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TOBACCO SMOKING IN BLACK AND WHITE SOUTH AFRICANS

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ABSTRACT

Objectives: To provide data on black and white South Africans' tobacco use status, belief in the benefits to health of not smoking, risk awareness in terms of knowledge of the links between smoking and disease, health status, subjective health status and well-being.

Design: Randomised study.

Setting: Two urban communities in the Northern Province of South Africa.

Participants: Two hundred and fifty blacks and 250 whites. The black participants were 100 (40%) men and 150 (60%) women in the age range of 18 to 80 years (mean = 38.9 years, SD=4.7), and the white participants were 111 (44.4%) men and 139 (55.6%) women in the age range of 19 to 91 years (mean = 41.8 years, SD=3.5).

Main outcome measures: A measure of smoking, health benefits, risk awareness, health status, subjective health and subjective well-being.

Results: The average prevalence of current smoking was 11.2% in Blacks, 23.6% in whites, 31.8% in men and 6.9% in women. Age, being male, being white, and being married or living with a partner were significantly positively associated with smoking status and smoking frequency. Risk awareness of the negative effects of smoking and the belief in the importance of not smoking were both significantly negatively associated with both smoking status and smoking frequency.

Conclusion: The prevalence of smoking tobacco, especially among males and Whites as well as the low risk awareness of smoking is a cause of concern. Stronger beliefs in the importance of not smoking, being female and lower age were identified as independent predictors among non-smokers than smokers.

INTRODUCTION

Tobacco consumption is a major, worldwide health hazard. In South Africa, tobacco use is a major public health concern as it has severe consequences for smokers, non-smokers and the economy(1,2). Yach(2,3) reports that tobacco use among blacks is rising in South Africa. Reddy *et al*(4), studied smoking status in a national adult sample in South Africa, perceptions on the health effects of tobacco and attitudes towards tobacco control. The provinces with the highest smoking rates were the Northern Cape (55% of adults smoked) followed by the Western Cape (48% of adults smoked). The rural Northern Province had the lowest smoking rates where only 14% of adults smoked. Compared to a previous similar national survey in 1992, the total number and percentage of smokers had increased by one per cent per year(3). The knowledge of health effects was that 87% agreed that the health effects of smoking were serious or very serious.

For the country as a whole, lung cancer already accounts for 24% of all deaths from cancer in men, and 10.6% of all such deaths in women. A study of cigarette smoking in the black township population of Cape Town showed that the smoking prevalence among adults was 53% in men compared to six per cent in women(5). Steyn *et al*(6), conducted a similar study and found that about 52% of the men, but only eight per cent of the women used tobacco regularly. Men

and women who smoked cigarettes, smoked 9.6 and 4.3 cigarettes on average per day, respectively. Among rural primary health care patients in the Northern Province of South Africa, Peltzer(7) found past six months smoking of cigarettes of 42.6% among men and 0% among women. In 1995, in the Northern Province, 38% of African men and 2.1% of women were current smokers. In the same study the national current smoker average for African men and women was 53% and 10%(4).

While it seemed that the majority of people were aware of the serious health effects of active and passive smoking, Reddy *et al*(4) called for research on the psychosocial and contextual determinants of smoking behaviour since current information is not yet comprehensive.

Many factors affect smoking, including cultural norms, social influences and economic constraints. Psychological models of health behaviour emphasise the relevance of cognitive factors such as attitudes and risk awareness. Two major cognitive variables relevant to tobacco consumption were included in this survey. The first was risk awareness, operationalised in terms of knowledge of the links between smoking and two diseases: lung cancer and coronary heart disease. Ignorance of the risk factors associated with tobacco use has been reported in a number of surveys(4,8). Reddy *et al*(4), found in a national sample in South Africa that only 58% were aware that cancer was

associated with smoking and 36% associated heart disease with smoking. It might therefore be predicted that fewer users than non-users will be aware of the role of tobacco use in major diseases. The purpose of this study was to identify the prevalence and psychosocial correlates of smoking in black and white South Africans in the Northern Province.

MATERIAL AND METHODS

Sample and procedure: The sample included 250 blacks and 250 whites in a formerly white and black urban area in the Northern Province of South Africa. The Black participants were 100 (40%) men and 150 (60%) women in the age range of 18 to 80 years (mean = 38.9 years, SD=4.7), and the white participants were 111 (44.4%) men and 139 (55.6%) women in the age range of 19 to 91 years (mean = 41.8 years, SD=3.5). Most participants across the cultures came from a well-off economic background and most had at least secondary education. However, there were very significant differences with regard to socio-economic indicators and culture; whites having many more cars, being more well-off and more educated, in that order than blacks.

Participants were chosen by a one-in-twenty systematic random telephone sampling, excluding non-residential numbers, from the directory of one formerly black and one formerly white urban area. A research assistant trained in interviewing made telephone calls until in each sample 250 participants were identified. Participants were assured of complete anonymity.

Instruments: The measure of smoking was adapted from the questions used for screening adolescent smoking behaviour in the UK(9). Tobacco consumption was assessed by asking participants to endorse one of eight response options: "I have never smoked a cigarette or taken snuff, not even a puff"; "I have only ever tried one or two cigarettes or snuff"; "I used to smoke sometimes, but I don't now"; "I don't smoke cigarettes, but smoke a pipe or cigars"; "I smoke cigarettes but not as many as one per day"; "I usually smoke between one or ten cigarettes per day"; "I usually smoke between one or ten cigarettes per day"; "I usually smoke between ten and twenty cigarettes per day"; "I usually smoke more than twenty cigarettes per day". Participants in the first two categories were classified as non-smokers, while respondents in the third category were classified as former smokers. For analysis of smoking prevalence the five smoking categories were combined, and compared with the three non-smoking categories. For analysis of the prevalence of "ever smoking", former smokers were included with the present smokers. For analyses of the strength of smoking habits, the five smoking categories were reduced to three: very light smokers (<1/day), light smokers (1-10/day) and moderate/heavy smokers (>10/day). Only one respondent stated he smoked cigars or a pipe. As this was very small this category was grouped with the very light cigarette smokers in the analysis of levels of smoking.

Smokers were asked whether they would like to reduce the amount they smoked, with responses in a Yes/No format. Beliefs were assessed by asking participants to rate their beliefs in the importance of not smoking for health on a 10-point scale where 1=low importance and 10=very great importance. Risk awareness for smoking-disease links was asked in a Yes/No format if they believed that lung cancer and heart disease were influenced by smoking.

In addition, one question was included on the subjective health status (rated from 1=excellent to 5=poor), one question on subjective well-being (rated from 1=very satisfied to 5=very dissatisfied), and six items on socio-biographic data: age, sex,

religion, income, car ownership in family, education of mother and father.

RESULTS

Table 1 indicates tobacco use status and frequency by culture. The average prevalence of current smoking was 11.2% in blacks, 23.6% in whites, 31.8% in men and 6.9% in women. The proportion of smokers who were classified as light smokers (one to ten per day) averaged six per cent in blacks, 11.2% in whites, 19.4% in men and 0.7% in women.

Table 1

Smoking status and frequency by culture and sex

Tobacco use status and frequency	Blacks (%)	Whites (%)	χ^2	Male (%)	Female (%)	χ^2
Never smoked (took snuff)	71.6	57.6	10.713***	38.9	83.4	105.742***
Former smokers	17.2	18.8	.217	29.4	9.7	32.052***
Current smokers	11.2	23.6	13.373***	31.8	6.9	52.329***
Very light smokers	3.2	6.4	2.801	4.7	4.8	.003
Light smokers	6.0	11.2	4.300*	19.4	0.7	54.484***
Moderate/heavy smokers	1.6	5.2	4.932*	7.1	0.7	15.290***

*** P<.001; **P<.01; P<.05

Table 2 indicates Pearson correlations between smoking and psychosocial factors. Age, being male, being white, and being married or living with a partner were significantly positively associated with smoking status and frequency. White married men were more often smokers and more frequent smokers than black single/divorced/separated/widowed women. Socio-economic status and having children was not significantly associated with smoking status and frequency. Being a member of a healing church (Zion Christian Church, Apostolic Church) was significantly negatively associated with smoking status and frequency. A worse health status was also significantly negatively related with smoking status and frequency. Subjective well-being was positively associated with smoking frequency.

Table 2

Pearson correlations between smoking and psychosocial factors

Psychosocial variable	Smoking status	Smoking frequency
Age	.101*	.173***
Sex	-.324***	-.359***
Culture	-.164***	-.164***
SES	.053	.030
Married/living with partner versus single/separated/divorced/widowed	.124**	.142***
Having children	-.021	-.056
Healing church versus other Christians	-.134**	-.138**
Positive subjective health	-.045	-.052
Positive subjective well-being	.045	.118*

***P<.001; **P<.01; *P.05

The mean scores on the 10-point rating of the importance of health of not smoking was among women 9.4 and men 8.1, which indicated a significant sex difference ($F=127.685, p<.001$), and among blacks 9.7 and Whites 8.0, which indicated a very significant cultural difference ($F=499.133, p<.001$).

The highest mean of the importance of health of not smoking and risk awareness was rated for non-smokers (9.6 and 1.7, respectively) and former smokers (8.8 and 1.7, respectively) and the lowest mean rating was for moderate/heavy smokers (3.6 and 0.9, respectively) (Table 3).

Table 3

Mean risk awareness and beliefs in the importance for health of not smoking

Tobacco use status and frequency	Mean beliefs in the importance for health of not smoking (SD)	Risk awareness (0-3)
Never smokers	9.6 (1.2)	1.7 (0.9)
Former smokers	8.8 (2.3)	1.7 (0.9)
Current smokers	6.2 (3.2)	1.3 (1.0)
Very light smokers	7.8 (2.1)	1.4 (0.8)
Light smokers	6.3 (3.0)	1.5 (2.0)
Moderate/heavy smokers	3.6 (.4)	0.9 (1.2)

Risk awareness of the negative effects of smoking and the belief in the importance of not smoking were both significantly negatively associated with both smoking status and smoking frequency (for risk awareness: $r=-.159, p<.001$ and $r=-.182, p<.001$, respectively, and for health benefits: $r=-.509, p<.001$ and $r=-.560, p<.001$, respectively). As far as risk awareness was concerned, 83% of the participants were aware of the association between smoking and lung cancer, 28% between smoking and heart disease and 42% were aware of the association between smoking and high blood pressure.

Overall, thirty eight per cent of the current smokers stated that they would have liked to reduce the amount they smoked. In the very light smoking group, 25% wanted to reduce smoking, compared to 44% in the light smoking group and 35% in the moderate/heavy smoking group. The wish to reduce smoking was positively associated with tobacco use status [$r=6.825, p<.009$] but not with the amount of smoking [$F=.257, ns$]. Thirty five

Table 4

ANOVA between tobacco use status and wish to reduce smoking

Tobacco use status and frequency	Wish to reduce smoking F
Current smokers	7.2 52**
Very light smokers	2.457
Light smokers	1.065
Moderate/heavy smokers	.069
Risk awareness	28.361***
Belief in the importance for health of not smoking	28.361***

*** $P<.001$; ** $P<.01$; * $P<.05$

Table 5

Multiple logistic regression on smoking status, smokers versus non-smokers

Predictor	B	SE	Wald	df	p	R	Odds ratio
Belief ratings	3.10	.53	34.90	1	.001	.23	22.25
Sex	2.26	.25	81.79	1	.001	.35	9.54
Age	-.03	.01	14.82	1	.001	-.14	.97
Risk awareness					ns		
Culture					ns		

per cent of the male and 46% of the female smokers stated that they would have liked to reduce the amount they used. Analysis of variance further indicated that the wish to reduce smoking was associated with current smokers, risk awareness and the belief in the importance for health of not smoking (Table 4). Multiple logistic regression was carried out in order to assess the independent contribution of beliefs ratings and awareness of links with lung cancer, heart disease and high blood pressure to smoking behaviour. Age, sex and culture were also included in the model. The results are summarised in Table 5. Stronger beliefs in the importance of not smoking, being female and lower age were identified as independent predictors among non-smokers than smokers.

DISCUSSION

The average prevalence of current smoking was 11.2% in blacks, 23.6% in whites, 31.8% in men and 6.9% in women. This is lower than 34% of adult South Africans (52%, males and 17%, females) as found in a national sample(4), and also lower than that found among an urban black population in Cape Town (53% in men and 6% in women)(3). However, 17% prevalence of smoking in this sample was higher than that found in the Northern Province (14%) as part of the national sample(4).

Age, being male, being white, and being married or living with a partner were significantly positively associated with smoking. Higher rates of smoking with increasing age, and among men than women was also found among other South African samples(6). Reddy *et al*(4) also found in their national sample that whites (40%) had higher smoking prevalences than blacks (13%) in the Northern Province although in most provinces Blacks had higher smoking prevalences than whites.

Non-smokers were positively related to being a member of a Zion Christian or Apostolic church as opposed to Christian (Protestant and Roman Catholic) denominations. Especially the Zion Christian and Apostolic churches have prohibitions against tobacco use, which may explain the higher abstinence towards tobacco use(10). This study did not find a significant interaction between socio-economic status and smoking status and frequency. Studies among other South African samples on smoking found, however, that income, education and socio-economic status was significantly associated with smoking status and frequency(5,6).

The assessment of risk awareness showed that knowledge of the links between smoking and lung cancer in this sample (83%) was higher than that found among a national sample of South Africans (58%). However, the knowledge of the association between smoking and heart disease (28%) was lower than that among a national sample of South Africans (36%)(4).

In accordance with other studies(9), the wish to reduce smoking was positively related with tobacco use status. Overall, 38% of the current smokers stated that they would have liked to reduce the amount they smoked; this was highest among the light smoking group (44%) and lowest among the very light smoking group (25%). This means that the level of wanting to cut down on smoking did not necessarily increase with higher smoking levels, as it was found among European University students(9).

In conclusion, the prevalence of smoking tobacco, especially among males and whites as well as the low risk awareness of the effects of smoking is a cause of concern. Stronger beliefs in the importance of not smoking, being female and lower age were identified as independent predictors among non-smokers than smokers. The practical application of a small inexpensive telephone survey in a localised area is that prevention programmes can be tailored towards the needs in this culturally diverse population. Some of the risks and protective factors identified in this study can provide the basis for effective prevention and cessation programmes(11,12).

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APOLOGY

We apologise to our readers for inadvertently displaying the wrong photograph on the cover page of our January 2001 issue.