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The potential impact of oral nicotine pouches on public health: A scoping review.

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Introduction

- Oral nicotine pouches (ONPs), mainly produced by major combustible tobacco manufacturers, have become widely available in the US and other countries.
- Their public health impact depends on the extent to which they replace or supplement the use of other, more harmful tobacco products, or contribute to the initiation of ONPs among tobacco-naïve populations.
- The scoping review provides a summary of the literature on ONPs and explores their potential impact on public health.

Methods

- The search for empirical studies examining outcome domains (Figure 1) was conducted in PubMed (MEDLINE), Web of Science, and Embase databases through January 10, 2024.
- We adhered to the guidelines for the Preferred Reporting Items for Scoping Reviews (PRISMA-ScR).

Figure 1. Outcome domains included in the review.

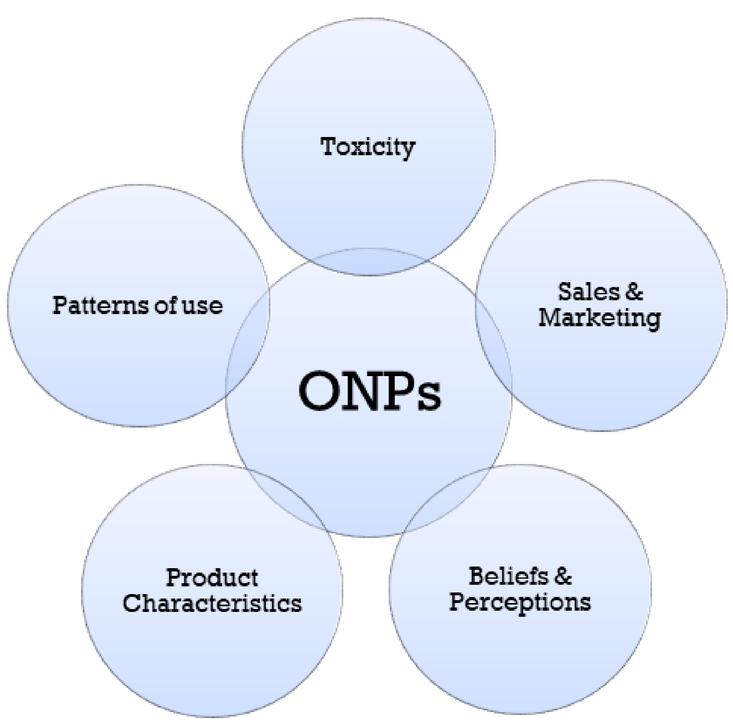
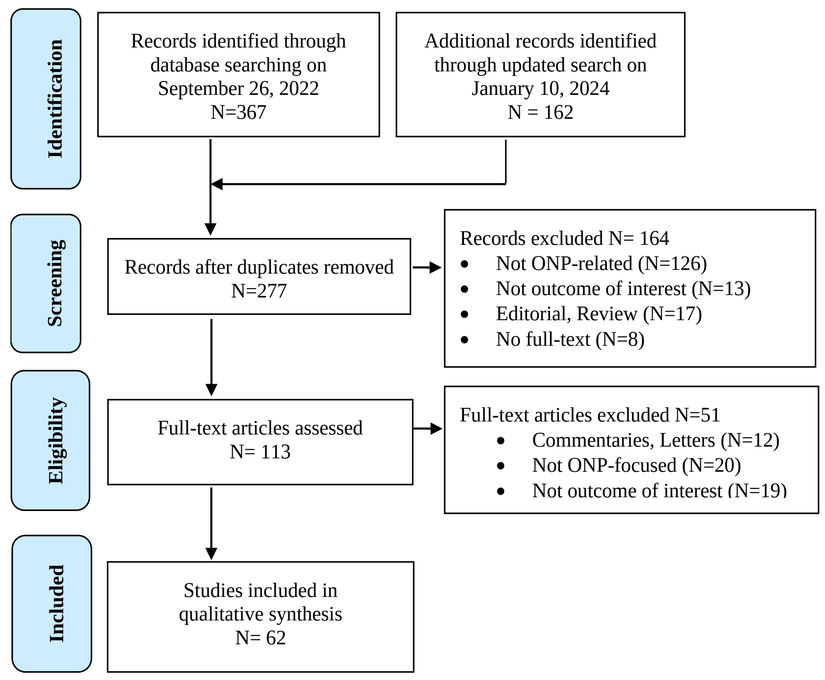


Figure 2. PRISMA Flow diagram of the study selection process.



Source: http://www.prisma-statement.org/

Results

- Sixty-two studies were included (Figure 2); seventeen were funded by industry.
- Current ONP use among US youth through 2023 is estimated to be low (≤ 2 %).
- Estimates of current ONP use in adults vary widely and are limited to populations with a history of tobacco use.
- Between 35-42% of adolescents and young adults were aware of ONPs, and 9%-21% of tobacco-naïve youth were susceptible to trying them.
- ONPs contain fewer (potentially) harmful compounds and at lower levels than cigarettes and smokeless tobacco (SLT), except formaldehyde, comparable to SLT.
- Short-term in vitro toxicology studies, funded predominantly by industry, suggest substantially less ONP cytotoxicity than cigarettes.
- Evidence on the cytotoxicity of ONPs relative to SLT is mixed.
- Pharmacokinetic studies by industry suggest that higher nicotine strength ONPs (≥ 6 mg) may deliver comparable or higher nicotine than conventional SLTs and cigarettes.

Conclusion

- Based in part on the evidence from industry-funded studies, ONPs appear to be less toxic than cigarettes, and may deliver comparable nicotine to smokers, providing a potentially less harmful alternative to combustible products.
- More studies are needed to determine the harm of ONPs relative to SLTs.
- Key data are mainly available from industry-funded studies. Data from independent research is critically needed.
- Rather than, or in addition to, increased cessation from more harmful products, industry marketing might encourage the initiation of ONPs by youth and situational and dual use by adults.
- Future studies should assess the awareness of, susceptibility to, and initiation of ONPs in a population with no history of tobacco/nicotine use.

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Please add “yes” or “no” to each table cell. If “yes,” please turn cell background color to yellow.	Tobacco Industry	E-ciarette & nicotine product industry	Pharma Industry
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