

Discussion of Waterpipe Tobacco Smoking on Reddit

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Introduction

- ❖ Waterpipe tobacco smoking (WTS) is a traditional way of smoking that originated from India.
- ❖ In 2017, 2.6 million adults, 4.1% of high school students and 1.2% of middle school students in the US had used WTS in the past month.
- ❖ Fruit flavor is the preferred flavor among waterpipe tobacco users.
- ❖ Potential health problems related to WTS include cancer, respiratory illness, and periodontal diseases.
- ❖ Children exposed to WTS were 2.3 times more likely to have respiratory diseases than non-exposed ones.
- ❖ Reddit is a popular social media platform with 52 million daily users and 100,000 communities called subreddit.
- ❖ Few studies have investigated the WTS on Reddit, although WTS is widely discussed on Reddit.

Aims/Objectives

- ❖ We aim to provide surveillance on WTS discussions on Reddit and examine potential associations of waterpipe tobacco flavors and health symptoms.

Methods

- ❖ We downloaded Reddit posts from February 1, 2016, to December 31, 2020, from Reddit Archive (pushshift.io) and obtained WTS related Reddit posts using keywords such as waterpipe, Shisha, Hookah, sheesha, etc.
- ❖ We manually created a flavor and brand dataset for most of the waterpipe tobacco brand on the market.
- ❖ We created a health-flavor dataset by selecting posts mentioning only one flavor and health symptoms.
- ❖ We calculated the conditional probabilities of mentioning health problems for a given flavor category.
- ❖ We used the Latent Dirichlet Allocation (LDA) model to identify WTS related common topics.

Results

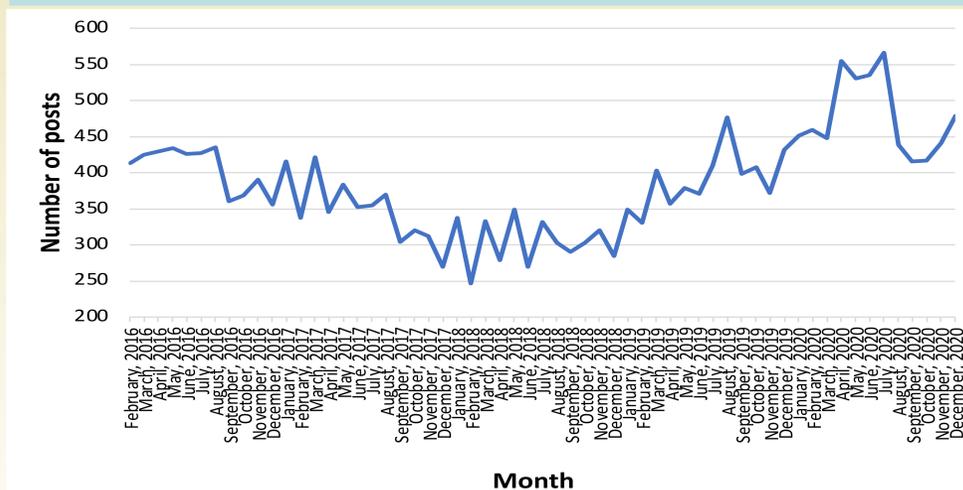


Figure 1. Longitudinal trend of Reddit posts related to waterpipe tobacco.

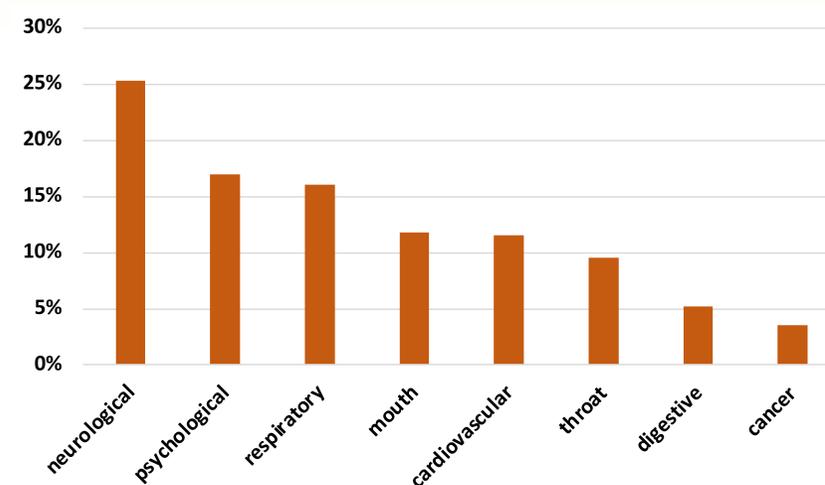


Figure 3. Top health symptoms mentioned in waterpipe-related Reddit posts.

Conclusions

- ❖ There is an increasing trend of waterpipe tobacco mentions on Reddit starting from 2018.
- ❖ Fruit was the most popular waterpipe tobacco flavor.
- ❖ Neurological, psychological, and respiratory were the most frequently mentioned health categories on Reddit.
- ❖ We observed potential associations between flavors and health categories through examining co-mentions.
- ❖ Friends spending time together at night with WTS was the most popular topics discussed on Reddit.

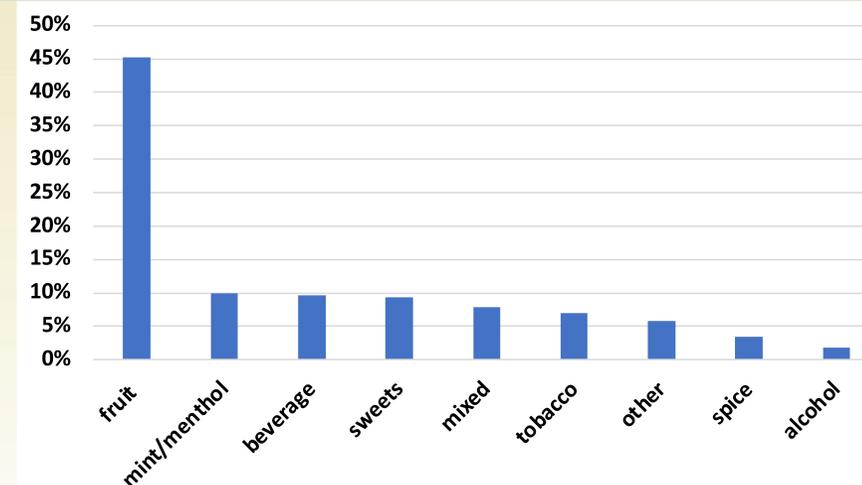


Figure 2. Flavor categories for waterpipe tobacco mentioned in Reddit posts.

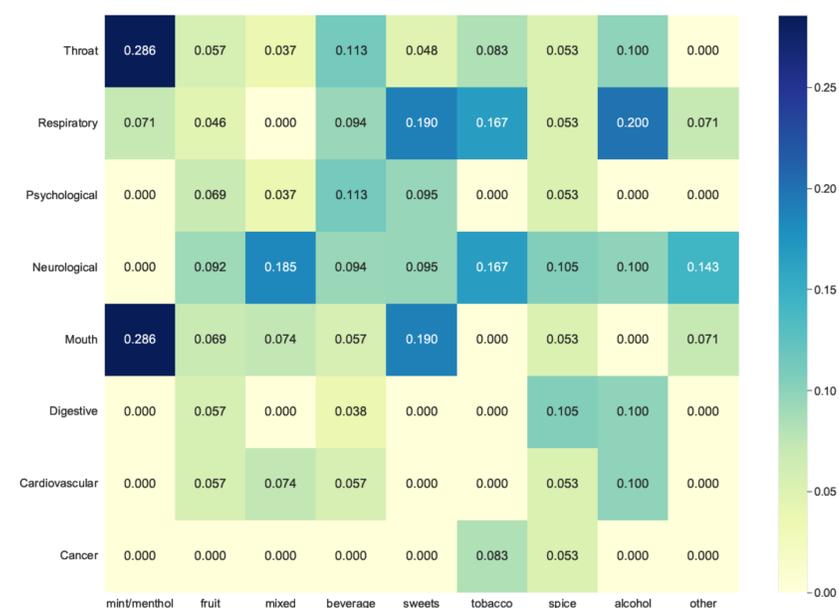


Figure 4. Conditional probability of co-mentioning waterpipe flavors with health categories.

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