

Nicotine Pouches, Modified Oral Nicotine Products (MOPs)

What are MOPs?

- MOP stands for Modern Oral Nicotine Product in contrast to Traditional Oral Smokeless Tobacco Product.
- MOPs come in small packages that resemble the “tins” of dip tobacco.
- Within each tin are pouches that contain dissolvable powder containing nicotine & other chemicals.
- The user inserts the pouch between the cheek and gum and as the powder dissolves releases nicotine that is absorbed through the mucous membrane in the gums.
- MOPs can contain flavoring.
- Some manufacturers use nicotine that is extracted from the tobacco plant, while others use synthetic nicotine that is produced in a lab.
- MOPs pouches come in much higher strength than typical nicotine replacement therapies (NRTs), in 6, 8, or even 10mg, compared to usual oral NRTs which are 2 and 4mg.

What are the health effects of MOPs?

- Researchers speculate that if MOPs can deliver a high dose of nicotine in a fast and safe manner, this could reduce smoking and tobacco related health consequences if smokers switch.
- One industry-funded study found that MOPs had lower levels of toxicants, such as metals, acetaldehyde, and other potentially harmful chemicals compared with Swedish SNUS.
- MOPs are not completely risk-free, and may pose risks to non-tobacco users who take up MOPs use by addicting them to nicotine.
 - NOTE: Findings should be interpreted with caution because this research was funded and carried out by tobacco companies.



Follow Along:
*Listen to Episode 3
Modified Oral Nicotine
Products (MOPs)*

Learning Objectives:

1. Describe the characteristics for MOPs.
2. Review sparse research on MOPs.
3. Discuss some of the considerations in advising your patients on risks and benefits of using MOPs.



10 mm
Image Source¹

How Popular are MOPs?

MOPs are rapidly increasing in popularity: U.S. MOPs sales increased by 250% between January and June 2020.

Mint flavors like spearmint and wintergreen were the most common.

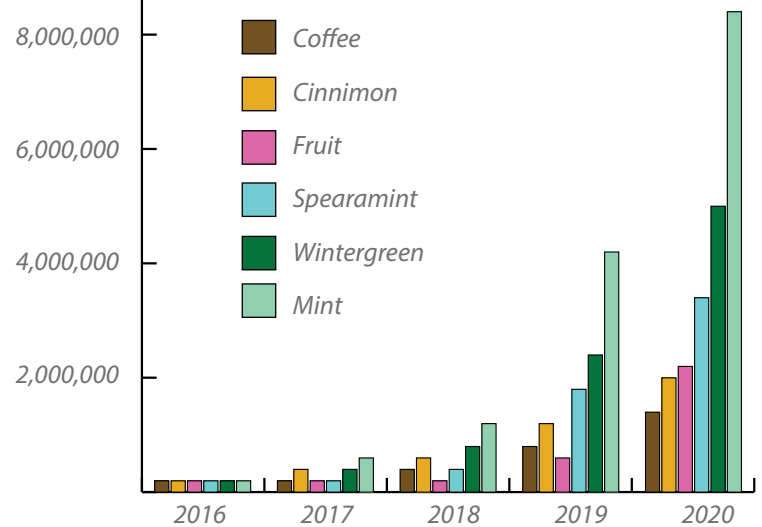
However, 2019-2020 saw the biggest growth in fruity flavored pouches of 20%.

Popular Uses

MOPs are used similar to smokeless tobacco products in situations where smoking is prohibited. As the products dissolve in the mouth, users often do not spit.

- MOPs can deliver higher concentrations of nicotine than FDA-approved oral NRT, having higher addiction potential.
- Unlike other smokeless tobacco products, such as dip, the nicotine salts in MOPs dissolve in the mouth without spitting.

Unit Sales by Flavor and Year



References

Azzopardi, D., Liu, C., & Murphy, J. (2021). Chemical characterization of tobacco-free "modern" oral nicotine pouches and their position on the toxicant and risk continuums. *Drug and Chemical Toxicology*, 1-9.

Jablonski, J. J., Cheetham, A. G., & Martin, A. M. (2022). Market Survey of Modern Oral Nicotine Products: Determination of Select HPHCs and Comparison to Traditional Smokeless Tobacco Products. *Separations*, 9(3), 65.

Marynak, K. L., Wang, X., Borowiecki, M., Kim, Y., Tynan, M. A., Emery, S., & King, B. A. (2021). Nicotine pouch unit sales in the US, 2016-2020. *JAMA*, 326(6), 566-568.

McEwan, M., Azzopardi, D., Gale, N., Camacho, O. M., Hardie, G., Fearon, I. M., & Murphy, J. (2022). A randomised study to investigate the nicotine pharmacokinetics of Oral nicotine pouches and a combustible cigarette. *European Journal of Drug Metabolism and Pharmacokinetics*, 47(2), 211-221.

Up Next...

Episode 4
Risks and Harms of
Electronic Nicotine
Delivery Systems
(ENDS)