 4 items wer Intention to 1 item utilizi		
Smokes cigarettes "every day" or "some days"			Smokes cigarettes "every day" or "some days"		3 items were	
Adult Smokers Planning to Quit (ASPQ; n=660)	Smokes cigarettes in the past 30 days Has not used smokeless tobacco in the past 30 days Has or has not used other tobacco products in the past 30 days Smokes cigarettes to its lifetime criterion Planning to quit smoking in the next 30 days Never used on!® Nicotine Pouch	Adult Dual Users (Cigarette and Smokeless Tobacco) (Dual Users; n=663)	Smokes cigarettes in the past 30 days Uses smokeless tobacco "every day" or Used smokeless tobacco in the past 30 Has or has not used other tobacco prod Smokes cigarettes to its lifetime criterior Uses smokeless tobacco to its lifetime of Never used on!® Nicotine Pouch	r "some days" days lucts in the past 30 days n criterion	Participants switch (as a (1) positive correspondi (2) a respor on!® Nicotin	
Adult Smokers Not Planning to Quit (ASPQ; n=662)	Smokes cigarettes "every day" or "some days" Smokes cigarettes in the past 30 days Has not used smokeless tobacco in the past 30 days Has or has not used other tobacco products in the past 30 days Smokes cigarettes to its lifetime criterion Not planning to quit smoking in the next 30 days Never used on! [®] Nicotine Pouch	Adult Smokelesss Tobacco Users (Smokeless Users; n=671)	Uses smokeless tobacco "every day" or Used smokeless tobacco in the past 30 Has not smoked cigarettes in the past 30 Does not smoke cigarettes "every day" of Has or has not used other tobacco produ Uses smokeless tobacco to its lifetime of Never used on!® Nicotine Pouch	"some days" days 0 days or "some days" ucts in the past 30 days	 ANALYTIC PL Paired t-tender for the metrics for the tender for	

RESULTS

BEHAVIORAL INTENTIONS

Figure 3: Average Intention to Use Scores in the Full Exposure Condition Before and After **Exposure to Promotional Materials.**



Average pre-test intention composites generally corresponded to "somewhat disagree"/ "somewhat agree" across groups and exposure conditions.

There were no statistically significant differences in intention to try, use, dual use with cigarettes, dual use with smokeless, switch from cigarettes, switch from smokeless, or switch from both cigarettes and smokeless following exposure to the promotional materials for any of the tobacco user groups and exposure conditions.

REFERENCES

- FDA. (2019). Premarket Tobacco Product Applications and Recordkeeping Requirements. Federal Registrar, 84 (186). Retrieved from https://www.federalregister.gov/documents/2019/09/25/2019-20315/premarket-tobacco-product-applications-and-recordkeeping-requirements -McCaffrey, S., Black, R. A., & Plunkett, S. (2020, March). Psychometric evaluation of behavioral intention item functioning across tobacco product categories. Poster presented at the Society for Research on Nicotine and Tobacco 26th Annual Meeting, New Orleans, LA. -Parker Zdinak, P., Black, R. A., Plunkett, S., McCaffrey, S., & Chow, S. (2018, February). Validation of Perceptions and Behavioral Intentions to try, use, dual use, and switch. Poster presented at the Society for Research on Nicotine and Tobacco 24th Annual Meeting, Baltimore, MD.

LIKELIHOOD

- > The proportion of adult tobacco users classified as likely to try on!® nicotine pouches at pre-test ranged from 36.4% to 63.9%. Similarly, the proportion classified as likely to use ranged from 35.2% to 62.7%.
- The proportion of adult tobacco users classified as likely to dual use on![®] nicotine pouches at pre-test was 32.1%-56.9% (cigarettes) and 48.1%-52.9% (ST).
- The proportion of adult tobacco users classified as likely to switch to on![®] nicotine pouches at pre-test was 27.6%-53.6% (cigarettes), 43.5%-55.7% (ST), and 50.2%-55.4% (cigarettes and ST users). For cigarette smokers, with the exception of ASPQ in the Full Exposure condition, we consistently observed a small to modest increase in the likelihood to use and switch from cigarettes to on![®] nicotine pouches after exposure to promotional materials across both exposure conditions.



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ing either a 6-point fully-labeled rating scale (1) from "strongly disagree" to "strongly agree" definitely not" to "definitely".

were averaged together to generate a composite.

) Use:

ing a 6-point fully-labeled rating scale (1) from "strongly disagree" to "strongly agree." The e averaged together to generate a composite.

Dual Use:

ng a 6-point fully-labeled rating scale (1) from "strongly disagree" to "strongly agree" Switch:

zing a 6-point fully-labeled rating scale (1) from "strongly disagree" to "strongly agree." The e averaged together to generate a composite.

were classified as either likely or not likely to try, use, dual use (as appropriate), and appropriate). Classification of "likely" required a

endorsement on the corresponding behavioral intention scale (i.e., a score of \geq 3.5, ing to "somewhat agree" or higher on the response scale) and

nse of "yes" to the binary intention to purchase item (i.e., Would you like to buy one of the e Pouch products now to use?)

.AN

ests were utilized to evaluate whether there were differences in the behavioral intention om pre- to post-test.

e statistics were used to evaluate the percentage of participants who were classified as likely e, dual use, and switch based on the likelihood definition presented above. No statistical as conducted