

Methodology

Aim

The study aims to investigate tobacco-use among adolescents with a view to inform prevention and policy initiatives.

Objectives

- To document and monitor the prevalence of tobacco-use including: cigarette smoking, and current use of smokeless tobacco, cigars or pipes.
- To obtain an improved understanding of and to assess learners' attitudes, knowledge and behaviours related to tobacco-use and its health impact, including: cessation, environmental tobacco smoke (ETS), media and advertising, minors access, and school curriculum.
- To provide provincially, nationally and internationally comparable data
- To inform intervention development
- To inform health policy development

Collaboration

The study was conducted by the National Health Promotion Research and Development Group, Medical Research Council of South Africa in collaboration with the National Departments of Health and Education. Letters of support for the project were obtained from the Director General's of Health and Education. In order to decrease the cost associated with survey administration, it was decided to approach health and education staff to assist with this process. In this regard, meetings were conducted as well as letters sent to the National Lifeskills Co-ordinators from the Department of Education, Nutrition Directorate, Maternal and Child Health Unit, and Health Promotion Directorate requesting anthropometric equipment and their assistance with survey administration.

Ethics

Ethical Approval for the study was obtained from the South African Medical Association. Active informed consent to conduct the study was obtained from the National Department of Education, school principals, parents and learners. In addition, verbal consent was also obtained from learners on the day of study. Learners' anonymity was guaranteed by asking them not to write their names on the answer sheet. In order to increase the confidentiality of the learners, trained fieldworkers conducted survey administration. Teachers were asked to leave the classroom during data collection. Learners were not allowed to communicate with each other during completion of the survey nor were they allowed to look at the answer sheet of their peers.

Sampling

The sample of grade 8-11 learners was selected in collaboration with the Centres for Disease Control (CDC). School enrolment numbers for grades 8-11 was obtained from the School Information Services Directorate, Department of Education and sent to the CDC for sample selection. Separate samples were drawn for each of the nine provinces to ensure provincially, as well as nationally representative data. It must be noted that the sample was not stratified by grade or race.

A two-stage cluster sample design was used. At the first stage, schools were selected with a probability proportional to school enrolment size i.e. schools with more grade 8-11 learners had a greater chance of being selected. Twenty-three schools were selected for each province with an 80% expected participation rate. In total, 207 schools were selected nationally.

At the second sampling stage, classes within each participating school were selected systematically with equal probability sampling (with a random start). On average, 2 classes were selected in each school to participate in GYTS, with an 80% expected participation rate of learners. All learners in the selected classes were eligible to participate in the study.

Contacting Schools

The 207 selected schools were contacted, in writing and telephonically, inviting them to participate in the study. Due to the lack of telephone and/or fax facilities in certain schools, district Education Departments as well as the South African Police Services in the nearest towns/villages were asked to assist with establishing contact with the schools.

Questionnaire Development

The WHO/CDC core and optional set of GYTS questions were used as the basis for the development of the questionnaire for South Africa. The questionnaire has been amended such that there are additions of country specific questions to the behaviour being studied, as well as to ensure that the questions are applicable to the local context. The local questions aim to add value to the core questions by exploring context specific issues. The survey instrument comprises a core set of questions as well as locally tested and therefore relevant questions. Our previous experience has enabled us to develop a methodology to ensure that the questions are cognitively appropriate, understandable, culturally sensitive and in a language of the learners choice. The questions have been formulated in English and then translated into different languages that are preferred by the learners.

For each language, young graduates, who are first language speakers from local universities, have been recruited for the translation of the questionnaires. The questionnaire was translated from English into all other official languages. The translated version was back translated into English by a second translator. For each language, a discussion session was held between the team of translators and the project investigators. A third person, who was also a first language speaker, checked the translation. This process was also used to translate the consent forms, and the script that was read out by survey administrators in the classroom.

Pilot Study

A pilot study, to obtain face and construct validity as well as to test the procedure set up for data collection, was conducted with Grade 8 learners in each of the 11 official languages in May 2002. The pilot study was conducted in five provinces viz. the Western Cape, KwaZulu-Natal, Gauteng, Limpopo Province and Mpumalanga. Survey administrators were recruited in each province. Training workshops were held in Limpopo Province, Gauteng and in the Western Cape.

The questionnaire and answer sheets were adapted and refined according to the findings of the pilot study. The 10 translated versions of the questionnaire were also adapted accordingly

Compilation of consent forms and questionnaires

Research assistants were employed to compile the consent forms, questionnaires and answer sheets. The consent forms were compiled, packaged and couriered to each of the 191 selected schools. Schools were telephoned to confirm receipt of the consent forms. A letter was sent to the school principal confirming the classes that were selected for each study and requesting that the parent and learner consent forms be distributed to the learners in the selected classes. The principals were also requested to collect the completed consent forms and hand them to the survey administrators on the day that the fieldwork was to be conducted.

Training of Survey Administrators

Provincial co-ordinators for Health Promotion, Lifeskills Co-ordinators, School Nurses and Nutritionists were contacted, requesting assistance with survey administration. A list of health and education staff who could assist with fieldwork at the district level in the selected schools was requested. Environmental Health Officers, School Psychologists, Department of Social Development Staff, retired teachers, retired nurses, university nutrition students, youth commission affiliates as well as community members were also invited to be part of the survey administrator teams. A total of 18 training workshops were conducted across the country (see Table 1)

Table 1: Number of training workshops conducted for YRBS and GYTS in each of the nine provinces

Province	No. of workshops
Western Cape	3 workshops
Eastern Cape	3 workshops
North West	2 workshops
Limpopo	2 workshops
Mpumalanga	2 workshops
Free State	2 workshops
Gauteng	2 workshops
Northern Cape	1 workshop
KwaZulu-Natal	1 workshop
Total	18 workshops

At the training workshops, a person was allocated to serve as a survey administrator GYTS. In total, 306 survey administrators were trained and 176 survey administrators participated in GYTS (see Appendix 1).

Data Collection

Following the training workshops, survey administrators were assigned to each participating school. Fieldwork extended over the period August to October 2002. Survey administrators were provided with a “script” to read out in the classroom in order to standardise the procedures adopted in all of the selected schools. Learners were required to complete a self-administered questionnaire in the language of their preference. Extensive telephonic support was provided to survey administrators spread across the country during fieldwork. A courier service was sent to the team leaders to collect completed answer sheets.

Data Capturing

In order to develop local capacity, it was decided that data capturing would be conducted in South Africa. A local company was selected to design the answer sheet and capture the data. The data was captured at the MRC offices in Cape Town by MRC staff using Opscan technology. Due to the electronic method of data capturing, an HB pencil with a white eraser was purchased for each learner. Learners were given the pencil as a token of appreciation for their participation in the study.

Data Analysis

PSI Actuarial Solutions were employed to conduct the data analysis. A weighting factor was applied to each learner record to adjust for non-response and for the varying probabilities of selection. Epi Info, a software package for statistical analysis of correlated data, was used to compute prevalence rates and 95% confidence intervals for the estimates. Differences between prevalence estimates were considered statistically significant if the 95% confidence intervals did not overlap.

Selected Results

National Highlights

1999

- 123 of the 160 selected schools participated (76.9%)
- 6045 of the 7074 selected learners participated (85.5%)

2002

- 191 of the 206 selected schools participated (92.7%)
- 8935 of the 13114 selected learners participated (68.1%)

KwaZulu Natal :

Selected results compared to national data

Table 2: Demographic description of the national sample

SOUTH AFRICA		2002	
NATIONAL	No. of learners	n	%
		8935	68.1
GENDER	Male	4074	47.1
	Female	4781	52.8
GRADE	8	3004	37.2
	9	3694	32.7
	10	2237	30.0
AGE	≤ 12 years	124	1.8
	13	651	8.44
	14	1669	17.8
	15	2005	21.4
	16	1832	21.6
	≥ 17	2599	28.8
'RACE'	Black/African	5873	69.0
	Coloured	1303	8.7
	Indian	81	2.1
	White	931	12.4
	Other	34	0.2
	I don't know	637	7.3

SELECTED RESULTS
COMPARISON OF THE GLOBAL YOUTH TOBACCO SURVEY:
1999 vs 2002
TABLE 3: PREVALENCE

	GYTS 1999	GYTS 2002
Ever smoked cigarettes ¹	46.7 41.8 - 51.6 ^a	37.6* 34.4 - 40.8
Current use cigarettes ²	23.0 19.0 - 27.0	18.5 16.7 - 20.3
First smoked cigarettes before 10yrs ³	18.5 16.6 - 20.4	16.2 13.6 - 18.8
Frequent smokers ⁴	10.1 7.3 - 12.9	5.8* 4.8 - 6.8
Tobacco products (other than cigarettes) ⁵	18.2 15.1 - 21.3	14.5 13.2 - 15.8

1. Even one or two puffs
2. Smoked cigarettes on one or more of the 30 days preceding the survey
3. Among ever smokers
4. Smoked cigarettes on 20 or more days of the past 30 days
5. Used non-cigarette tobacco products on one or more of the 30 days preceding the survey

- a. 95% confidence interval
- b. n < 35 suppressed
- * statistical significant difference

TABLE 3: ACCESS TO CIGARETTES FOR CURRENT SMOKERS		
	GYTS 1999	GYTS 2002
Bought but not refused because of age	69.4 62.4 - 76.3	66.1 59.1 - 73.2
Offered free cigarettes from tobacco rep.	29.7 25.8 – 33.6	22.0* 18.6 – 25.4

TABLE 4: CESSATION AND ADDICTION		
	GYTS 1999	GYTS 2002
Current smokers who want to stop smoking ²	73.9 67.4 - 80.4	72.6 69.1 - 76.1
Current smokers who tried to quit in the past year ²	76.6 72.4 - 80.8	74.4 71.4 - 77.4

TABLE 5: MEDIA, ADVERTISING AND MARKETING		
	GYTS 1999	GYTS 2002
Seen tobacco ads in magazines and papers	77.9 75.4 – 80.4	69.5* 67.0 – 72.0
Current smokers who have seen tobacco ads on billboards	85.0 82.5 – 87.5	78.0* 75.1 – 80.9
Seen anti-smoking messages in media the Past 30 days	79.7 77.6 – 81.8	75.4* 73.8 – 77.0
Current smokers own something with a Cigarette logo on it	23.1 16.8 – 29.4	23.5 20.2 – 26.8
Never smokers own something with a cigarette Logo on it	13.5 10.4 – 16.6	16.2 14.2 – 18.2
Never smokers in favour of a ban in public Places	49.9 41.8 – 58.0	57.3 53.2 – 61.4
Current smokers in favour of a ban in public Places	50.6 46.5 – 54.7	54.5 50.5 – 58.5

TABLE 6: ENVIRONMENTAL TOBACCO SMOKE (ETS)		
	GYTS 1999	GYTS 2002
Never smokers think ETS is harmful	52.3 45.8 – 58.8	50.9 45.9 – 55.9
Current smokers think ETS is harmful	42.0 38.0 – 46.0	42.8 39.1 – 46.5
Never smokers who had someone smoke in their homes in their presence in the past 7 days	32.1 30.0 – 34.2	26.2* 23.6 – 28.8
Current smokers who had someone smoke in their homes in their presence in the past 7 days	73.7 66.7 – 80.7	62.0 57.1 – 66.9
Never smokers who had someone smoke in a place other than their homes in their presence in the past 7 days	41.2 37.7 - 44.7	32.4* 30.0 - 34.8
Current smokers who had someone smoke in a place other than their homes in their presence in the past 7 days	81.8 78.6 - 85.0	77.6 74.0 - 81.2

TABLE 7: SCHOOL CURRICULUM		
	GYTS 1999	GYTS 2002
Taught in class about dangers of smoking	40.8 37.7 – 43.9	42.5 39.6 – 45.4
Discussed in class why young people smoke	31.4 28.7 – 34.1	30.1 28.5 – 31.7
Taught in class about the effects of smoking	44.5 41.4 – 47.6	43.4 41.1 – 45.7

Conclusions:

There is a significant decrease in the prevalence of ever smoking and frequent smoking among learners in Grades 8-10.

A large drop in the prevalence of current smoking, first smoking before the age of 10 years and of the use of tobacco products other than cigarettes has also been observed.

The number of current and never smokers expressing support for banning smoking in public places has increased since 1999.

Underage sales of cigarettes have decreased over the past 3 years and learners are still acquiring free cigarettes from tobacco representatives.

Current smokers continue to express a need to stop smoking but the quit attempts have decreased marginally across the two surveys.

Tobacco messages are still being received by learners through the media.

Fewer anti-smoking media messages have been seen across the two surveys.

Young people continue to have items with cigarette logos on them.

Even though there has been a decrease in exposure by learners to ETS, the percentage of learners who think that ETS is harmful remains low.

The inclusion of smoking within the school curriculum remains low.

Recommendations:

The process of monitoring tobacco-use in schools should be continued.

There is a need to consider the development of cessation programmes for youth.

There needs to be a sustained campaign of anti-tobacco messages in the mass media environment.

Enforcement of the ban of underage sales as well as the ban on tobacco marketing e.g. logos on items, should occur.

Continued enforcement of bans in public places should occur.

Tobacco-use prevention programmes should be developed and included in the school curriculum.

ACHIEVEMENTS

Significant decrease in the number of learners who try to smoke and who smoke frequently.

Significant decrease in the prevalence of current smoking and use of tobacco products other than cigarettes.

Decrease of tobacco advertisements in papers and magazines.

Decrease in exposure to cigarette smoke pollution among never smokers.

Increase in support for banning smoking in public places among current smokers.

LESSONS LEARNT

Tobacco advertising has diminished but is continuing despite the legislation.

Anti-smoking messages, in all media, needs to be stepped up.

Underage sales of cigarettes have increased over the past 3 years.

Free cigarettes: Students are still receiving free cigarettes from tobacco representatives.

Cigarette logos: Young people continue to receive items with cigarettes logos on them.

Cigarette smoke pollution: Students remain unaware about the harmful effects of cigarette smoke pollution.

Smokers wanting to stop: The percentage of current smokers expressing a need to stop smoking remains high.

Tobacco-use Prevention and Cessation needs to be included in the school curriculum.

CHALLENGES

Addiction: Nicotine addiction : 75% of current smokers tried unsuccessfully to quit

Cessation Programmes: There is a need to develop cessation programmes for youth and adult

Underage Sales: Enforcement of the ban on underage sales

Tobacco Marketing: Enforcement of the ban on tobacco marketing

Public Places: Enforcement of bans in public places

Anti-tobacco messages: A sustained campaign of anti-tobacco messages in the mass media environment

School Curriculum: Tobacco-use prevention programmes to be included in the school curriculum

Monitoring Tobacco-use in Schools: Repetition of GYTS every 3 years

Appendix 1: Survey Administrators who were trained and who participated in survey administration for the Global Youth Tobacco Survey (GYTS)

Provinces	Health Promotion		Mother & Child		School nurse		Nutrition		Welfare		Life skills		Community members/ Other*		Total per province	
	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P
Eastern Cape	9	7	3	3	-	-	2	2	6	2	12	6	-	-	32	20
Free State	16	13	-	-	-	-	-	-	-	-	5	4	31	-	52	17
Gauteng	8	6	-	-	2	2	-	-	-	-	3	2	9	5	22	15
KwaZulu Natal	5	4	-	-	-	-	-	-	-	-	19	13	12	1	36	18
Limpopo	4	4	-	-	-	-	-	-	-	-	11	10	25	10	40	24
Mpumalanga	2	2	-	-	-	-	1	1	-	-	19	15	9	-	31	18
Northern Cape	-	-	-	-	-	-	-	-	1	1	2	1	32	24	35	26
North West	8	8	-	-	1	1	-	-	-	-	3	3	33	14	45	26
Western Cape	9	9	-	-	-	-	-	-	-	-	3	2	1	1	13	12
TOTAL	61	53	3	3	3	3	3	3	7	3	77	56	152	55	306	176

T : Trained

P : Participated

*** Community Liaison Officer**

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