

Risk-taking behaviour of Cape Peninsula high-school students

Part III. Cigarette smoking

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Abstract The prevalence of a wide range of risk-taking behaviour among high-school students in the Cape Peninsula, South Africa, was investigated. In this article, the results for cigarette smoking are presented. Cluster sampling techniques produced a sample of 7 340 students from 16 schools in the three major education departments. A self-administered questionnaire was completed in a normal school period. Estimates for each education department were weighted to produce an overall estimate. Of the students 18,1% indicated that they smoked at least 1 cigarette per day. Of these, 66,9% had tried to stop. Of those who did not smoke at least 1 cigarette per day, 41,2% had smoked previously and 3,6% intended to start smoking. There were different trends according to gender, standard, and language(s) spoken at home. Of note was the small percentage of Xhosa-speaking females who smoked. There is an urgent need for smoking prevention programmes in schools.

S Afr Med J 1993; 83: 477-479

Despite the overwhelming evidence of its deleterious effects,¹ smoking remains an important preventable determinant of morbidity and mortality.^{2,3} The prevalence of smoking is increasing in developing countries,^{4,5} and South Africa has yet to experience the full impact of smoking-related deaths.⁶ The focus of smoking prevention efforts has recently shifted to adolescents.² There are several reasons for this: (i) the poor outcome of smoking cessation programmes for adults; (ii) the observation that the majority of adult smokers initiated the habit while teenagers; (iii) the recent increase in the proportion of young females who smoke; and (iv) evidence that young people are starting to smoke at earlier ages.^{2,3,7-11} It is necessary to have data regarding smoking behaviour among South African adolescents to inform preventive strategies. However, the usefulness of the results reported in previous South African studies is limited by unrepresentative samples or poor response rates.^{4,12-16} It was therefore decided to include smoking behaviour as part of a larger study in which risk-taking behaviour of Cape Peninsula high-school students was investigated.¹⁷

Methods

The methodology of the larger study of which this work forms a part has been described in detail elsewhere.¹⁵ The study population was defined as all Cape Peninsula high-school students. Cluster sampling yielded a sample of 7 340 students from 16 schools in the three major education departments. A self-administered questionnaire was completed by each student under conditions approximating those of examinations. Means were weighted to account for the fact that different proportions of students were selected from each education department.

All the questionnaire items regarding cigarette smoking required yes/no answers. The first question was: 'Do you smoke at least one cigarette per day?' If the response was 'yes', the respondents were asked: 'Have you ever tried stopping?' If the response was 'no' they were asked two questions: (i) have you ever smoked? and (ii) do you intend to start smoking?

Results

Of the total sample, 18,1% (95% confidence interval (CI) 15,7 - 20,5) reported that they smoked at least one cigarette per day, i.e. that they are regular smokers. There was a greater proportion of male than female regular smokers for each standard and language group (Table I). By Standard 6, 10,2% (95% CI 6,9 - 13,4) of students of both genders had acquired the habit. For males, the proportion increased rapidly to a peak of 32,3% at Standard 9. For females, there was a more gradual tendency to increase with standard, with 20,7% being regular smokers in Standard 10. For Xhosa-speakers, there was a difference of 18,6% between the prevalences of regular smoking for males and females. This is considerably larger than the differences between the genders for the other language groups. This large

TABLE I.
Percentages (with 95% CIs) of students who smoke at least one cigarette per day, by standard and language(s) spoken at home, and gender (N = 7 340)*

	Males	Females
Standard		
6	11,7 (7,8 - 15,6)	9,0 (5,8 - 12,2)
7	19,3 (14,9 - 23,6)	13,8 (12,1 - 15,5)
8	27,0 (21,0 - 33,0)	13,2 (9,5 - 16,9)
9	32,3 (27,2 - 37,3)	16,5 (12,9 - 20,1)
10	27,6 (22,4 - 32,8)	20,7 (16,3 - 25,0)
Language(s)		
Afrikaans	19,1 (17,0 - 21,2)	12,9 (11,0 - 14,9)
Afrikaans and English	29,0 (24,8 - 33,3)	19,8 (16,1 - 23,4)
English	23,5 (15,7 - 31,4)	18,2 (11,6 - 24,8)
Xhosa	20,8 (16,5 - 25,1)	2,2 (1,3 - 3,1)

* No. of missing responses = 79.

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difference can be ascribed mainly to the small numbers of Xhosa-speaking females who smoked regularly. For non-Xhosa-speaking students, the rank order for the proportions of students smoking regularly from highest to lowest prevalence is: Afrikaans and English; English; and Afrikaans. This rank order applied to each gender.

Of regular smokers, 66,9% (95% CI 62,9 - 70,9) indicated that they had tried to stop. The breakdown by standard and language group, and gender, is provided in Table II.

TABLE II.
Percentages (with 95% CIs) of students who smoke at least one cigarette per day who have ever tried stopping, by standard and language(s) spoken at home, and gender (N = 1 330)*

	Males	Females
Standard		
6	71,1 (69,1 - 85,1)	60,8 (52,7 - 71,8)
7	62,4 (54,8 - 70,0)	71,8 (66,1 - 77,5)
8	63,2 (57,9 - 68,4)	61,0 (48,5 - 73,5)
9	67,5 (62,7 - 72,3)	64,5 (55,9 - 73,0)
10	71,7 (61,1 - 82,3)	71,8 (63,4 - 80,3)
Language(s)		
Afrikaans	71,8 (69,5 - 74,2)	67,9 (58,3 - 77,4)
Afrikaans and English	67,4 (56,8 - 78,0)	67,8 (58,4 - 77,3)
English	64,3 (58,6 - 78,0)	56,4 (47,6 - 65,1)
Xhosa	67,8 (55,5 - 80,1)	75,0 (56,4 - 93,5)

* No. of missing responses = 11.

Of those who are not regular smokers, 41,2% (95% CI 36,8 - 45,5) are infrequent or ex-smokers. For each standard and language category, a greater proportion of males than females are infrequent or ex-smokers (Table III). There was a trend for this proportion to increase with standard for each gender. A small proportion of Xhosa-speaking respondents were infrequent of ex-smokers; this applies particularly to females.

TABLE III.
Percentages (with 95% CIs) of students who do not currently smoke at least one cigarette per day who have smoked previously, by standard and language(s) spoken at home, and gender (N = 5 931)*

	Males	Females
Standard		
6	37,3 (33,3 - 41,2)	25,1 (19,3 - 30,8)
7	45,9 (39,9 - 52,0)	36,4 (28,7 - 44,0)
8	53,3 (44,9 - 61,7)	38,5 (33,5 - 43,6)
9	53,6 (46,7 - 60,5)	41,5 (34,1 - 48,8)
10	58,7 (53,6 - 63,8)	44,4 (40,7 - 48,1)
Language(s)		
Afrikaans	46,6 (42,5 - 50,8)	35,7 (28,3 - 43,1)
Afrikaans and English	47,6 (42,0 - 53,2)	47,6 (41,5 - 53,6)
English	58,5 (54,8 - 62,3)	45,9 (43,1 - 48,7)
Xhosa	25,3 (19,4 - 31,2)	1,7 (1,0 - 2,4)

* No. of missing responses = 151.

Of those who denied regular smoking, 3,6% (95% CI 2,9 - 4,3) intended to start smoking. The figures for males and females were 4,4% (95% CI 3,4 - 5,4) and 3,0% (95% CI 2,2 - 3,7) respectively. There were no obvious trends with respect to standard or language group.

Discussion

Non-equivalent samples, variations in research design, and the lack of standardised questions make comparison with previous studies of uncertain reliability. This notwithstanding, the overall prevalence of regular smoking of 18,1% in this study can be compared with the following smoking prevalences that have been reported for South African adolescents: 2,5% in white 11 - 15-year-old school students;¹² 11,4% in higher primary school students falling under the Department of Education and Training in Cape Town;¹⁵ 15,2% in 11 - 15-year-old students falling under the House of Representatives;¹² 16,3% in white students at Bloemfontein high schools;¹³ 18,8% in high-school students falling under the House of Representatives;¹⁶ 21,1% in white high-school students in Cape Town;¹⁴ and 22% of males and 37% of females in Standards 8 - 10 in a white high school in Cape Town.¹⁸ A low age of smoking onset and an increase of smoking prevalence with age have also been documented in previous South African studies.^{1,4,12-16} The finding that relatively large numbers of students have begun to smoke before commencing high school indicates that attention needs to be given to smoking practices before Standard 6. The decrease in prevalence of regular smoking found for males in Standard 10 compared with Standard 9 may be a consequence of those with destructive life-styles being more likely to leave school prematurely.^{19,20}

The trends with regard to gender are more complex. The extremely small proportion of Xhosa-speaking girls who smoke regularly reinforces the finding of a smoking prevalence of 0,8% for girls and 23,7% for boys attending higher primary schools in black Cape Town townships.^{4,15} However, two studies both conducted among white high-school students,^{14,18} did not find a greater proportion of males than females who are smokers. This is consistent with international findings, where female smokers currently outnumber their male counterparts.^{7,9,21} If the trend in the developed world is followed in South Africa, it can be anticipated that the ratio of female to male smoking prevalence will increase. Primary prevention programmes are required to abort such a trend in South Africa, especially for Xhosa-speaking girls. The design of these programmes would benefit from a better understanding of the social, economic and psychological factors which protect Xhosa-speaking girls from smoking. Future studies will be required to monitor the trends and assess the impact of interventions.

It is grounds for optimism that 66,9% of regular smokers have tried to stop smoking. This complements the observation that the proportion of infrequent or non-smokers who have stopped smoking increases with standard for each gender. Furthermore, a very low proportion of infrequent or non-smokers intend to start smoking. However, this optimism is tempered by the following observations: (i) many smokers continue to smoke despite having attempted to desist; and (ii) more acquire the habit in each successive year than intend to do so. It is possible that many adolescents are aware of the long-term adverse consequences of smoking,^{2,3,14} but that these disadvantages are outweighed by more immediate social pressures.^{3,4,22}

Several limitations of the larger study of which this report forms a part have been identified.¹⁷ In addition, the wording of some of the questions could have resulted in uncertainty. As mentioned above, the students were asked: 'Do you smoke at least one cigarette per day?' Students who do smoke but who smoke less than one cigarette per day (infrequent smokers) may have had difficulty in responding to the questions contingent upon a 'no' response. These results (Table III) should therefore be interpreted with caution.

In conclusion, a profile of smoking behaviour among Cape Peninsula high-school students has been provided. In particular, it has been shown that the prevalence of regular smoking in this group is high (except for Xhosa-speaking females). Although the effectiveness of many smoking intervention programmes remains unproven,² a feasibility study in which a smoking prevention programme was introduced and evaluated in black schools in Cape Town produced encouraging results. The task of developing strategies to counteract the effects of intensive tobacco advertising and powerful adolescent social pressures remains critical.²⁴

Please see the first article in this series¹⁷ for acknowledgements.

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