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# Compliance of oral snuff (Naswar) packaging and sales practices with national tobacco control laws and the relevant articles of Framework Convention on Tobacco Control in Khyber Pakhtunkhwa Pakistan

### Citation for published version:

Ahmad, F, Khan, Z, Siddiqi, K, Khan, MN, Boeckman, M, Dregger, S, Bauld, L, Zeeb, H & Forberger, S 2020, 'Compliance of oral snuff (Naswar) packaging and sales practices with national tobacco control laws and the relevant articles of Framework Convention on Tobacco Control in Khyber Pakhtunkhwa Pakistan', *Nicotine and Tobacco Research*. <https://doi.org/10.1093/ntr/ntaa144>

### Digital Object Identifier (DOI):

[10.1093/ntr/ntaa144](https://doi.org/10.1093/ntr/ntaa144)

### Link:

[Link to publication record in Edinburgh Research Explorer](#)

### Published In:

Nicotine and Tobacco Research

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**Compliance of oral snuff (Naswar) packaging and sales practices with national tobacco control laws and the relevant articles of Framework Convention on Tobacco Control in Khyber Pakhtunkhwa Pakistan**

Journal:	<i>Nicotine &amp; Tobacco Research</i>
Manuscript ID	NTR-2020-440.R1
Manuscript Type:	Original Investigation
Date Submitted by the Author:	n/a
Complete List of Authors:	Ahmad, Fayaz; Khyber Medical University, Institute of Public Health & Social Sciences Khan, Zohaib; Khyber Medical University, Office of Research Innovation and Commercialization (ORIC) Siddiqi, Kamran; University of York, Health Sciences Khan, Muhammad; Khyber Medical University, Institute of Public Health & Social Sciences Boeckmann, Melanie; University of Beilefeld, Global Sustainable Environmental Health Sciences Dreger, Steffen; Leibniz-Institut für Präventionsforschung und Epidemiologie - BIPS GmbH Bauld, Linda; The University of Edinburgh College of Medicine and Veterinary Medicine, Usher Institute Zeeb, Hajo; Leibniz Institute for Prevention Research and Epidemiology—BIPS, Bremen, Department of Prevention and Evaluation Forberger, Sarah; Leibniz-Institute for Prevention Research and Epidemiology - BIPS
Keywords:	Tobacco control, Policy, Smokeless tobacco, Public health

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Manuscripts

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3 **Compliance of oral snuff (Naswar) packaging and sales practices with national tobacco**  
4 **control laws and the relevant articles of Framework Convention on Tobacco Control in**  
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8 **Khyber Pakhtunkhwa Pakistan**  
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For Peer Review

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7 **Abstract (246 words)**  
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9 **Introduction:** Smokeless tobacco (SLT) is a significant contributor to tobacco related harm in  
10 Pakistan but its control has lags behind that of combustible tobacco. We assessed the compliance  
11 of Naswar's (a widely used SLT product in the Southeast Asia) packaging and sales practices with  
12 the national legislations and relevant articles of the WHO framework convention on tobacco  
13 control (FCTC).  
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20 **Methods:** A cross-sectional observational audit was conducted in three districts of Pakistan. We  
21 recruited 286 general point of sale (GPOS) and exclusive Naswar sellers (ENS) through a  
22 multistage cluster sampling strategy. Data were gathered on packaging and labeling practices of  
23 Naswar and advertisement and promotion practices inside and outside the shops. Statistical tests  
24 for association between the dependent variable- advertisement practices, and independent  
25 variables- area and vendor types were conducted.  
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34 **Results:** We analyzed 133 and 49 unique Naswar products sold in 229 GPOS and by 57 ENS  
35 respectively. None of the local products had any written or pictorial health warning. More than  
36 half of retailers used one or two methods of advertising Naswar inside the shops while only 9%  
37 advertised outside the shops. ENS were more likely to be non-compliant with tobacco  
38 advertisement and promotion compared to GPOS.  
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46 **Conclusions:** The study presents first insights on the compliance of Naswar packaging and sale  
47 practices with local regulations and WHO FCTC provisions in Pakistan. Almost all products were  
48 on display in the shops and none of the local products had any health warning or contents  
49 disclosure on the packages.  
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## Implications

Naswar is a form of SLT used extensively in Pakistan, Central Asia and Pashtun populations across the globe. This study provides an important insight into the Naswar retail environment in a geographical setting where the use of Naswar is endemic. The study brings to fore previously unreported issues like an urban-rural disparity, and differences between exclusive and non-exclusive Naswar sellers, with regards to Naswar advertisement and promotion. These findings have potential implication on the implementation of tobacco control retail policies. Lack of health warnings and free display of Naswar brands call for alignment of tobacco control efforts with the FCTC.

## Introduction

Smokeless tobacco (SLT) refers to tobacco products that are used without burning the product<sup>1</sup> and are consumed orally or via the nose<sup>2</sup>. More than 40 SLT products have been identified across the globe<sup>2</sup> and most are considered carcinogenic by the International Agency for Research on Cancer. More than 90% of the estimated 350 million people using SLT worldwide live in South Asian countries including Pakistan<sup>3 4</sup>. The global adult tobacco survey (GATS) of 2014 estimates that approximately 17 million adults in Pakistan use smokeless tobacco<sup>5</sup>. Paan (Betel quid with tobacco), Gutkha and Naswar are the most common SLT products used in Pakistan<sup>6 7</sup>. Naswar is primarily a combination of dried and powdered tobacco, ash, water and lime with supplementary addition of other ingredients such as cardamom and menthol as flavoring agents and indigo as a coloring agent<sup>8</sup>. Historically, Naswar has mostly consumed by the tribes of South and Central Asia, but it is now also available in other parts of the world<sup>7,8</sup>. Naswar is commonly used by the Pashtun ethnic population of Pakistan, living mostly in the Khyber Pakhtunkhwa, Baluchistan, and Sindh

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3 provinces<sup>9</sup>. An estimated 60% of tobacco consumed in the capital city of Khyber Pakhtunkhwa,  
4 Peshawar, is in the form of Naswar<sup>10</sup>. There, it is available as a moulded solid product, packed in  
5 small transparent poly-ethylene bags. Naswar, produced mostly by informal manufacturers, holds  
6 a nicotine level of 7-26mg/g<sup>8</sup> and TSNAs (tobacco specific nitrosamines) level of 478–1380 ng/g  
7 wet weight<sup>6</sup>. It is highly addictive, far cheaper than cigarettes and culturally acceptable<sup>11</sup>.

15 In 2005, Pakistan ratified the WHO “Framework Convention on Tobacco Control (FCTC)”<sup>12</sup>,  
16 which provides guidance to governments on the regulation and control of tobacco including SLT.  
17 Among the five key demand reduction articles of the FCTC, two articles focus on the packaging  
18 and labeling of tobacco products (Article 11) and tobacco advertisement, promotion and  
19 sponsorship (Article 13)<sup>13</sup>. Product visibility as means of tobacco marketing has become an  
20 important tool for tobacco vendors. Tobacco products are made more noticeable through striking  
21 pack designs, shapes, and by deliberately placing the products on display within the customer’s  
22 view<sup>14</sup>. Evidence shows that brand advertisements at the point of sale (POS), are a key predictor  
23 of tobacco uptake, especially in young people<sup>15,16</sup> and bans on tobacco advertisement and  
24 promotion at the POS have been shown to a decrease in susceptibility to tobacco use among youth  
25 and adults<sup>17-20</sup>. Written and graphic health warnings on product packaging are also an effective  
26 tool in curbing tobacco use<sup>21</sup>, the latter being particularly effective in communicating the  
27 information of health risks to tobacco users, reinforcing their intention to quit, and motivating them  
28 to decrease their daily consumption<sup>22-24</sup>.

48 Although Pakistan has made substantial progress in the policies to control smoking<sup>25</sup>, the progress  
49 on SLT control has been lagging<sup>12</sup>. Pakistan introduced its first tobacco control principal  
50 ordinance, the Cigarettes (Printing of Warning) Ordinance, in 1979. The ordinance and its  
51 subsequent amendments necessitate a combined written and graphic health warning covering 50%  
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3 or more of the cigarette pack, but do not cover other forms of tobacco, despite the FCTC Article  
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5 11 requiring these on all the tobacco products, not just cigarettes<sup>26</sup>. Similarly, tobacco control laws  
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7 in Pakistan prohibit many forms of tobacco advertisement and promotion such as in print and  
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9 electronic media, outdoor advertising and free distribution of products<sup>26</sup>. At the tobacco POS there  
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11 are restrictions on advertising through posters, banners, billboards, or fascia affixed outside a shop.  
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13 In February 2020 a new statutory notification from the Pakistan Government has come into force,  
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15 prohibiting display of tobacco products and advertising tobacco products inside the POS<sup>26</sup>.  
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20 As a signatory of the internationally binding FCTC, Pakistan requires transformation of national  
21  
22 tobacco control laws and subsequently the implementation of these laws in light of the guidance  
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24 provided by FCTC. The national laws are reasonably elaborate for smoking but less clear on  
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26 regulating smokeless tobacco products. This ambiguity can lead to poor implementation and  
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28 compliance. This study reports the compliance of Naswar with applicable national laws on  
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30 packaging and sale practices in the Khyber Pakhtunkhwa province of Pakistan. Additionally, using  
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32 these local products we assess the implementation status of tobacco packaging and sales laws as  
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34 prescribed by the FCTC guidelines (Articles 11 and 13). Moreover, evidence points towards urban-  
35  
36 rural disparities in both tobacco use, and the implementation of tobacco control policies<sup>27,28</sup>,  
37  
38 therefore we explored the association between Naswar promotion and advertisement practices and  
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40 rural or urban location of retailers. Additionally, we assessed the association between the sales  
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42 practices and the shop types, general POS (GPOS) and exclusive Naswar sellers (ENS).  
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## 49 **Methods**

### 50 51 52 **Study setting**



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3 Using a cross-sectional design, we conducted an observational audit study of GPOS and ENS  
4 shops in three districts of the Khyber Pakhtunkhwa province in Pakistan (Peshawar, Mardan and  
5 Bannu). These districts were purposively selected based on the scale of consumption, production  
6 and business of Naswar<sup>29 30</sup>. Collectively these districts have a population of 8.3 million<sup>31</sup>. Each  
7 district has an administrative division of rural and urban predominance called sub-districts or tehsil  
8 councils. Within the Tehsil Council, a “union council” is the lowest administrative unit which is  
9 called a “village council (VC)” in the rural areas and a “neighborhood council (NC)” in urban  
10 settings.  
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### 22 **Study sample**

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24 We recruited two types of shops for observations: GPOS vendors (grocery stores, selling mainly  
25 edibles and convenience stores, selling edibles and other daily use commodities) and ENS vendors  
26 (whole-sale dealers and manufacturers of Naswar who use their manufacturing unit as a sales point  
27 as well). The main eligibility criterion for shops was sale of at least one brand of Naswar. For  
28 products, we sampled the five most popular unique Naswar brands (same brand name product sold  
29 in multiple shops, was not considered) in each selected shop. Foreign Naswar substitutes available  
30 in the form of powdered tobacco, prepackaged in ready to use filter pouches with country of  
31 manufacture mentioned on the packet, were also included in the sample of products.  
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### 44 **Sampling strategy**

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46 We recruited our shop sample based on a multi-stage cluster sampling. We first randomly selected  
47 one predominantly urban and one predominantly rural sub-district/Tehsil council in each selected  
48 district, the primary sampling units (PSU). Next, we randomly selected NCs and VCs, the  
49 secondary sampling units (SSU), from the respective urban and rural settings in each district. To  
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3 recruit the required numbers based on proportionate sampling, we selected 11 NCs and five VCs  
4 in Peshawar, six NCs and four VCs in Mardan, and three NCs and two VCs in Bannu. For selection  
5 of GPOS shops, in each selected NC and VC, we employed systematic sampling and selected every  
6 third eligible shop. For ENS shops, we included all shops in the respective areas as these shops  
7 were fewer and distantly located in every council.  
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### 14 15 **Sample size**

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18 This study was conducted as part of a larger project involving interviews with tobacco POS  
19 vendors and shop observations in Pakistan. In the absence of relevant literature on violation of  
20 laws for SLT products, we calculated the sample based on an observed 10% violation of a  
21 nationally implemented tobacco control law-sale of cigarettes to minors<sup>32</sup>. We used a 5% margin  
22 of error and a design effect of 2.0 (based on cluster size of 10 shops and intra-cluster correlation  
23 coefficient of 0.1). We calculated a sample size of 273 through OpenEpi software (version 3.01)<sup>33</sup>.  
24 Utilizing the findings from a mapping study of SLT POS going on in Peshawar, the estimated total  
25 number of shops was 10,300 in the three districts, 1750 (17%) in Bannu, 3090 (30%) in Mardan  
26 and 5460 (53%) in Peshawar. Based on these estimations, a proportionate sampling scheme was  
27 used. We planned to recruit 50 shops in Bannu, 90 in Mardan and 160 shops in Peshawar. The  
28 same study also revealed that the number of shops in a VC was approximately half to that in an  
29 NC, hence we recruited proportionately, i.e. two shops in a NC for each shop in a VC.  
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### 46 47 **Data collection**

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49 We used an audit tool adapted from a pilot study conducted in three countries of South Asia<sup>34</sup>.  
50 Following the adaptation of the tool to the local settings and study objectives, it was pilot tested  
51 on a sample of 10 GPOS and three ENS shops. The tool (supplementary file 1) is based on the  
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3 relevant FCTC articles. The first section of the tool addressed the packaging and labeling practices  
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5 of Naswar. The second section recorded information on advertisement and promotion practices  
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7 inside and outside the shops. Data on any available foreign Naswar substitutes in the local market  
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9 were also collected. Naswar packs were not purchased but observed on the spot and all packaging  
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11 related features were recorded using a checklist. The data were collected during one visit by a  
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13 trained team of two research team members at each study site. The data collectors initially built  
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15 rapport with the shop owners/managers, then explained the purpose of study and addressed shop  
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17 staff's queries and concerns before obtaining informed written consent. In cases where the shop  
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19 owners/managers were reluctant to give a written consent, verbal consent was obtained instead.  
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### 24 **Ethics approval**

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27 Ethical approval for the study was obtained from the Research Ethics Committee of Khyber  
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29 Medical University. (No. DIR/KMU-EB/ST/000554)  
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### 32 **Data analysis**

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35 Descriptive analyses, including response frequencies and percentages were carried out to describe  
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37 types of stores, naswar packaging, labeling, and practices of advertisement and promotion at the  
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39 POS. For the analyses, we used the data from unique products, removing duplicates. To check  
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41 association between vendor and area type (independent variables) and the advertisement and  
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43 promotion practices (dependent variables) we applied Chi-squared test. We examined the  
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45 association between potential determinants (vendor type and area type) and practices of  
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47 advertisement and promotion inside the shops by calculating crude and adjusted odds ratios  
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49 (adjusted either for vendor type or area type) using logistic regression analysis. All analyses were  
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51 conducted using STATA version-14<sup>35</sup>.  
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## Results

A total of 286 shops were surveyed within the selected villages and neighborhood councils between 10<sup>th</sup> November and 30<sup>th</sup> December 2019. Approximately half of the shops were grocery stores (51%), followed by convenience stores (29%) while 20% were exclusive Naswar shops (Table 1).

We observed 557 Naswar and foreign Naswar substitutes sold at 229 GPOS shops while 76 Naswar products at 57 ENS shops. After removal of the duplicate products, we were left with 133 unique products at GPOS and 49 unique products at ENS shops. All products observed at ENS and around 95% products at GPOS were locally manufactured while only seven products were imported (six from India and one from Afghanistan). Table 2 provides information about packaging and labelling practices of Naswar brands at both types of shops. Among the observed products, a vast majority (98%) of the products did not disclose contents on the packets and were devoid of any detail about the type of ingredients. None of the locally manufactured products had any written or pictorial health warning. Similarly, statements of any health claim or harm trivialization (like xyz is better than cigarettes or it relieves toothache etc) were not present on any of products at both types of shops. The only information available on these products was that related to business identity. Among the six foreign Naswar substitute products **reported at GPOS only**, a written health warning was present on five products. All these health warnings were legible, written in English, covered only approximately 1% of the packet, and gave the unanimous warning statement of “Tobacco is injurious to health”.

Table 3 shows advertisement and promotion practices outside and inside the shops by vendor type (GPOS and ENS shops) and area type (rural and urban). Around 90% of the GPOS and urban sellers while 100% of the ENS and rural sellers displayed their products at the counter or a location

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3 that was freely visible to customers. Advertisement and promotional practices inside the shops  
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5 other than product visibility were, 49% at GPOS, 100% at ENS, 68% at urban and 42% at rural  
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7 shops. Shelf-edging was the most prominent practice of advertisement inside the shops, while  
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9 display packs and bags printed with the brand logo were less common approaches. All the three  
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11 practices inside the shops were significantly different by vendor type while urban and rural vendors  
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13 varied significantly only for shelf edging. The practices outside the shops were less frequently  
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15 observed, 10% at GPOS, 7% at ENS, 14% at urban and around 3% at rural shops and we found a  
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17 significant difference for one practice only, posters displayed, among urban and rural vendors. The  
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19 results of the logistic regression analysis, for determinants of advertisement practices inside the  
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21 shops are shown in Table 4. Visibility of products was not considered in the model as it was already  
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23 practiced 100% in ENS shops and in rural shops. The odds of shelf edging, display packs and use  
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25 of printed bags for advertisement inside the shops were significantly increased among ENS shops.  
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27 Similarly, the odds of shelf edging as a mean of advertisement inside the shops were significantly  
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29 increased among urban shops.  
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### 35 Discussion

36 All observed packets of Naswar were not in accordance with FCTC Article 11, meaning all were  
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38 devoid of any written or pictorial health warning. Although written health warnings were present  
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40 on the Indian substitutes of Naswar, these products constitute less than 5% of the total sample. The  
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42 warnings on these products covered only a very small surface area. Almost all the Naswar brands  
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44 were non-compliant with FCTC's provision of content disclosure with no mention of ingredients  
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46 on the packages. Visibility of the products was high (around 93%) both by vendor type (GPOS  
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48 and ENS shops) and area type (urban and rural). Advertising and promotions outside the shops  
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50 were less prominent than inside and among the approaches of promotion inside the shops; shelf  
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3 edging, display packs and use of printed bags for advertisement were significantly high among  
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5 ENS while shelf edging only was significantly high in urban shops.  
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8 Warnings on tobacco packaging are important for the comprehensive control of tobacco use<sup>36</sup>.  
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10 FCTC Article 11 recommends that packaging should contain different warnings about the health  
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12 effects of tobacco use on a rotating basis and should ideally include images. The warnings should  
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14 cover 50% or more of the principal display areas but shall be no less than 30% of the principal  
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16 display areas<sup>13</sup>. Pakistan's tobacco control law also requires a health warning to cover 60% of the  
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18 cigarette packs and be placed on the front top of the pack in Urdu and on the back top of the pack  
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20 in English. SLT products, however, are not covered by this law, as the definitions of key terms in  
21  
22 the implemented national laws are not completely aligned with the FCTC<sup>26</sup>. Our findings revealed  
23  
24 that none of the products carried any health warning. A pilot survey conducted in three South  
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26 Asian countries found that if existent, health warnings on SLT packs were text-only, were mostly  
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28 concealed, sometimes not in the native language, and not complying with the provisions of FCTC  
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30 Article 11<sup>34</sup>. These findings are replicated here in our current study in which health warnings were  
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32 only found on five Indian products, covering about one percent of the packet. **India is among the**  
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34 **leading countries to implement the law of health warnings on SLT packages and all SLT warnings**  
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36 **since 2011 were accompanied by the text "TOBACCO KILLS"; however, the size (40%), location,**  
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38 **and rotation of warnings remained unimplemented**<sup>37</sup>. Half of the analyzed products had a colorful  
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40 sticker of business identity, and were completely discordant with the tobacco control best practice  
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42 of plain packaging (removal of colors, brand imagery or logos and to print only the brand name in  
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44 an assigned size in addition to required health warnings) policies advocated by the FCTC<sup>38-40</sup>.  
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46 Article 11.2 of FCTC specifies that "each unit package of tobacco products and any outside  
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48 packaging and labelling of such products shall, in addition to the warnings, contain information on  
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3 relevant constituents and emissions of tobacco products<sup>13,41</sup>. Ingredients of smokeless tobacco  
4 products were mentioned on nine out of 16 observed packages in a study conducted in India<sup>42</sup>. The  
5 law of Pakistan does not require to mention the contents of tobacco products on packaging<sup>26</sup>.  
6  
7 Almost all the observed Naswar products and its foreign substitutes were found non-compliant  
8 with this provision of the FCTC.  
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11 FCTC Article 13 calls for a comprehensive ban on tobacco advertising, promotion and sponsorship  
12 (TAPS). This ban covers POS displays of tobacco products along with advertisements and  
13 promotions at the POS, among others<sup>13</sup>. According to national law, many forms of tobacco  
14 advertising and promotion are prohibited, including advertising on domestic TV, radio, certain  
15 billboards, and in print media<sup>26</sup>. Most other forms of advertising and promotion were allowed<sup>26</sup>  
16 until a recently (Feb 2020) approved law, which prohibits the display of tobacco products and  
17 advertising both inside and outside the POS. Regardless of stringent regulations, the tobacco  
18 industry continues to invest profoundly in marketing its products, including SLT<sup>43</sup>, and continues  
19 to target consumers at POS<sup>44</sup>. Naswar, in this study, was found freely visible at more than 90% of  
20 GPOS and in all of ENS shops. Similar findings were reported from Amsterdam with 91.5%  
21 overall visibility of tobacco products, while tobacconists, shops selling tobacco and tobacco  
22 accessories, had 100% visibility of tobacco products<sup>45</sup>. A POS display ban will be implemented in  
23 supermarkets in the Netherlands in 2020 but tobacconists will remain exempt and thus highly  
24 visible. For optimal limitation of tobacco products' visibility and tobacco advertisements, display  
25 bans would need to be all inclusive, covering different types of retailers<sup>45</sup>. Pakistan's national laws  
26 should also cater for specific entities like exclusive Naswar sellers. A review on neighborhood  
27 differences in POS marketing reported targeting of rural and more disadvantaged areas for  
28 marketing of SLT<sup>16</sup>. Naswar in this study was also found visible in all rural shops. Naswar visibility  
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3 was 90% in urban settings either, showing its social acceptability and lack of stringent laws on  
4 tobacco products display (the national law on product display has recently enacted). We observed  
5 that the main focus of Naswar advertisement was the inside of the shops compared to the outside  
6 of the establishment, a finding similar to those from a US study in communities around college  
7 campuses in North Carolina and Virginia<sup>46</sup>.  
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15 There are some limitations to the study, including the fact that it was conducted in only three cities  
16 of the Khyber Pakhtunkhwa province in Pakistan. However, these cities are the major hub of the  
17 Naswar business in Pakistan and products from here are sent all across the country and even  
18 abroad. The new national law on product display was passed after the completion of survey and  
19 the results on product advertisement may be interpreted without considering this law. Nonetheless  
20 our findings can provide a base-line for future studies assessing developments in tobacco  
21 advertisement and promotion related to SLT. Proximity of shops to educational institutes is an  
22 important policy issue, however, given our available resources, it was difficult to accurately gauge  
23 the distances and hence we did not include it in the scope of our study. Another limitation of the  
24 study may originate from the inherent observer bias, bias in recording objective data as a result of  
25 inadequate training in the use of measurement tool or preconceived ideas of observer about the  
26 findings. However, the pilot study in thirteen shops preceding full data collection and carried out  
27 by two independent observers, showed almost perfect agreement in observations. Despite these  
28 limitations, this is the first study assessing the packaging, labeling and advertisement practices of  
29 Naswar in Pakistan. It provides important insights into the various aspects of compliance of the  
30 FCTC and can serve as a baseline measure for future changes.  
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## 52 **Conclusions**

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This study provides first insights into Naswar sale practices in Khyber Pakhtunkhwa in the context of the provisions of the FCTC. None of the observed local products have any health warning or contents disclosure on the packages and almost all the products were available with free visibility in the shops. Shelf edging and display packs were the two main methods of advertising products inside the shops, used by more than half of the retailers. Focusing on the Naswar supply chain may be necessary to increase adherence to FCTC provisions related to smokeless tobacco in Pakistan.

### Acknowledgment

The authors thank ASTRA (Addressing Smokeless Tobacco use and building Research capacity in South Asia) team for utilizing their findings of smokeless tobacco POS mapping study, recently conducted in Peshawar district of Pakistan.

### Competing interests

None declared.

### Funding Note

The research was funded by the German Academic Exchange Service DAAD (project number 574 030 10). The funding agency has no role in any stage of the study. The authors are solely responsible for the content and views in this paper.

**Table 1: Distribution of different types of observed shops by district (N=286)**

Type of shop	Bannu n (%)	Mardan n (%)	Peshawar n (%)	Total n (%)
Grocery store	32 (11.2)	43 (15.0)	72 (25.2)	147 (51.4)
Convenience store	0	17 (5.8)	65 (22.8)	82 (28.6)
Exclusive Naswar shops	18 (6.3)	15 (5.3)	24 (8.4)	57 (20.0)

**Table 2: Packaging and labeling practices of Naswar brands at GPOS and ENS shops**

		Naswar brands at GPOS shops (N=133)				Naswar brands at ENS (N=49)
Packaging and labelling practices		Bannu (n=19)	Mardan (n=55)	Peshawar (n=59)	All brands at POS	Combined for all three districts
Only name of the product mentioned		02 (10.5)	05 (09)	04 (6.8)	11 (8.3)	04 (8.2)
Product name with address of manufacturer		05 (26.3)	20 (36.4)	26 (44)	51 (38.3)	20 (40.8)
Neither name nor address		12 (63.2)	30 (54.6)	29 (49.2)	71 (53.4)	23 (47)
Country of origin of the product	Pakistan	16 (84.2)	52 (94.5)	58 (98.3)	126 (94.7)	49 (100)
	India	03 (15.8)	03 (5.5)	Nil	06 (4.5)	Nil
	Afghanistan	Nil	Nil	01 (1.7)	01 (0.7)	Nil
Contents of the product listed		Nil	03 (5.5)	01 (1.7)	04 (3)	Nil
Any health warning mentioned on the packet*		03 (15.8)	02 (3.6)	Nil	05 (3.7)	Nil

Note. All values are numbers of Naswar brands with percentages.

\*Health warning was present only on Indian products which was written only, no pictorial health warning.

**Table 3: Advertisement and Promotion practices outside and inside the shops by vendor and area type**

	Type of Vendor		P value	Type of Area		P value
	GPOS (N=229)	ENS (N=57)		Urban (N=198)	Rural (N=88)	
<b>Practices outside the shop</b>						
Boards displayed	08 (3.4)	04 (7.0)	0.23	9 (4.6)	3 (3.4)	0.65
Posters displayed	11 (4.8)	Nil	-	11 (6.9)	Nil	0.02*
Stands displayed	04 (1.7)	Nil	-	04 (2.5)	Nil	0.18*
<b>Practices inside the shop</b>						
Products visible to customers	208 (90.8)	57 (100)	0.01	177 (89.4)	88 (100)	0.002
Shelf edging	93 (40.6)	42 (73.7)	<0.001	108 (54.6)	27 (30.7)	<0.001
Display packs	15 (6.5)	09 (15.8)	0.02	16 (8.0)	08 (9.0)	0.77
Printed bags with brand logo	05 (2.1)	08 (14.0)	<0.001	11 (5.6)	02 (2.2)	0.21

Note. All values are numbers of practices with percentages. \* Fisher's exact test is used.

**Table 4: Differences in Naswar promotional practices between GPOS and ENS, and between urban and rural location of the Naswar sellers.**

	Shelf edging		Display packs		Printed bags with brand logo	
	Crude OR (95% CI)	Adjusted OR (95% CI)	Crude OR (95% CI)	Adjusted OR (95% CI)	Crude OR (95% CI)	Adjusted OR (95% CI)

Vendor type						
GPOS	1.0	1.0	1.0	1.0	1.0	1.0
ENS	4.1(2.1-7.8)	4.5 (2.3-8.9)*	2.7 (1.1-6.4)	2.7 (1.1-6.5)*	7.3 (2.3-23.4)	7.5 (2.3-24)*
Area type						
Rural	1.0	1.0	1.0	1.0	1.0	1.0
Urban	2.7 (1.6-4.6)	3.0 (1.7-5.3)**	0.9 (0.4-2.1)	0.9 (0.4-2.1)	2.5 (0.5-11.6)	2.7 (0.6-12.8)

OR=odds ratio, CI=confidence interval, \* adjusted odds ratio are adjusted for area type \*\* adjusted odds ratio are adjusted for vendor type.

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For Peer Review



District:

Area:

Shop ID:

**STOP-Survey-Observations (complete from observing shop and SLT products)**

**From Section 3: Packaging and labelling**

For each smokeless tobacco product:

	Name of product	1.	2.	3.	4.	5.
<b>3.5</b>	<b>3.5 Does the product state the name/ address of the manufacturer?</b>					
3.5.a	a) Name only	yes=1 no=0				
3.5.b	b) Address only	yes=1 no=0				
3.5.c	c) Name and address	yes=1 no=0				
3.5.d	d) Neither name nor address	yes=1 no=0				
3.5.e	e) Illegible name/ address	yes=1 no=0				
<b>3.6</b>	<b>3.6 What is the country of origin of the product? Pakistan=0, India=1, Afghan=2</b>					
<b>3.7</b>	<b>3.7 Are the contents of the product listed on the packaging?</b>					
	a) Yes	1				
	b) No	0				
	c) Illegible contents list	2				
<b>3.8</b>	<b>3.8 Is weight per content given?</b>					
	a) Yes	1				
	b) No	0				
<b>3.9</b>	<b>3.9 Are there any statements on the packaging and labelling making any health claims?</b>					
	a) Yes	1				
	b) No	0				
3.9.1	c) If yes, what claims?					
<b>3.10</b>	<b>3.10 Are there any statements on the packaging and labelling trivialising harms?</b>					
	a) Yes	1				
	b) No	0				
3.10.1	c) If yes, what are these?					
<b>3.11</b>	<b>3.11 Is there a health warning on the package?</b>					
	a) Yes	1				
	b) No – Go to next Section	0				
3.11.1	c) If yes, is it: (i) written?					
	(ii) Pictorial?	2				
	(iii) Both?	3				
	(iv) NA	0				
3.11.1.a	d) If written, what proportion of the package does it cover?					
3.11.1.b	e) If written, is it legible? (Y/N) yes=1 no=0					
3.11.1.c	f) What does it say?					
3.11.1.d	g) What language is it written in?					

3.11.1.e	h) If pictorial, what proportion of the package does it cover?					
3.11.1.f	i) What does the picture depict?					

**From Section 5: Tobacco advertising, promotion and sponsorship:**

<b>5.3</b>	<b>5.3 Are there any point-of-sale displays of the following types for any tobacco product OUTSIDE the shop? (State what type of tobacco product)</b>				
5.3.a	a) Boards	Yes	1	No	0
5.3.b	b) Banners	Yes	1	No	0
5.3.c	c) Posters	Yes	1	No	0
5.3.d	d) Stands	Yes	1	No	0
5.3.e	e) Any other types of advertising?	Yes – please state		No	0
<b>5.4</b>	<b>5.4 Are there any point-of-sale displays of the following types for any tobacco product INSIDE the shop? State what type of tobacco product)</b>				
5.4.a	a) Shelf edging	Yes	1	No	0
5.4.b	b) Dummy packs	Yes	1	No	0
5.4.c	c) Display packs	Yes	1	No	0
5.4.d	d) Display stands	Yes	1	No	0
5.4.e	e) Any other types of advertising? Big printed bags=2	Yes – please state		No	0



**Reviewer: 1**

## Comments to the Author

It is an interesting topic to explore within the context of Pakistan, specifically focusing on exploring exclusive and non-exclusive sellers in relation to smokeless tobacco advertising and promotion. The authors have explained the rationale for conducting this study well and the methods have been explained in details.

Few comments for consideration:

**Comment**

Did the ENS not sell other smokeless tobacco products?

**Response**

No, they do not sell other smokeless tobacco products and its even obvious from the fact that we throughout the study call them ENS-Exclusive Naswar Sellers. The six Indian products were reported only at general POS (highlighted in results section).

**Comment**

It was not clear why compliance of a specific smokeless tobacco product (naswar) was selected to examine, when the vendors presumably sell other smokeless tobacco products as well.

**Response**

Naswar is consumed throughout the country but mostly used in Khyber Pakhtunkhwa (KP) province, where we conducted the current study. Moreover, previously some vendors of KP used to import gutka from Sindh province but since October 2019 the manufacture and consumption of gutka is officially banned in Sindh and consequently the import to KP has also been stopped. it is the only locally made and easily available smokeless tobacco product in the province and this is why it was our prime focus for this study. Being residents of the study area, we knew the fact that more than 90% of the general POS vendors are selling Naswar only among the smokeless tobacco products. Although we were open for other smokeless tobacco products but as expected, out of 133 examined products and 229 GPOS shops, only six foreign products were encountered.

**Comment**

Table 3: It needs to be explained what does p indicate there. If that's the findings of chi-squared tests for comparison between urban and rural, how the authors derived the p value with nil number in one group. That happened for couple of variables in the table. Findings of the table needs to be interpreted well in the text as well.

**Response**

Thank you for bringing this up. For the two variables i.e. posters displayed and stands displayed, for difference between GPOS & ENS, we have no value for ENS resulting in absence of one



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3 whole column and that's why p-value was not calculated. For Rural & Urban vendors, value is  
4 missing only in one cell of 2\*2 table (yes and no in the rows) and in such case chi-square or  
5 fisher's exact test can still calculate p-value (*Fleiss JL, Levin B, Paik MC. Statistical methods for*  
6 *rates and proportions. john wiley & sons; 2013 Jun 12*). We have used fisher's exact test which  
7 is mentioned now in the table. Findings of the table are now further elaborated in the last para of  
8 results (highlighted).  
9  
10

### 11 **Comment**

12  
13 Further details of the vendors and localities such as proximity to schools, tobacco prevalence in  
14 the study areas etc. could assist in understanding implications of the significant findings.  
15

### 16 **Response**

17  
18 Proximity of shops to educational institutes is an important policy issue, however, given our  
19 available resources, it was difficult to accurately gauge the distances and hence we did not  
20 include it in the scope of our study. We have now acknowledged this in our limitations.  
21 Additionally, based on our previous work with the vendors, the issue of proximity with schools  
22 is more common for private schools, who often shift from one rented building to the other and  
23 makes it difficult for policy implementation.  
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### 28 **Reviewer: 2**

29  
30 Comments to the Author

### 31 **Comment**

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34 The introduction provides a good overview of the problem. However, I think the objective of the  
35 study can be made clearer. Given Pakistan does not have a packaging and labeling law for SLT  
36 products, assessing "compliance" of health warning labels and other requirements on SLT  
37 packages seems rather confusing. To make the study objective simpler and more relevant, the  
38 author may wish to change the narrative from 'compliance assessment' to 'implementation status  
39 of packaging law on SLT products in the context of the FCTC guidelines'. The same can be  
40 reflected in the title of the paper.  
41  
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### 43 **Response**

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45 Thank you for the very appropriate suggestion. We have now revised the objective as suggested.  
46

### 47 **Comment**

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49 In the methods section, the author should probably provide more details on the timeline of the  
50 study and data collection, especially given that the new TAPS regulation went into effect in Feb  
51 2020. Under the 'study sample' section, the author states that "For products, we sampled the five  
52 most popular unique Naswar brands in each selected shop.."; does "unique" in this sentence  
53 refers to the original set of observed packs mentioned in the results section or is it the number of  
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3 packs left after the duplicates were removed? In either case, the author should consider defining  
4 what was considered as a “unique” pack.  
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### 6 7 **Response**

8 This whole study was conducted in around 2 months along with completed data collection and  
9 this detail is mentioned in the first para of results (between 10<sup>th</sup> November and 30<sup>th</sup> December  
10 2019). “Uniqueness” was defined previously in the section of data analysis but has now been  
11 relocated under the “study sample” (see highlighted) to avoid confusion. Moreover, we have  
12 considered only unique products in the results and this is elaborated at the start of second para in  
13 results. (After removal of the duplicate products, we were left with 133 unique products at GPOS  
14 and 49 unique products at ENS shops.)  
15  
16

### 17 18 **Comment**

19 In terms of the product (Naswar) itself, were products that were packaged [in a transparent poly-  
20 ethylene bag] by the seller at the time of purchase also included in the sample? If yes, I am  
21 curious how was the compliance assessment done in this case?  
22  
23

### 24 25 **Response**

26 Yes, all of these Naswar brands are packed in poly-ethylene transparent bags but some of them  
27 are printed bags, some ENS vendors apply a sticker of identification on the bag while some  
28 vendors keep it without any sticker or printing. We included these products in analysis based on  
29 in-shop coding by the data collectors, who confirmed the uniqueness of the product through the  
30 retailer. Products with clear packaging have been dealt as non-compliant with the relevant  
31 laws/FCTC articles.  
32  
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### 34 35 **Comment**

36 The results show that foreign (Indian) SLT packs were carrying a health warning label – I think  
37 it’s important to highlight this in the discussion section, with emphasis on how other countries  
38 are adopting packaging policies that apply to all products, including SLT.  
39

### 40 41 **Response**

42 Thank you for the excellent suggestion, two sentences have been added in discussion part  
43 (highlighted).  
44

45 Overall, I think this is important work, especially because of the extent of SLT use in Pakistan  
46 and the lack of local evidence on national tobacco control policies around SLT. This also helps  
47 in highlighting the loopholes that exist in the current packaging and labeling law for Pakistan.  
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