RE-EMERGENCE OF TRADITIONAL TOBACCO PRODUCTS USAGE IN SOUTH AFRICA: AN UNINTENDED CONSEQUENCE OF EXISTING TOBACCO CONTROL POLICY

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ABSTRACT

South Africa has made observable and globally acknowledged successes in tobacco control. This paper examines a decade of the response to tobacco control policy in South Africa. It draws on previously published data and preliminary results from a recently conducted national survey of patterns and forms of tobacco products used in South Africa. Results suggest that smoking prevalence has decreased from 34% in 1993 to 21.4% in 2003, albeit a slower decline in the last five years among males. Similarly, smokeless tobacco (snuff) use has decreased from 12.6% in 1998 to 8.4% in 2003 among black South African women, and from 18.2% in 1999 to 14.5% in 2002 among adolescents. This is despite the lack of excise tax on snuff. However, the use of snuff, previously used only by the elders, remains high among adolescents. The use of hand-rolled smoked-tobaccos accounted for 19% of total tobacco consumption and it is especially common among the socially disadvantaged group in South Africa. The continued prominence of the use of traditional nicotine-delivery vehicles – snuff and hand-rolled smoked tobaccos - may represent consumers’ method for compensating for the increases in cigarette prices. Indeed, an unintended consequence of the existing policy environment. The study highlights the need to establish culturally relevant tobacco cessation services and suggests the need for a combination of tax reform and product regulation.

KEY WORDS: hand-rolled cigarettes; snuff; traditional nicotine-delivery; South Africa

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INTRODUCTION

Tobacco use has been identified by the World Health Organization as the most preventable cause of death and disability in the world. There are 1.1 billion people who smoke, of which 82% live in low- and middle-income countries (World Bank, 1999). In recognition of the threat tobacco use poses to health and social development, a remarkably consistent tobacco control (TC) policy has been followed in South Africa (SA) over the past ten years. Notable are the strong legislative actions set within the Tobacco Products Control (TPC) Act of 1993 (Act 83 of 1993), followed by the TPC amendment Act of 1999 (Act 12 of 1999). Smoking prevalence reduced from 34% in 1995 to 25% in 1998 (Steyn et al., 2002). Between 1993 and 2000 per capita cigarette consumption in South Africa decreased by about 40% (van Walbeek, 2003). These significant decreases have been ascribed to a consistent annual increase in the real retail prices of cigarettes especially since 1994, which is in support of the objectives of the legislation. However, most of the decrease in per capita cigarette consumption has been explained by a reduction in average consumption of smokers (cigarettes) and to a lesser degree by reduction in smoking (van Walbeek, 2002).

A large number of international and local studies focused on population-trend analysis of tobacco consumption have been based on estimations from sales volume of manufactured cigarettes and reported smoking prevalence. However, tobacco consumption in Africa may be grossly underestimated if only manufactured cigarette products were used for such determinations. This is due to the continued availability of cheap traditional nicotine-delivery vehicles – the traditional tobacco products (TTP). TTP in the present context include non-cigarette products - smokeless tobacco (SLT) (marketed nationally as Snuff), hand-rolled smoked-tobacco and native-pipe smoking. For instance, between 1992 and 1995 the consumption of SLT in South Africa increased by about 30% from 1.1 million kg to 1.5 million kg (Tobacco Board, 1995). The SLT consumption figures however may not have even taken into account volumes of home-made/traditional snuff products consumed by almost half of SLT users (Ayo-Yusuf et al, 2000), who are mainly black/African women (Steyn et al., 2002). Little is known of the current use of hand-rolled cigarettes in South Africa.

Recognizing the potential of economic incentive for product switch and the fact that no tobacco product is harmless, in order to fully understand the impact of tobacco control policy on total tobacco burden in South Africa...
or in any other African nation, it is considered important to monitor the use of various forms of tobacco products by the population. The present study sought to provide a descriptive analysis of current trends in the consumption of commercial cigarette and the more traditional nicotine-delivery vehicles – snuff and hand-rolled cigarettes, in South Africa. The findings are discussed within the context of the existing tobacco control policy environment.

METHOD

This study is based on both primary and secondary data analysis. The primary data were obtained from a recent survey of a geographically representative random household sample of South Africans that are 16 years and older (N=2855). The interviewer-administered questionnaire on tobacco use pattern was included in South Africa’s Social Attitude Survey (SASAS) that was conducted by the Human Sciences Research Council (HSRC) of South Africa during August-September 2003. Secondary data included, were obtained from local published surveys/reports on tobacco use and related government policy documents covering the periods between 1993 and 2003. In order to assure consistency, the results of the recent survey are compared to figures obtained from similar national household surveys of tobacco use, conducted in 1995 (Reddy et al., 1996) and 1998 (Steyn et al., 2002). All data presented are weighted to provide South African estimates. Taking the multistage stratified survey design into account, prevalence rates with 95% confidence intervals (CIs) were calculated from the recent survey data.

In the comparable household surveys (1998 and 2003), regular smokers are those who reported daily smoking or non-daily smoking (at least smoked once within the 30 days preceding the time of interview). Ex-smokers or quitters are those who regularly smoked in the past, but did not smoke at all at the time of the interview. In the 1998 survey and the recent survey reported here, where SLT consumption was documented, current SLT users were those who reported use of snuff at least on one day within 30 days preceding the time of the interview.

The secondary data on adolescent tobacco use was drawn from the report of the two waves of the global youth tobacco survey conducted in South Africa during 1999 and 2002 (Swart et al., 2004). The results presented in this study were therefore based on comparable data available for the periods 1998 and 2003 for the adults, and between 1999 and 2002 for the adolescents.
In order to translate results to the different population groups with different reporting periods, standardised annual trend was presented in terms of relative change in tobacco use rates between the two reporting periods (Table 2). Socio-demographic differences in current tobacco use patterns obtained in the 2003 survey were tested using Fisher’s exact test and chi-square statistics, with the level of significance set at $p<0.05$. Statistical trend analysis could not be performed, as there were only two waves of cross-sectional data that were comparable. However adapting the analytic methods suggested in Wild et al. (2004), in comparing the two surveys, if the CIs do not overlap, there is a significant ($p<0.025$) difference between the two surveys. If the CIs overlap, but not to the extent that the point estimate obtained in one survey is contained within the CI of the other survey, there is a significant ($p<0.05$) difference between the two surveys. If they overlap to the extent that the point estimate of one survey is contained within the CI of the other survey, no conclusions as to whether there is a significant difference between the surveys can be drawn.

Cigarette affordability in South Africa was compared to that of selected countries. This was done by calculating an affordability ratio, based on the reported minutes of labour required to buy 1kg of bread relative to minutes of labour required to buy a cigarette pack (Guindon et al., 2002). The higher the affordability ratio the more affordable are cigarettes in that country.

RESULTS

Tobacco consumption

As shown in Table 1, South Africa has relatively less affordable cigarette prices. Tobacco use has decreased across all socio-demographic classes and the annual rate of decline in tobacco use among women is more than that among men.

Table 1. South Africa cigarette affordability compared to selected countries (adapted from Guindon et al., 2002)

<table>
<thead>
<tr>
<th>Country</th>
<th>Minutes labour/1kg bread (a)</th>
<th>Minutes labour/cigarette pack (b)</th>
<th>Cigarette affordability ratio (a/b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>6</td>
<td>40</td>
<td>0.15</td>
</tr>
<tr>
<td>India</td>
<td>34</td>
<td>90</td>
<td>0.38</td>
</tr>
<tr>
<td>Kenya</td>
<td>64</td>
<td>125</td>
<td>0.51</td>
</tr>
<tr>
<td>South Africa</td>
<td>11</td>
<td>20</td>
<td>0.55</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>15</td>
<td>27</td>
<td>0.56</td>
</tr>
</tbody>
</table>
A significant (p<0.05) decline in smoking rates among adult and adolescent females was observed when compared to smoking rates in 1998 and 1999 respectively (Table 2), but the same could not be said about smoking rates among adult males. However, women are still significantly more likely to use SLT than men (6.6% vs 0.4%; p<0.01) (Table 2).

Table 2. Prevalence of tobacco-use in South Africa between 1994-2004

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1998</th>
<th>2003</th>
<th>% Annual change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Smoking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52</td>
<td>42.3</td>
<td>36.4 (29.7-43.6)</td>
<td>-2.8</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>10.7</td>
<td>8.3 (6.5-10.5)*</td>
<td>-4.5</td>
</tr>
<tr>
<td>Adolescent Smoking</td>
<td>N/A</td>
<td>28.8 (24.5-33.1)</td>
<td>26.7 (23.5-29.9)</td>
<td>-2.4</td>
</tr>
<tr>
<td>Male</td>
<td>17.5 (13.1-21.9)</td>
<td>11.5 (9.2-13.8)*</td>
<td>-11.4</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.9</td>
<td>0.4 (0.2-1.0)</td>
<td>-11.1</td>
<td></td>
</tr>
<tr>
<td>Adolescent smokeless tobacco use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>N/A</td>
<td>10.2</td>
<td>6.6 (4.9-8.9)*</td>
<td>-7.1</td>
</tr>
<tr>
<td>Female</td>
<td>12.6B</td>
<td>8.4B</td>
<td>-6.7</td>
<td></td>
</tr>
<tr>
<td>Adolescent other tobacco products usage (mainly Snuff)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>N/A</td>
<td>20.7 (16.7-24.7)</td>
<td>15.9 (14.5-17.3)*</td>
<td>-7.7</td>
</tr>
<tr>
<td>Female</td>
<td>15.1 (11.3-18.9)</td>
<td>13.1 (11.2-15.1)</td>
<td>-4.4</td>
<td></td>
</tr>
</tbody>
</table>

*Represents the prevalence among the Black/African women population group.
§Represents average annual percent change over the period 1998/99-2002/3.
*Indicates statistically significant change (p<0.05).

Of those who indicated current use of any tobacco product during 2003 survey, 85.2%, 19.1% and 12.1% were in the form of manufactured cigarettes, hand-rolled cigarette tobacco and snuff respectively (Table 3). Black/African South Africans are significantly less likely to use...
manufactured cigarettes as a nicotine-delivery vehicle, when compared to other population groups (Table 3) and black/African women in particular are more likely to use traditional tobacco products, such as snuff.

**Table 3.** The various tobacco products as a proportion (%) of total tobacco used across gender during 2003

<table>
<thead>
<tr>
<th>Product</th>
<th>Gender</th>
<th>Black/Africans</th>
<th>Coloured</th>
<th>Indians/Asians</th>
<th>Whites</th>
<th>Row average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufactured cigarettes</td>
<td>Male</td>
<td>97.8</td>
<td>98.7</td>
<td>91.3</td>
<td>96.1</td>
<td>96.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35.2*</td>
<td>94.4</td>
<td>94.1</td>
<td>100</td>
<td>57.9</td>
</tr>
<tr>
<td></td>
<td>Column average</td>
<td>75.9*</td>
<td>96.4</td>
<td>92.1</td>
<td>97.5</td>
<td>85.2</td>
</tr>
<tr>
<td>Hand-rolled cigarettes</td>
<td>Male</td>
<td>38.3</td>
<td>46.6*</td>
<td>4.4</td>
<td>3.9</td>
<td>21.9</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>15.2</td>
<td>32.4*</td>
<td>5.9</td>
<td>0</td>
<td>12.2</td>
</tr>
<tr>
<td></td>
<td>Column average</td>
<td>30.2</td>
<td>38.8*</td>
<td>4.8</td>
<td>2.5</td>
<td>19.1</td>
</tr>
<tr>
<td>Smokeless tobacco (snuff)</td>
<td>Male</td>
<td>1.1</td>
<td>1.1</td>
<td>0</td>
<td>0</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>64.1*</td>
<td>3.7</td>
<td>0</td>
<td>0</td>
<td>40.2</td>
</tr>
<tr>
<td></td>
<td>Column average</td>
<td>23.2*</td>
<td>2.6</td>
<td>0</td>
<td>0</td>
<td>12.1</td>
</tr>
</tbody>
</table>

*Statistically significant pair-wise comparison across row (Chi-square or Fisher’s exact test; p<0.05).

NB: Column averages add up to greater than 100% because of concomitant use of products.

More than five percent (5.4%) of the population indicated current use of hand-rolled cigarettes during the 2003 survey. Of those who currently use hand-rolled cigarettes regularly, 6.5% also reported concurrent use of manufactured cigarettes (data not displayed).

**DISCUSSION**

The tobacco control policy in SA has been focused around 3 basic pillars viz. (1) a ban on advertising and sponsorship, (2) restrictions on smoking in public places and by youth, and (3) rapid increase in tobacco taxes, which
has been the key component of tobacco control policy response in South Africa. This has resulted in the decrease in smoking prevalence from 34% in 1995 to 21.4% in 2003. At the current smoking prevalence, these tobacco control initiatives have resulted on average, to a total of 40% reduction in tobacco-use prevalence in South Africa since 1995 (5% annually), while the government revenue from taxes doubled over the same period (van Walbeek, 2003). Indeed the real price of cigarettes rose by 111% during 1992 and 2001, representing an average annual increase of about 8% (van Walbeek, 2003). Nevertheless, with the total tax burden remaining at about 50% of cigarette retail price (van Walbeek, 2003) and, as can be seen from the relative affordability data, there is still the opportunity for price increases in South Africa.

Our analysis contrasts with previous reports that as at the year 2000 women had not realised the smoking reduction rates that were seen among men (van Walbeek, 2002). Our findings therefore suggest that the introduction of the TPC amendments (Act 12 of 1999) in 2000 banning smoking in public places, may have had considerably greater effect on making women quit smoking or not taking up smoking. The finding that there is a greater decline in smoking rates among children is consistent with the view that price increases have a greater effect on children with respect to promoting smoking cessation or deterring uptake (Levy et al., 2004).

The present study also demonstrates that SLT use in South Africa (commonly used through the nose and less commonly used orally), has decreased appreciably, even though it remains the only tobacco product not subject to excise in South Africa. Contrary to observations from Sweden (Foulds et al., 2003; Tomar et al., 2003), our results suggest that a decrease in smoking is not associated with an increase in the use of SLT as we have observed a decline in both SLT and smoking prevalence. The reduction in SLT use may be attributable to an increased awareness of health risk associated with SLT use, as the TPC Act of 1993 required SLT manufacturers to include on packages the warning label, ‘Causes cancer.’ Nonetheless the prevalence of SLT use still remains high among black South African women, and now among adolescents.

Although we have promising results, and for the tobacco excise tax increases to be further effective, it should not create incentives for people to shift their tobacco consumption from one form to another, to the extent that it undermines tobacco-use quit rates. Contrary to previous reports that over 90% of tobacco use is in the form of cigarettes (van Walbeek, 2003), manufactured cigarettes may now represent less than 90% of the tobacco consumption pattern. This apparent shift in tobacco consumption patterns may partly be responsible for the levelling-off of the rapidly decreasing
smoking prevalence observed before 2003. The average annual decrease of 4% observed between 1998 and 2003 as determined from this study compares with what would be expected in high-income countries that follow similar tax increases, but compares less favourably with the average annual decrease rate of 8.8% observed between 1995 and 1998, which is in line with what is expected as a response to price increases in low-income and middle-income populations (Levy et al., 2004). The use of hand-rolled cigarettes may represent compensation for manufactured cigarettes price increases, especially among black/Africans, who traditionally have less education and disposable income. Tax increases on cigarette and non-cigarettes (cigarette loose-tobacco, pipe tobacco and cigars) products were similar until 1999 when tax increases on these non-cigarette products were made substantially greater (van Walbeek, 2003). However, the per cent increase on cigarette tobacco (used for hand-rolled cigarettes) returned to that of manufactured cigarettes by 2002, while that on the less commonly consumed ‘exclusive’ pipe-tobacco and cigars remained higher. The evidence from the present study supports the need for policy actions to reduce the incentives for product switch that sustains addiction and may even increase the risk of harm in the case of hand-rolled cigarettes.

The policy goal should remain at encouraging the quitting of tobacco use. In this regard, specific policy responses could include increasing the public awareness of the known and potential adverse health effects associated with SLT use. The hand-rolled cigarette tobacco packaging would also need to be regulated further. The hand-rolled cigarette tobacco is presently available in various sizes with the smallest being the 5g pack. This is equivalent to about 5 sticks of manufactured cigarettes, but sold at one-third the equivalent cost of manufactured cigarettes, yet it would probably deliver higher quantities of nicotine. This loose cigarette-tobacco packaging subverts the regulation that prohibit sales of ‘loose’ manufactured cigarettes, which was meant to place the cost of a pack of 20 cigarettes out of the reach of current or potential smokers. Considering the fact that these hand-rolled tobaccos are smoked rolled in newspapers without filters, thus potentially more dangerous, it is recommended that the government continues to pursue the policy of higher tax increases on this product in order to discourage its use. Furthermore, the sale of 5g packages of these cigarette products should be discouraged by exclusion from the market through regulation.

It is pertinent to note that the highest proportion of hand-rolled cigarette users were found among the coloured men and women. When this observation is combined with the continued popular use of snuff among the black women and the still high cigarette smoking prevalence among the
coloured, Indian and white female population, it is conceivable that the total
tobacco-related health burden on the female population group will increase
if appropriate action is not taken to curb these trends. The continued
popularity of snuff and now hand-rolled cigarettes is of concern as it has
implications for increasing harm in the largest female population group –
black/Africans. In particular, in addition to the known risks for dependence,
cardiovascular disease (Bolinder et al., 1992), oral cancer (Idris et al., 1991)
and cancer of the upper respiratory tract (Rodu et al., 2002), the use of snuff
in pregnancy has also recently been shown to be associated with significant
risk for adverse reproductive outcomes (England et al., 2003). Laboratory
analysis of a traditional SLT product used widely and intensively in the
some part of the African region, has demonstrated that it contained 20-100
fold higher levels of carcinogens compared to similar industrialised
products consumed in Western countries (Idris et al., 1991). Similarly,
industrialised South African SLT brands have been recently shown to have
the highest nicotine-delivery capability ever reported for any industrialised
SLT, which are mostly from the western nations (Ayo-Yusuf et al., 2004).

The fact that tobacco is locally grown and is readily available
(especially in the non-urban areas) for use in the making of these traditional
nicotine-delivery vehicles, possesses a particular challenge for control. This
further emphasises the need for a concerted effort by the South African
government to promote cessation through the establishment of cessation
services, which are currently almost non-existence. The smoking quit rates
among non-white South Africans remain considerably lower than that
observed among the white population (Steyn et al., 2002). In line with the
provisions of the WHO’s Framework Convention on tobacco control
(FCTC) (WHO, 2003), there is a need to engage the support of all health
professionals and particularly the indigenous health practitioners (traditional
healers). This is because the indigenous health practitioners have significant
community influence on issues such as social proscription on smoking, and
there are cultural roles ascribed to SLT use in the black/African
communities that may be viewed as at conflict with ‘western-driven’
messages focussed against SLT consumption (Ayo-Yusuf et al., in press).
Furthermore, the impending amendment to current legislation that may see
the introduction of pictorial warnings on packages of all tobacco products
will assist in better communicating the health risks associated with the use
of these particular products to its consumers who are often not literate
enough to read the current text warning labels.
CONCLUSION

During the past decade, South Africa has made remarkable progress in reversing the overall tobacco epidemic. However, the continued popularity of traditional nicotine-delivery vehicles remains an outstanding threat for sustained progress in controlling the overall tobacco burden in South Africa, especially among black/Africans. Within the limitations of the current study - namely descriptive trend analysis of cross-sectional data - the re-emergence of traditional nicotine-delivery vehicles could be considered an unintended consequence of the price strategy, and represents compensation for increases in cigarette prices, especially by the economically vulnerable groups – children and women. Several cultures with intrinsic value systems exist in Africa, and if we are to address social inequities in tobacco burden, tobacco control strategies and policies must also begin to respond within these value systems. The findings and policy recommendations from this study may also be relevant to the development and implementation of culturally responsive and gender-sensitive tobacco control policies in downstream countries in Africa. Further studies on the social distribution of policy impacts are recommended.

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