

# Contradictions Between Narratives and Practices of Electronic Nicotine Delivery System's Consumers

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*Contradições entre Narrativas e Práticas dos Consumidores de Dispositivos Eletrônicos para Fumar*

*Contradicciones entre Narrativas y Prácticas de Consumidores de Dispositivos Electrónicos para Fumar*

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## ABSTRACT

**Introduction:** Tobacco control policies have advanced in recent decades, but the tobacco industry is presenting a new challenge: Electronic Nicotine Delivery Systems. **Objective:** To map the perception and consumption practices of young and adult consumers about electronic nicotine delivery systems, contributing to reflection on the topic of harm reduction. **Method:** Qualitative study conducted with focus groups in five state capitals in each Region of the country, with users aged 18 to 28 years old and adults aged 29 or older. Ten focus groups were held, with six participants in each group, totaling 60 informants, belonging to classes A and B1, via Zoom platform with a semi-structured question script. **Results:** The respondents seem to be “symbolically cleaning up” their smoking habits, reestablishing the meanings of conventional cigarettes, reducing their perception of risk, and no longer considering themselves as smokers. The product is perceived as practical to be used, with a pleasant smell and taste increasing social times, without restrictions on its use. The work also highlights the barriers to measuring consumption. The diversity of existing models and the variety of nicotine contents seem to contribute to a lack of comparative and collective parameters, which prevents the user from being aware of their consumption, in addition to the “flow” mechanisms, where the consumer loses track of the volume consumed, without a material experience of a consumption unit. **Conclusion:** Barriers to measuring consumption and flow mechanisms appear to pose major risks of increasing smoking.

**Key words:** Electronic Nicotine Delivery Systems; Vaping; Social Perception.

## RESUMO

**Introdução:** As políticas de controle do tabaco avançaram nas últimas décadas, entretanto a indústria do tabaco apresenta um novo desafio: os dispositivos eletrônicos para fumar. **Objetivo:** Mapear a percepção e as práticas de consumo dos consumidores jovens e adultos sobre os dispositivos eletrônicos para fumar, contribuindo com a reflexão a respeito da redução de danos. **Método:** Pesquisa qualitativa com grupos focais em cinco capitais de cada Região do país, com usuários entre 18 e 28 anos e adultos de 29 ou mais. Foram realizados dez grupos focais, com seis participantes em cada grupo, totalizando 60 informantes, pertencentes às classes A e B1, por meio da plataforma Zoom com roteiro semiestruturado de perguntas. **Resultados:** Os entrevistados parecem realizar uma “faxina simbólica” no tabagismo, restabelecendo significados dos cigarros convencionais, chegando à redução da percepção de risco, não se considerando fumantes. O produto é percebido como prático para utilização, com cheiro e sabor agradáveis, proporcionando socialização, sem tantas restrições para o seu uso. O trabalho também evidencia as barreiras de mensuração do consumo. A diversidade de modelos e a variedade de teores de nicotina parecem contribuir para uma ausência de parâmetros, comparativos e coletivos, dificultando a consciência do usuário sobre seu próprio consumo, além dos mecanismos de “flow”, em que o consumidor perde a noção do volume utilizado sem uma experiência material que sinalize uma unidade de consumo. **Conclusão:** As barreiras de mensuração de consumo e os mecanismos de “flow” parecem representar grandes riscos de ampliação do tabagismo.

**Palavras-chave:** Sistema Eletrônico de Liberação de Nicotina; Vaping; Percepção Social.

## RESUMEN

**Introducción:** Las políticas de control del tabaco han avanzado en las últimas décadas, sin embargo, la industria tabacalera presenta un nuevo desafío: los dispositivos electrónicos para fumar. **Objetivo:** Mapear la percepción y prácticas de consumo de los consumidores adultos y jóvenes sobre los dispositivos electrónicos para fumar, contribuyendo a la reflexión sobre el tema de la reducción de daños. **Método:** Investigación cualitativa con grupos focales en cinco capitales de cada región del país, con usuarios entre 18 y 28 años y adultos de 29 y más. Se realizaron diez grupos focales, con seis participantes por grupo, totalizando 60 informantes, pertenecientes a las clases A y B1, a través de la plataforma Zoom con una guía de preguntas semiestructurada. **Resultados:** Los entrevistados parecen realizar una “limpieza simbólica” del tabaquismo, restableciendo los significados de los cigarrillos convencionales, reduciendo la percepción de riesgo, al no considerarse fumadores. El producto se percibe como práctico de usar, con olor y sabor agradables, proporcionando socialización, sin restricciones en su uso. El trabajo también deja en evidencia las barreras de medición del consumo. La diversidad de modelos existentes y la variedad de niveles de nicotina parecen contribuir para una ausencia de parámetros comparativos y colectivos, lo que impide que el usuario sea consciente de su propio consumo. Además, de los mecanismos de “flow”, donde el consumidor pierde la noción del volumen consumido, sin una experiencia material que señale una unidad de consumo. **Conclusión:** Las barreras para medir el consumo y los mecanismos de “flow” parecen representar riesgos importantes de un aumento del tabaquismo.

**Palabras clave:** Sistemas Electrónicos de Liberación de Nicotina; Vapeo; Percepción Social.

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## INTRODUCTION

Despite the advances of tobacco control policies in the last decades, the tobacco industry is posing a new challenge, the electronic nicotine delivery systems (ENDS) as alleged alternatives of “potential reduced risk” for tobacco reduction and cessation and to circumvent tobacco control laws, allowing users to “smoke everywhere”<sup>1</sup>. Additionally, the industry claims that ENDS is a harm reduction strategy<sup>2</sup>, but studies demonstrate that the most effective action to reduce tobacco damages is stop using any tobacco products and nicotine<sup>3</sup>, given the presence of nicotine and other toxic substances that are damaging to users and non-users who are exposed to aerosols<sup>4</sup>.

Entities as the World Health Organization (WHO)<sup>4</sup> and the Surgeon General<sup>5</sup> do not endorse these products for the treatment of tobacco use, exposing their many risks further to the WHO-FCTC/COP/7/11<sup>6</sup> which reports evidences of impacts and potential health risks from exposure to ENDS emissions as air contamination by particles (fine and ultrafine), nicotine, higher levels of heavy metals as nickel and chrome usually detected on ENDS aerosols found on the smoke of conventional products, whose magnitude is yet unknown.

The National Health Surveillance Agency (ANVISA), the regulatory entity responsible to control and inspect tobacco products in Brazil, banned the sale, importation and advertising of ENDS through the Collegiate Board Resolution (RDC) number 46 dated August 28, 2009<sup>7</sup>, based on precaution principles due to the lack of scientific data attesting the veracity of these allegations.

Regardless of scientific and legal recommendations, the use and interest around ENDS continue to grow<sup>8,9</sup>, forcing health authorities to understand the users’ experiences. Therefore, the current study is aimed to map young adults users’ perceptions about ENDS and contribute to stimulate reflections about harms reduction. The results highlight two critical experiences to be addressed by health public policies of tobacco control: tobacco symbolic cleansing and difficulties to measure ENDS consumption.

ENDS seems to occupy an ambiguous pathway between continue or quit smoking<sup>10</sup>. In the literature, dual use is perceived by consumers as a tool for reducing smoking-related harms in the near term and facilitating quitting smoking in the long term<sup>11,12</sup>.

Masson et al.<sup>13</sup> showed that more than half of the participants have already used e-cigarettes as alternative to quit smoking and younger adults were more receptive to this option. However, Robertson et al.<sup>14</sup> emphasized that their study participants claimed they changed the goal of using ENDS along the process. Many of them were

happy only with reducing conventional cigarette use but failed to quit completely.

ENDS continuous use is attributed to factors as perception of minor health damages compared to conventional cigarettes, ample offer of different flavors, lack of an offensive smell, cheerful due to smoke production, the great range of settings in which ENDS could be used and reduced stigma associated with their use contrary to conventional tobacco<sup>10</sup>.

Marković<sup>15</sup> points out characteristics of the design of e-cigarettes that could affect the users’ perceptions. Initially, the interaction with technology in regard to design, ergonomics, appearance and size. Flavor is a key aspect as there are options with and without nicotine, and tobacco or menthol flavorings<sup>16-18</sup>. In addition, it seems there is a certain spatial-temporal social permissiveness compared with what apparently happens with conventional tobacco<sup>15</sup>.

In general, studies about ENDS tend to neglect socio-cultural context in which this practice occurs. The current research contributes to understand the consumption within the Brazilian context where few studies exist. In addition, it will investigate the individual preferences with a limited notion of experience<sup>15</sup>.

The present study focuses on how design, consumption practices, and social influence perpetuate smoking, countering harm reduction advertising. It uses the concept of affordance<sup>19</sup>, which highlights how the properties of artifacts influence the interaction between the user and the object, emphasizing the potential for action and its visibility to the consumer.

## METHOD

Qualitative study held in five state capitals of each country region. Two profiles of ENDS users have been investigated: 1) young adults aged 18-28 years old; 2) 29-years old or more adults. The five capitals were São Paulo, Curitiba, Campo Grande, Teresina and Porto Velho where high prevalence of ENDS use was found when the investigation was made<sup>20</sup>. This geographical distribution considered the purpose of investigating different cultural, social and economic realities and possible tobacco industry local strategies.

In total, ten focus groups were conducted, with six participants in each group, totaling 60 informants, belonging to classes A and B1, according to the Brazilian Economic Classification Criteria, given the high cost of these products<sup>21,22</sup>. The interviews were held during the COVID-19 pandemic through Zoom platform conducted by a moderator, one of the study authors, who was present through the whole process, including the questions script and analysis.

A semi-structured script guided the meetings, containing questions about initial motivations, initiation and practices of consumption and perceptions of risks associated with ENDS. All the groups were recorded and transcribed by a skilled professional.

The analysis was performed based on summaries and coding process<sup>23</sup>, consisting in systematic creation of tags for different units or blocks of text based on three different strategies<sup>24</sup>: (1) open coding: examine, compare and categorize the data; (2) axial coding: to find a more abstract meaning after open coding; (3) selective coding: identification of systematic categories of codes.

Open axial and selective coding processes provides structure to focal groups which allows to choose concepts related to the study objectives and compare the results with the literature. A coding manual was developed to guide the investigators and the subsequent analyzes. Doubts were discussed until a consensus was achieved. Based on analytical meetings, interactive modifications of the codes were made to reinforce the reliability of the classification.

The Ethics Committee approved the study, report number 5099980 (CAAE (submission for ethical review): 52266721.7.0000.5582) in compliance with Directive 466<sup>25</sup> dated December 12, 2012 of the National Health Council.

## RESULTS

In order to map perceptions young adults and adults consumers have about ENDS, two essential themes have emerged from the results, revealing some important risks to be addressed by tobacco control policies as described below: 1) tobacco symbolic cleansing; 2) difficulties to measure consumption.

### TOBACCO SYMBOLIC CLEANSING

ENDS appear to perform a tobacco symbolic cleansing as the narratives have shown, resignifying the meaning of conventional cigarettes as a pleasant, sensual, socializing and to a certain extent, glamorous use, removing the inconvenience usually assigned to smoking today. Some of the interviewees ex-smokers of conventional cigarettes and current ENDS users understand that they quit smoking, are no more smokers, but vapers instead as seen below:

After I quit smoking, I realized it wasn't nice, the flavor, smell, I changed my habits, from smoker to vaper, it changed. I'm no longer a smoker, I don't produce smoke, I don't stink, I don't have bad breath from cigarettes, so it is a great pleasure to use something that downsizes my anxiety as cigarettes did back then, but I don't stink, people don't pull away from me, I get into the elevator and nobody

pulls apart because I don't exhale cigarette smell, the habit has changed, it is a great pleasure to vape (Adults, Curitiba).

This narrative illustrates how consumers eliminate the ambiguity of the smoker condition emphasized in former studies<sup>11</sup>, pulling away from health related concerns. A key aspect of symbolic cleansing is the minimization of perceived health and social risks associated with this form of smoking. It is clear there are minor concerns about the effects on their own health and of those they live with, mainly when compared to conventional cigarettes.

Although there are no scientific evidences, some interviewees affirmed that ENDS are nearly harmless, a perception apparently associated with information found by users on the Internet at the time they were introduced to the product.

My goal was to reduce damages, I smoked a cigarette and felt tired, I am curious, always liked technology and signed in at sites which divulge new things, objects that make life easier. I researched the Internet and it popped up e-cigarettes and I started to investigate, it took me months, I went deep, wanted to know everything before buying. And I said to myself, this is going to help me quit smoking, I will quit smoking with this, my health will improve, it has background, survey, I tried to find studies which affirmed that e-cigarettes are 95% less damaging than conventional cigarettes and I was fed up with cigarettes (Adults, Curitiba).

Similar to international consumers<sup>10</sup>, the hopes of the participants in the present study are based on factors with limited objectivity: the concept that ENDS does not produce smoke, Internet experts and the physical experience they had with the product. Some interviewees affirmed that ENDS do not make their teeth yellow and do not reduce smell and taste, contrary to conventional cigarettes.

The interviewees reported they search for influencers who present themselves as experts. These informational bubbles promote what would be the alleged "benefits" of this modality in addition to sensual connotations. ENDS do not exhale bad smell as conventional cigarettes, according to the informants, the smell and taste are considered agreeable, favor social acceptance both with smokers and non-smokers, similar to international studies<sup>16-18</sup>.

The variety of flavors offered, as fruits, sweets and known brands of gums or candies appear to open an array of options connected to specific moments, places or types of beverages preferred by the users, and even the regular taste of cigarettes.



Apparently, advertising is young-driven, this thing of sweet flavors and everything else, now they have this vision of thinking in older persons who want some type of replacement, perhaps they like the taste of tobacco more. (Young adults, Curitiba).

Smell also favors socialization, indoor consumption, despite the banning and better acceptance among all, making the user feel welcome and not pulling away from friends to smoke, contrary to what happened with conventional cigarettes that has ever been mentioned as positive:

Users of vapes and pod in social environments are more acceptable than cigarette smokers, the person has to leave the group to smoke a cigarette (Adults, Porto Velho).

Regarding the smoke, I've noticed it is well accepted, in a meeting with business entrepreneurs the speaker was vaping and nobody bothered with the smoke, most of all if the smell is good, fruity, gum, *babaloo*, menthol, it is nice to smell (Adults, Campo Grande).

Some interviewees said it was fashionable to use ENDS today. More than neutralize the negative meanings of the cigarettes, ENDS appear to bring status to their users as some of them reported.

I use because is fashionable, I never smoked, it is cool to vape, but I'm addicted. (Young adults, Porto Velho).

For me, it was cool to vape, at the end of 2019 I met a group of friends, everybody was puffing, magic smoke, that incredible smoke, I want this too because the other did not make a smoke like that, and when I tasted for the first time, it was good and different, I'm going to go with that. (Adults, Teresina).

Sometimes, the groups mentioned that friends and acquaintances and social media stimulated the use as a peer-promoted generational experienced. According to Marković<sup>15</sup>, social interactions created with the use of these devices appear as potential benefits perceived by the users when compared to conventional cigarettes.

The first thing that came up was "hang out", that thing of sharing with friends, be on that cool environment. (Young adults, Teresina).

The sense of freedom users feel when vaping in public and social living, unlike traditional cigarette, materializes when the possibility of using the product expands. In many cases, ENDS are purchased in nightclubs and other

venues, even if the sale does not occur, the use of vapes, pods and e-cigarettes is claimed as very well accepted on these places, the users feel comfortable further to the practicality.

When I party, I go to some place where vapes are allowed indoors. You have to go out [if you want to smoke a cigarette], Curitiba, where I live is freezing, sometimes you don't want to go out and you prefer to stay indoors to vape (Young adults, Curitiba).

The possibility of using where you can't smoke conventional cigarettes indoors, reveals poor knowledge that ENDS are banned as any tobacco products, nicotine-derived or not, indoor collective private or public in the whole country.

Discretion. I smoke where I can't smoke, pleasure and flavor. Pleasure because I'm addicted to conventional cigarette too and when I am indoors, I freak out and vape saves me (Young adults, São Paulo).

At private indoor environments, ENDS opens the possibility of using discreetly and, therefore, less controlled or censored by anyone else. One of the interviewees claimed he/she smoked ENDS at home hidden from the parents, had no additional concerns in regard to their suspicion and at work as the device is inconspicuous.

I smoke at my room and my father does not notice the smell, at work too, nobody knows or notices the smell, I kept in my pocket and you don't have to put out (Young adults, São Paulo).

Further to not having to go out to smoke, the users emphasize their practicality, no lighters or ashtrays:

Practicality, you have to carry a pack, lighter and ashtray, the vape, it is only it, put in the pocket and you are set (Young adults, São Paulo).

Summarizing, the groups listed some motivations to use ENDS that express what "tobacco symbolic cleansing" is:

- ENDS users don't see themselves as smokers, every burden and concern related to the use of conventional cigarettes are no longer associated with ENDS users, making this a "clean" behavior and, according to them, few concerns. It was possible to notice in some narratives a certain social status with the use of a fashion product, back then given to conventional cigarette.
- As some interviewees reported, health risks are hypothetically reduced if compared to conventional



cigarettes. Nicotine was brought up and they acknowledged that it causes dependence, however, they affirmed that some types of vapes allow the use of essences without nicotine, which, in theory, could be easier to keep the same behavior like conventional smoking but without intoxication by other toxic substances usually found in conventional cigarettes, that, according to them, are not present in ENDS. These narratives are reinforced by the phenomenon of Internet bubbles whose contents aligned with the users concepts gain more attention and circulation.

- Other unpleasant effects of conventional cigarettes as smell and flavor are eliminated. Many interviewees reported that the agreeable smell of the vape produced by the user favors socialization, granting them a different status valued by different groups as a fashionable item.
- The variety of flavors to be chosen according to the use, matched to where, when and types of beverages.
- The product is perceived as practical, reducing concerns with disposal of cigarette butts, ashes, lighters, ashtrays etc.

#### DIFFICULTIES TO MEASURE CONSUMPTION

Several groups, mainly dual users (who continue smoking conventional cigarettes and ENDS) frequently claimed “we are smoking less vapes than conventional cigarettes back then”. The narratives of tobacco reduction were repeated and appear to reproduce what pushed some users to embrace the new category. Nevertheless, this narrative is contradictory as the details below show.

The first is the difficulty to measure its own consumption. When asked how they measure the alleged reduction, the interviewees recognize it is difficult to define what an excessive use would be. It is noteworthy that many interviewees say that this “ruler” is easier for conventional cigarettes but ambiguous for ENDS:

I used to smoke ten conventional cigarettes-day, now I don't smoke at a certain time, now and then I grab it and smoke, but I smoked much more, the other, much more, I don't know how much I smoke e-cigarettes (Adults, Teresina).

I don't know the volume, I get many essences or go somewhere, like at Ponta Porã and got a lot too, don't know how much. But conventional cigarette is different, the quantity is there, but vape and pod, no, you can't, only the disposable, the pod, you know how many were smoked in a month or week (Adults, Campo Grande).

Even the informants who know and adopt an individual measure to quantify what they smoke

acknowledge the difficulty of reaching a consensus to evaluate what excessive use would be. A few different reasons were expressed, for some of them, the measure would be the quantity of puffs taken at a certain time, for others, the volume of ml consumed at a certain time. Another informants reported the product wear or duration of the battery, while others were able to register at what hour they use.

The diversity of models with different technical specifications available, in addition to nicotine content of choice, appear to contribute to the inexistence of comparative and collective parameters that help the user to be aware of his/her own consumption. If the conventional cigarette smoker was able to account how many cigarettes were smoked or still remaining in the pack until the end of the day, the ENDS user appears to face difficulties of visualizing how much was used and what is left, losing the capacity to controlling his/her own consumption.

You see the cigarette burning to the end, I smoke because I'm used to it, a ritual, you take the cigarette out of the pack, you light it and you puff, this is the ritual. But vape is not this, you puff and then, you have taken it all during the day and smoked more than one pack, you smoked more than five packs in one day (Young adults, Curitiba).

(...) I use freebase as I told you, it is a juice, the liquid with less nicotine, only 3 mg for a 30 ml vial, that in the end are 60 mg of nicotine per vial, different from a Nixon that contains 50, I use Nixon, use 50, if I use 35 mg I'm not satisfied (Young adults, Teresina).

And even consuming more or less, if someone uses a 3mg juice, he/she smokes more, more frequently because he/she is intaking less nicotine, it is like a mild cigarette, who smokes Marlboro and takes a Free, a Derby, which is very bad, a thing with less nicotine, the difference will appear and will want to smoke another one fast, then I end up vaping because the objective is to reduce nicotine (Adults, São Paulo).

These narratives suggest that diversity of criteria and ambiguity are not only a defense to avoid measuring the own consumption, but a concrete difficulty users have to reflect and evaluate the daily experience of consumption.

A second aspect that challenges the narratives of tobacco reduction is the flow mechanisms, that make the user to lose what is actually used and has difficulty to control the daily use. The mechanism of flow facilitated by lack of material experience that indicate a unit of consumption is amplified by socialization, reinstated in public places. Consumption combined with alcohol is boosted when friends gather. Several interviewees claimed



they lost control of cigarette (regular/electronic) when they drink alcohol.

Because you go out, drink, smoke, and all of a sudden, it is over. Disposables do not show when it is over, you find it is over when it happens. This is the thing with the disposable, you don't see (Young adults, Campo Grande).

If I drank at a party, this is the trigger, I vape the whole day and I don't know if it was too much, the voice changes, breathing and head too, headache (Young adults, Curitiba).

It is complicated to talk about volume because most of them use to relieve the stress among friends. It is tough to tell the volume. I use the 300 hundred puffs, it takes a week or more (Adults, Campo Grande).

As mentioned, an important difference is that ENDS, unlike conventional cigarette, appear to be more accepted even at public places, little restricted in bars, restaurants, nightclubs and in groups of non-smokers. This materiality, which makes consumption measurement difficult, multiplicity of formats, flavors and smells end up by stimulating the curiosity, becoming a theme of conversations among users and social circles:

Back then, cigarettes did this, people got closer, that thing, we smoked together, today as it is difficult to smoke, we are excluded, this is the truth and vape does not do this, it brings people together, that social thing.

Vape appears as something "chatty", it makes you meet new persons, what is your vape, what is the brand, you pick the juice, you pick the nicotine, the flavor, you can make friends with this, two persons are smoking out there, chatting, it seems that vape is kind of bonding, you talk, you share your thoughts (Adults, Curitiba).

## DISCUSSION

The narratives demonstrate the poor knowledge users have about the harms that ENDS can cause, and some of them even claim that ENDS are harmless to their health. ENDS appear to pull away from known problems and associated with smoking, beyond the ambiguity reported in former studies<sup>11</sup>. Many interviewees, for instance, reported that, for not using conventional cigarettes any more, but ENDS instead, they don't see themselves as smokers, and not possible of being affected by already proven diseases.

Reinforcing international studies<sup>15-18</sup>, the interviewees have also shown less perception of social risks, believing that they can use ENDS indoors where they no longer

are allowed to smoke conventional cigarettes, ignoring the current law-mandate bans. They claim that ENDS leave no unpleasant smells as conventional cigarettes, pulling away from stigmatizing behaviors and complaints of second-hand smokers. The variety of smells and flavors allows the use matched to the place, time and types of beverages to the users preferences.

For adults who used to smoke conventional cigarettes in the past, ENDS is an alternative against the pressure to make them quit smoking, a potential negative consequence of this device because smokers can quit smoking conventional cigarettes and start using ENDS believing it is beneficial, but still exposed to many health risks<sup>26,27</sup>.

These considerations led to the concept that this new category of product appears to stimulate a "tobacco symbolic cleansing", upgrading ENDS to a place then occupied by conventional cigarettes – of a pleasant, socializing, and to a certain extent, glamorous use without the inconvenience frequently associated with smoking. In that line, ENDS has little to contribute to tobacco reduction because it diminishes the perception of health-related and social risks<sup>28</sup>.

A key aspect and yet unaddressed by the literature was the difficulty to measure the consumption or even evaluate what excessive use is. Either individually or collectively it seems difficult to define a daily measure of use and determine boundaries and parameters. It is noteworthy that many interviewees affirm that this "ruler" is easily established for conventional cigarettes but very ambiguous for ENDS.

The flow mechanisms which makes the user unable the measure his/her consumption and difficulties to control what they use daily appear to occur because ENDS has no consumption unit; the use of multiple essences and models at the same time appear to block the control of the quantity. Socialization and recently approved places where conventional smoking has been banned, contributes to the loss of parameters while increasing the possibilities of use matched to social relaxing environments combined with alcoholic beverages.

## CONCLUSION

The current study sheds light on two critical and outstanding aspects of the user's perception of ENDS: tobacco symbolic cleansing and difficulties to measure consumption, the latter yet unaddressed by the literature.

Another element is the concept of affordance earlier mentioned, where the materiality influences the interaction of the users with the product. Regardless of damage reduction advertising, ENDS design suggests

compulsion and addiction. ENDS materiality in its many models facilitates: 1) experience of flow; 2) loss of measurement of consumption; 3) elimination of tobacco tracks as smoke, ashes, cigarette butts, in addition to public areas restrictions, distracting the attention of family and friends to the problem.

It is a health-damaging product that, as addiction, takes away the individual's choice after dependence is installed. "Clean", within the symbolic perspective and able to undermine user's control of consumption levels, ENDS can become a great threat for current and future generations.

The study limitations are related to the choice of the method because as a qualitative research with a non-representative sample, it is not possible to be generalized to other populations. The focal group stimulates social dialogue, quite similar to daily interactions where the participants narratives influence one another. Although this aspect contributes to avoid the interviewees to utter too much manicured narratives, because questioning always emerge in the groups, it is necessary to recognize the influence inherent to this process.

The decision to investigate users of classes A and B may not have addressed the experiences of users from underprivileged classes. Although consumption is not quite disseminated in this population segment due to the high price, new studies can include this segment formed by a large number of individuals within the Brazilian context mainly if ENDS becomes affordable in the near future.

Potential future studies utilizing in-depth interviews or ethnographic approaches able to capture unconscious dimensions, more intimate or taboo issues harder to be obtained in focal groups could be promising.

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## CONTRIBUTIONS

Cristina de Abreu Perez and Maribel Carvalho Suarez contributed to the study design, acquisition, analysis and interpretation of the data, wording and critical review. Thaysa Nascimento and Luiza Novais Tavares contributed to the study design, analysis and interpretation of the data and wording of the manuscript. Karina Prince contributed to the study design, acquisition of the data and wording. All the authors approved the final version to be published.

## DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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