E-cigarette market share by nicotine claims

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Abstract

Background: Nicotine forms (salt vs. freebase) and isomers (synthetic vs. tobacco-derived) are key characteristics of e-cigarettes that manufacturers manipulate, and "tobacco-free" claims may have served to attract new consumers and increase their intention to use.

Method: This study presents a snapshot of nicotine marketing claims for e-cigarettes using Nielsen ScanTrack data from brick-and-mortar stores. Market share was calculated as the ratio of unit sales of each nicotine claim category to the total unit sales of e-cigarettes during the four weeks ending 1-20-2024.

Results: We summarized the market share for the following six nicotine form/isomer category: 1) nicotine (77%), 2) nicotine salt (10%), 3) synthetic nicotine (2%), 4) zero tobacco or tobacco-free (2%), 5) zero nicotine or nicotine-free (0.03%), and 6) no claim or CBD/hemp/cannabis (9%).

Conclusion: The market share of products that explicitly carried nicotine salt claims (10%) or synthetic nicotine or tobacco-free claims (2% each) was notable. This study informs regulatory authorities on the recent trend of nicotine claims marketed by the e-cigarette industry, which may be contributing to the use of these products or addiction to nicotine among young people and non-users.

Nicotine dimensions including forms (salt vs. freebase) and isomer (synthetic vs. tobacco-derived) are key characteristics of e-cigarettes that manufacturers manipulate to influence product addictiveness.[1–6] As e-cigarettes have become the most popularly used tobacco product by young people, "tobacco-free" claims about synthetic nicotine products marketed by the industry may have served to attract new consumers, increase their intention to use, and reduce their harm perception about e-cigarettes.[7] "Tobacco-free" could possibly be seen as an unauthorized modified risk tobacco product (MRTP) claim since it decreases people's perceived relative harm of e-cigarettes to other tobacco products.[8] Alternatively, nicotine claims may also serve to encourage adult smokers to switch to e-cigarettes, likely a less harmful tobacco product.

Leading brands of e-cigarettes such as JUUL and Puff Bar use high concentrations of nicotine salts, a form of nicotine that is less harsh on the throat.[9] Initiating nicotine use with high concentrations of palatable nicotine may lead to a greater likelihood of long-term use of nicotine and tobacco products.[5,10] Furthermore, synthetic nicotine is now an e-liquid ingredient that is just as economically feasible as tobacco-derived nicotine, and is often marketed with the "tobacco-free" claim, wording that may reduce the perceived harm or addictiveness of the products among consumers.[11,12] Synthetic nicotine can specify something about the nicotine isomer that is used in the product. There are two primary nicotine isomers: (R)-nicotine, and (S)-nicotine. Tobacco-derived nicotine contains > 99% S-nicotine that has been extracted from tobacco plants, whereas synthetic nicotine is prepared from precursor chemicals and could be either > 99% S-nicotine or a racemic mixture of S- and R-nicotine isomers.[2] Racemic nicotine mixtures may have a different level of addiction liability compared to those containing > 99% S-nicotine.[11]

Because manufacturers' nicotine claims may affect consumer use, it is crucial to monitor the retail sales of e-cigarette products with different claims of nicotine dimensions. This study presents a 4-week snapshot of the primary nicotine marketing claims for e-cigarette products based on Nielsen ScanTrack data, which provides information about retail sales in brick-and-mortar stores, i.e., pharmacies, convenience stores, and gas stations (monitoring period ending 1-20-2024). **Figure 1** shows a summary of the market share and number of products by the following six nicotine-related claim categories: nicotine, nicotine salt, synthetic nicotine, zero tobacco (i.e., tobacco-free), and zero nicotine (i.e., nicotine-free), and other (i.e., no nicotine-related claims, or CBD/hemp/cannabis). Market share was calculated as the ratio of unit sales of each category to the total unit sales of e-cigarettes during the four-weeks period. The results are presented as the following: 1) nicotine (1,228 unique products, 77% market share), 2) nicotine salt (959 unique products, 10% market share), 3) synthetic nicotine (108 unique products, 2%), 4) zero tobacco (96 unique products, 2%), 5) zero nicotine (12 unique products, 0.03%), and 6) other (686 unique products, 9%).

These findings show that while the vast majority of e-cigarette products marketed themselves as containing nicotine (also disclosed on their required warning labels), the market share of products that explicitly carried nicotine salt claims was substantial (10%) and the market share of products making synthetic nicotine or tobacco free claims was also notable (2% each). Thus, nicotine salt, synthetic tobacco, and tobacco free claims may be contributing to the use of these products. Future research should investigate how nicotine-related claims may intersect with product characteristics to influence e-cigarette harm perceptions and use intentions of different consumers.[13-15]

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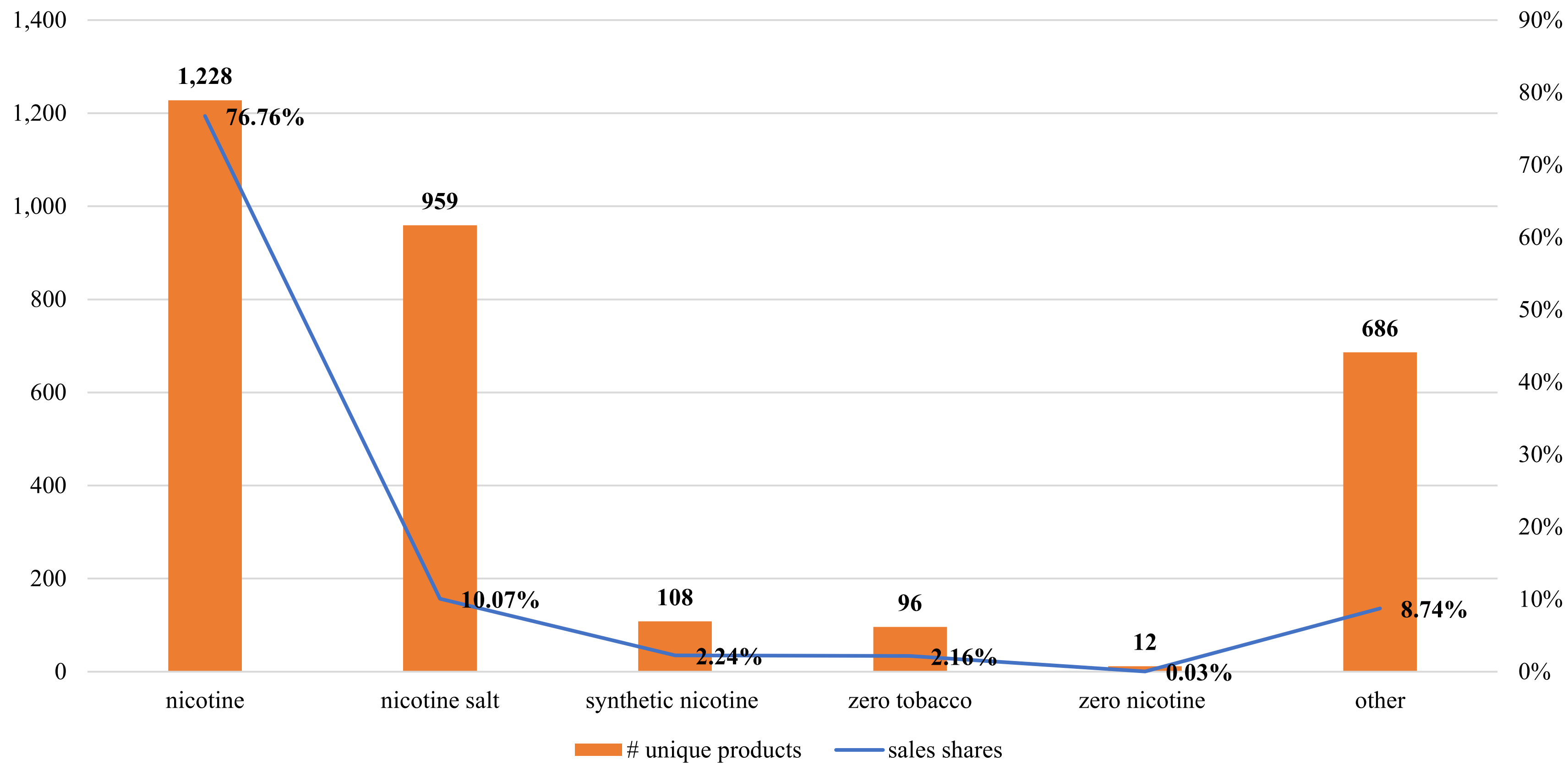

Figure 1. E-cigarette market shares by nicotine claims, 4 weeks ending 1/20/2024

Note: "Other" is none (638, 8.70%) or CBD/hemp/cannabis (48, 0.04%) combined