

**CIGARETTE SMOKING AMONG INDIAN
MATRICULANTS AT EX-HOUSE OF DELEGATES
SCHOOLS IN NORTHERN KWA-ZULU NATAL**

by

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Dedicated to my parents.

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PREFACE

This study represents original work by the author and has not been submitted in any form to another university. Where use was made of the work of others it has been duly acknowledged in the text.

This research was carried out at high schools previously under the House of Delegates in Northern Kwa-Zulu Natal. The schools are located in the towns of Glencoe, Dundee, Dannhauser and Newcastle.

The statistical analysis has been done with the support of the Medical Research Council.

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GLOSSARY

Smoker	:	An individual who at the time of the survey was smoking at least one cigarette.
Non-smoker	:	Someone who had never smoked before.
Ex-smoker	:	One who used to smoke regularly but who was no longer smoking at the time of the survey.
WHO	:	World Health Organisation
CS	:	Cigarette Smoking
MRC	:	Medical Research Council
CSB	:	Cigarette Smoking Behaviour
HOD	:	House of Delegates
SANCA	:	South African National Council for Alcoholism and Drug Addiction
NCAS	:	National Council Against Smoking
TAG	:	Tobacco Action Group

ABSTRACT

A descriptive study of cigarette smoking in a sample of Indian matriculation students was undertaken in Northern Kwa-Zulu Natal in order to establish the prevalence of cigarette smoking; reasons for developing cigarette smoking behaviour; to determine knowledge about and attitudes to cigarette smoking and also to establish students' awareness of anti-smoking organisations and to make recommendations based on the findings.

Data was collected by the researcher who administered questionnaires at various schools previously under the jurisdiction of the House of Delegates, in the towns of Newcastle, Dannhauser, Glencoe and Dundee. There were 55 smokers in the sample (N = 326), ie., a prevalence rate of 16,9%. Among the males 52 (36,1%) were smokers and 3 (1,8%) females smoked. Fifty four (98,2%) smokers had commenced smoking above the age of 10 years. Twenty seven (53%) smoked at home and 12 (24%) smoked at school. Experimentation occurred among 46 (83,6%) smokers prior to actual smoking with 52 (94,5%) smokers having friends who also smoked. Advertisements influenced 10 (18,2%) smokers while 11 (20%) were influenced by teachers and 9 (16,7%) were influenced by family members. Smokers received more pocket money than non-smokers. More family members of the smokers were also smokers as opposed to non-smokers.

Forty nine (89,1%) smokers believed that smoking was harmful to themselves while 41 (74,5%) said it was also harmful to others. The association between smoking and lung

cancer was well known by 49 (90,7%) smokers but the association with heart disease and other cancers was not as well known.

There was very little awareness among both smokers and non-smokers about anti-smoking programmes and organisations. Alarminglly there was hardly any formal health education on the dangers of smoking in schools. The conclusions are that the prevalence of cigarette smoking among Indian matriculants in the study area was 16,9% and that teachers, friends, family members and advertisements are influential in cigarette smoking behaviour. There is a need for education on the dangers of smoking in schools; and parents and teachers must take cognisance about smoking at home and in schools.

CHAPTER 1

INTRODUCTION

Cigarette smoking is a major public health concern because of its impact on the health of both smokers and non-smokers.¹ The harmful effects are widely documented in scientific journals as well as the lay press. According to WHO smoking is the single most important cause of preventable morbidity, mortality and disability.² A report in the *The Citizen* (31 May 1995) states that each year tobacco is responsible for the death of 3 million people around the world, one death in every 10 seconds. If this trend continues CS could kill 10 million people within 4 decades, which is more than 3 times the current figure.

Smoking related diseases are already the major cause of death in the developed countries. Although smoking prevalence is declining in these countries, it is on the increase in developing countries.³ As a developing country South Africa is no exception. MRC investigator Reddy, reported to the lay press, *The Citizen* (31 May 1995), that the number of South Africans who smoked was growing alarmingly and one in three South Africans now smoke and one in nine deaths nationally are related to tobacco.

Peto (1995) of the British based Imperial cancer Research Fund, states that if cigarette smokers start young and do not stop about half of them will be killed by tobacco related diseases in their middle or old age.²³

Children are particularly targetted in smoking promotion strategies, and the young are not aware of the adverse effects of smoking and its potential for addiction.¹ Tobacco advertising has promoted the idea that smoking is glamorous and undermines the credibility, especially with children, of statements that smoking is harmful to health.

Studies related to smoking have been conducted in White, Coloured and Black school* children in South Africa.^{2,5,7} No figures are available for Indian school children in South Africa. However a study in which CSB in various racial groups was analysed, 68% of the Indian male smokers were under 20 years of age when they started smoking.⁵

In 1984, 24,5% of the deaths among Indians in South Africa were due to smoking related diseases.⁹ In a study in which risk factors were assessed in young Indian males with myocardial infarction, cigarette smoking was the most common risk factor in 79% of patients.⁴

It is clear, that the challenge is to prevent morbidity and mortality from cigarette smoking and to do this it is important to obtain data. This data assists in identifying problems, setting goals, policy making, planning and evaluation.

Interest groups such as health professionals need data on the prevalence of tobacco use. Tobacco use in children differs widely between countries and also between children, from differing backgrounds, within the same country. Smoking usually commences in youth and invariably continues into adult life.

* Under the previous Government schools were segregated in South Africa on a racial basis. Each race group had its own school system and administration.

Given the lack of data with regards to CS in Indian school children (Personal communication: Dr Y Saloojee, Executive Director, NCAS) and the role of CS in cardiovascular disease among Indians in South Africa, this study has been conducted, with the following objectives:

- 1 To establish the prevalence of CS in Indian matriculants in the Northern Kwa-Zulu Natal towns of Newcastle, Dannhauser, Glencoe and Dundee.
- 2 To determine reasons for the development of cigarette smoking behaviour.
- 3 To assess knowledge and attitudes towards CS.
- 4 To establish awareness amongst the children about the existence of organisations involved in anti-smoking programmes.
- 5 To make recommendations based on the findings of this study.

CHAPTER 2

LITERATURE REVIEW

Tobacco smoking began following the rediscovery of America by Christopher Columbus about 500 years ago.²⁵ The tobacco plant *Nicotiana tabacum* is indigenous to the Americas but is now cultivated in many parts of the world. In most cases it has become an essential crop, especially in developing countries, generating much needed capital.

Nicotine, ($C_{10}H_{14}N_2$), is a colourless, volatile base that turns brown and acquires the odour of tobacco when exposed to air, (Figure 1).²⁶ It is water soluble, has agricultural applications as an insecticide and also has considerable medical importance because of its extreme toxicity and presence in tobacco.²⁵

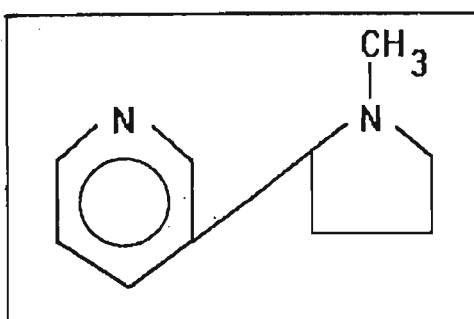


Figure 1 : Nicotine

Nicotine affects the central and peripheral nervous systems, the cardiovascular system and the gastrointestinal tract. Nicotine is addictive and it is delivered to the body by absorption into the bloodstream from tobacco in the form of cigarettes, pipes, cigars and as snuff.

Nicotine plays a major role in maintaining the smoking habit.²⁶

Cigarette smoke is a heterogeneous aerosol produced by incomplete combustion of the tobacco leaf. It is composed of vapours and gases. These are more than 4000 substances in cigarette smoke, many of which produce undesirable effects. Amongst some of these substances are carbon monoxide, carbon dioxide, nitrosamines, aldehydes and ketones. Some of these are potent inhibitors of ciliary movement. Other compounds include polycyclic hydrocarbons which are documented carcinogens.²⁶ Tobacco smoke is a personal and environmental pollutant. Epidemiologic studies have shown a strong association between CS and lung cancer, respiratory diseases and cardiovascular disease.⁹

Internationally there is increased public awareness about the health risks of smoking which is reflected in the declining rates of smoking behaviour in the developed countries, while in developing countries, the rates are increasing.^{15,24} In South Africa the prevalence of smoking has dropped in the developed White community while it has increased since 1976 among Coloureds, Indians and Blacks.³⁰

The association between smoking and coronary heart disease, chronic respiratory diseases such as chronic bronchitis and emphysema, neoplastic respiratory disease, carcinoma of the lung, is well known. Peto (1995) reports that the hazards of really prolonged cigarette smoking are greater than what was previously supposed.²³ However the "real problem" is the long delay between cause and full effect. Children who smoke therefore may not see the immediate benefits of smoking cessation and only feel the detrimental impact of CS later in life.

In the USA while there is a decline in the proportion of adults who smoke, there is concomitant increase in the number of adolescents who develop CSB. In a study by Bhattia et al, (1993), in which attitudes towards and beliefs about the health consequences and social value of smoking were assessed, it was concluded that for smoking prevention programmes to be successful with youth they must offer more than just education about the health hazards of smoking.¹¹

In a cross sectional study conducted in Singapore among school children smoking prevalence rates were found to be significantly lower when compared to school children in Australia, England and Wales, Scotland, South Africa and Malaysia.¹⁰ The overall prevalence being 2% (3% among boys and 0.2% among girls). There were also ethnic differences in that CS was more prevalent among Malays compared to the other ethnic groups. The average age at which smoking commenced was 14 years. In assessing the development of the smoking habit it was found that smokers mainly smoked out of sheer curiosity and/or "to relax". In the majority of cases fathers were also smokers. This played a major role in the development and continuation of the habit. In assessing the knowledge of Singaporean school children about the harmful effects of smoking, the study showed that 90% of children were aware of the harmful effects of smoking. The most common responses were that smoking was associated with lung cancer (49%) and heart disease (6%). In addition they reported that smoking was also bad for the health of smokers (25%), and for passive smokers. The survey also found that respondents agreed that smoking was addictive and that while half of the smokers would like to stop smoking, most had failed to stop. Among the non-smokers only a small minority (0.4% boys and 0.1% girls) said they might smoke in the future.

In Hong Kong, Chan and Hertz (1991) reported that the prevalence rate for CS was 16% by the age of 16 years.²⁸ About 14% of the smokers were boys and 8% were girls. Among the reasons for smoking: one-third smoked for fun and/or curiosity, 22% due to addiction, 13% due to boredom, 10% to emulate others, 7% to look stylish and 9% had no specific reason. The study also found that 57% of youngsters bought their cigarettes from shops and that parents who smoked were more likely to have children who smoked as well. In this study it was also found that 88% of smokers had best friends that smoked.

In India, Vaidya (1991) conducted a study in Goa among 9-20 year olds.²⁸ The study revealed that 12% of people in this age group were using tobacco, the prevalence rate being 13% for boys and 10% for girls. The actual prevalence of CS was 3% among boys and 2% among girls. The commonest form of tobacco used was in the form of "Mishri" (powdered tobacco), by 55% of females and 65% of males, followed by tobacco paste and chewing tobacco. The majority of users were influenced by family members, friends and teachers. Gupta (1991) who also conducted a study in India reported that mortality rates for tobacco users were at least 30% higher than those for non-users.²⁸

Hussein Al Mumen (1991) in Kuwait reported a decline in smoking prevalence in adults but an increase of smoking prevalence in the under 20 age group from 13% in 1979 to 34% in 1988.²⁸ The prevalence rate among females in Kuwait had also risen from 2.2% in the 70's to 12% in the late 1980's.

The Latin American Co-ordination Committee on Smoking Control (LACCSC) have published prevalence rates for various countries.²⁸ In Colombia 4.6% of 12-15 year olds

were smokers, with the prevalence rate rising to 24,9% in the 16-19 year old groups, 35.1% of boys and 17.7% of girls. In Peru 25% of children aged under 15 years were cigarette smokers.

Interestingly, only 0.5% of 13-17 year old children in Cuba smoke cigarettes. In Malaysia a study on CS was carried out among secondary school students in one state.²⁸ An overall prevalence rate of 23% was reported (36% males and 4% females). In the study there was also a difference among various ethnic groups with Indians having a prevalence rate of 12%.

In a study done at Langa and Khayalitsha in Cape Town, South Africa, among Black school children showed a prevalence rate of 23.7% for boys and only 0.8% for girls, the median age of onset being 14 years of age.² Among White high school children in Cape Town there was a prevalence of 21%, the rate for girls being slightly lower than boys.⁶ More than one-third of the smokers in the study were unable to give a reason for the development of smoking. Obtaining pleasure from smoking was used as a reason by 25% and 33,6% reported that they emulated their friends. In a previous study by the same investigator, 70% of white school children smoked because their friends smoked. The study also found that 15,2% of Coloured school children in Cape Town smoked.⁷ In both White and Coloured school children there was no significant difference in the smoking habits of parents of both smokers and non-smokers. Significantly, in both groups of children, more siblings were smokers.

In South Africa, the smoking prevalence among Indians in 1984 was 29%, overall, with a prevalence rate of 3.2% in females.⁹ In the 16-24 years age group the smoking prevalence rate was 21,7%. No figures for Indian school children were obtainable.

Control of smoking has become a major issue internationally. Some of the measures include public education and information; prominent health warnings on packs of tobacco products, reducing the content of cigarettes, controlling smoking in public places, banning sales to children and raising the price of tobacco products. Many of these measures have been achieved by the European Community.³¹ There are now more prominent warnings on cigarette packets. The tar content of cigarettes has been reduced. A ban on tobacco sales to children under 16 years has been in place since 1933. Smoking in public places has been controlled. It has also been shown that increasing the price of tobacco has an effect on consumption. A 1% increase in price results in a drop in consumption of about 0.5%.³¹

South Africa previously had very little, by way of legislation, to control tobacco consumption in the country. However the Tobacco Products Control Act of 1993 is now in place, having been introduced by the Minister of National Health and Population Development. The key elements of this act include the banning of tobacco sales to children under the age of 16 years, adding warnings to tobacco advertisements; and enabling local authorities to restrict smoking in public places.

The banning of tobacco sales to children under the age of sixteen years is a very important aspect of the legislation. However enforcing this aspect in particular, is considered to be

a mammoth task. Shopkeepers and other vendors of tobacco products need to act responsibly with regards to the sale of tobacco products to children. The growing number of vending machines also constitutes a major impediment to the successful implementation of this policy.²⁴

Perhaps the most contentious issue internationally, in controlling tobacco usage, is advertising.³¹ Tobacco advertisements promotes the idea that smoking is normal and glamorous, and therefore undermines the message, especially in children, that smoking is harmful to health. Evidence from Norway and New Zealand shows that banning tobacco advertising partially reduces CSB in children.³³ In South Africa tobacco advertising is banned on television, yet indirectly it continues in the form of billboards at sporting events. In addition, tobacco products are advertised in other media, such as newspapers, magazines, radio and on billboards alongside roads.

The issue of passive smoking is an emotional one. Passive smoking relates to the inhalation of cigarette smoke by people in the vicinity of the smoker. Environmental pollution by tobacco smoke affects non-smokers as well and places them at risk. The overall death rate in non-smokers who were living with smokers was higher when compared to non-smokers who were not exposed.³⁴ Non-smoking women in the USA who were exposed to the cigarette smoke of family members for over two decades had a threefold greater risk of developing lung cancer than did those not exposed to passive smoking.²⁰ Legislation in South Africa now empowers owners and operators of public places to create designated smoking and non-smoking areas. Local authorities are now able to restrict smoking in public places and offences under the act carry penalties of fines and/or imprisonment.

CHAPTER 3

METHOD

3.1 SUBJECTS

The subjects (N=325) were Indian matriculation students, at high schools in Newcastle, Dannhauser, Glencoe and Dundee, in Northern Kwa-Zulu Natal. These schools, previously reserved for Indian children were under the control of the House of Delegates. All students for whom parental consent was obtained were included in the study.

3.2 MATERIALS

A simple questionnaire (Appendix C) was designed and respondents were required to indicate their responses by a tick (/) or a cross (X). Prior to the study the questionnaire was given to various experts to assess content and face validity. The questionnaire contained items that illicited sociodemographic data, information on the development of CSB, and it also assessed knowledge and attitudes towards smoking.

3.3 METHOD OF DATA COLLECTION

Consent

A letter of consent was obtained from relevant authorities to conduct the study (Appendix A). Written consent was obtained from parents or guardians of the subjects (Appendix B).

Consent was also obtained from the school principals to conduct the study and the questionnaire was administered personally by the researcher at a pre-arranged time and date. In order to reduce bias confidentiality was assured, and names of subjects were not required on the questionnaire. Every attempt was made to obtain a relaxed atmosphere during the study.

3.4 COLLATION AND ANALYSIS OF DATA

The questionnaires were sent to the MRC for statistical analysis of the data.

CHAPTER 4

RESULTS

4.1 SOCIO-DEMOGRAPHIC DATA

The following results were obtained for the various parameters.

4.1.1 SEX

Smoking status with respect to sex is shown in Table I. Of the males 52 (36,1%) were smokers and among the females 3 (1,8%) smoked. There was a significant difference between males and females ($p=0.001$). Of those who smoked (52) 94,5% were male and (3) 5,5% were female.

Table I : Smoking Status In Relation To Sex

	Smokers		Non-Smokers		Total	
	n	(%)	n	(%)	n	(%)
Male	52	(36.1)	92	(63.9)	144	(100)
Female	3	(1.8)	160	(98.2)	163	(100)
Total	55		252		307	

4.1.2

RELIGION

With regards to religion, although there was no significant difference in CSB between the various religious groups, (See Table II and Figure 2) more subjects of the Hindu religion were smokers. However Hindus were overrepresented in the sample. Table III, Figure 3 reflects the actual status of smoking in the various religious groups.

Table II : Prevalence In Relation To Religion

Religion	Smokers		Non-smokers	
	n	(%)	n	(%)
Christian	13	(24.1)	50	(20)
Hindu	28	(51.9)	143	(57.2)
Muslim	11	(20.4)	54	(21.6)
None	2	(3.7)	3	(1.2)
Total	54	(100)	250	(100)

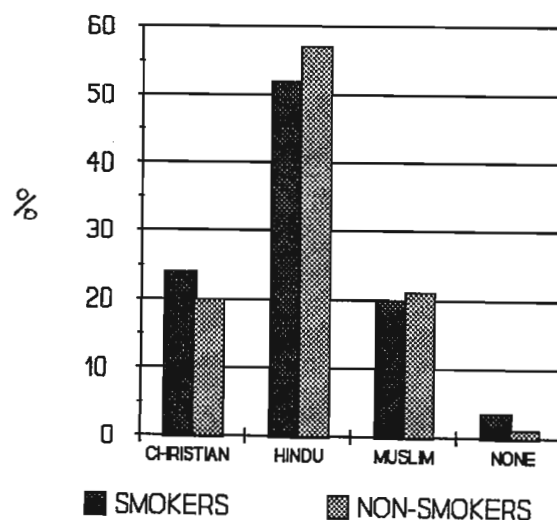


Figure 2 : Prevalence in relation to religion

Table III : Smoking In The Various Religious Groups

Status	Christian		Hindu		Muslim		None	
	n	(%)	n	(%)	n	(%)	n	(%)
Smokers	13	(20,6)	28	(16,4)	11	(16,9)	2	(40,0)
Non-smokers	50	(79,4)	143	(83,6)	54	(83,1)	3	(60,0)
Total	63	(100)	171	(100)	65	(100)	5	(100)

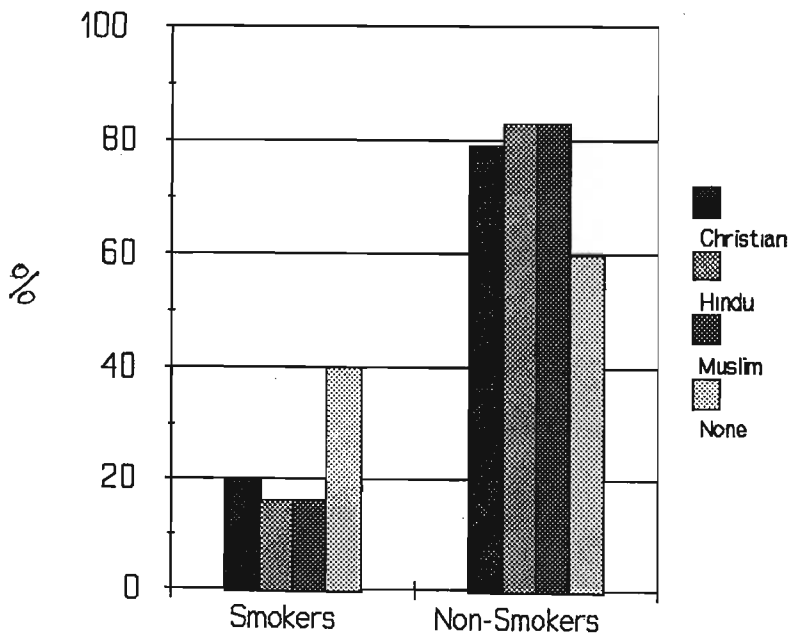


Figure 3 : Smoking in the various religious groups

Amongst the non-smokers 78 (32,6%) received less than R5 pocket money per week, whereas among the smokers; 45 (84,8%) received more than R6 per week, (See Table IV and Figure 4).

Table IV : Pocket Money Received By Smokers And Non-Smokers

Amount of Pocket Money	Smokers		Non-smokers	
	n	(%)	n	%
R0-5 per week	8	(15.1)	78	(32.6)
R6-10 per week	16	(30.2)	66	(27.6)
R11-20 per week	13	(24.5)	48	(20.1)
More than R20 per week	16	(30.2)	47	(19.6)
Total	53	(100)	239	(100)

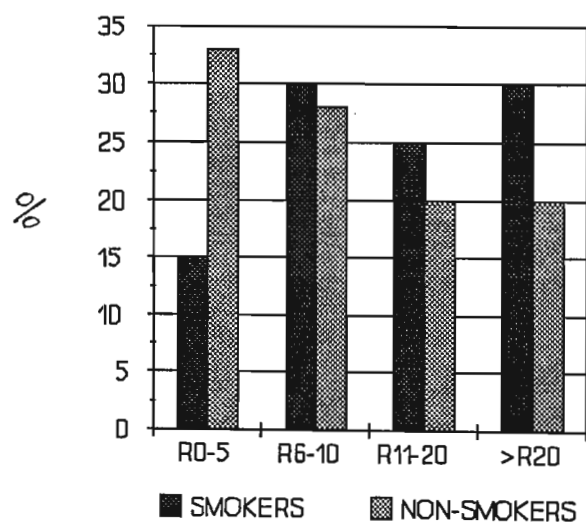


Figure 4 : Pocket money received by smokers and non-smokers

4.1.4 **AGE OF COMMENCEMENT**

Fifty four smokers (98,2%), had commenced smoking from the age of 11 years and over (See Table V and Figure 5).

Table VI : Age At Which Smoking Commenced

Age	n	(%)
Under 5 years	0	(0)
6-10 years	1	(1.8)
11-15 years	25	(45.5)
16 years and above	29	(52.7)
Total	55	(100)

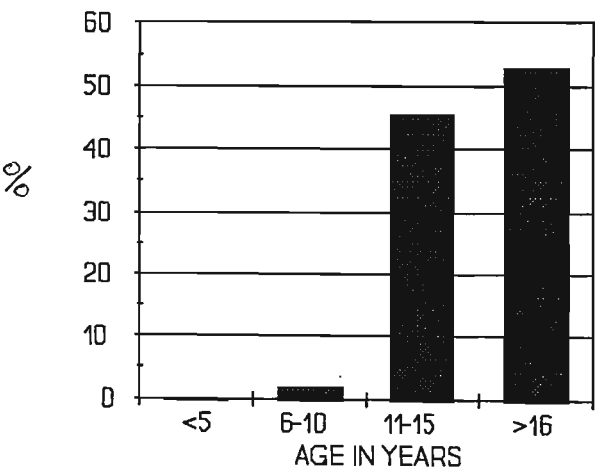


Figure 5 : Age at which smoking commenced

4.1.5 **PLACE WHERE SMOKING COMMONLY TOOK PLACE**

The commonest place where CS took place was at home (52%). The next most often used area was the school (24%), followed by sportsfields (12%) and other non-specified areas (12%). Four respondents ignored this question, (See Table VI, Figure 6).

Table VI : Areas Where Smoking Commonly Took Place

Place	n	(%)
Home	27	(53)
School	12	(24)
Sportsfield	6	(12)
Other	6	(12)
Total	51	(100)

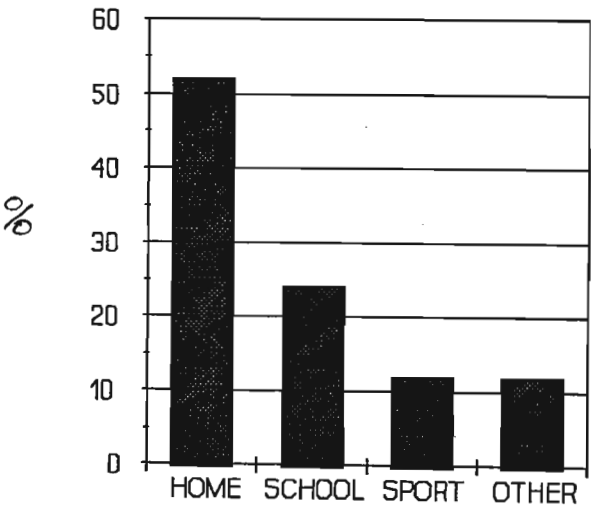


Figure 6 : Areas where smoking commonly took place

4.2 SMOKING PREVALENCE

Of the 326 children who participated in the study, 144 (46,9%) were male and 163 (53,1%) female, 19 (5,83%) did not specify their sex. The mean age was 17,2 years with a range of 16-20 years. The smoking prevalence rate for the study group was 16.9%

4.3 PREVIOUS SMOKING HABITS

Among the non-smokers, 164 (62,8%) had at some stage experimented with cigarettes, while 58 (22.1%) were ex-smokers. Among the current smokers 2 (3,6%) had smoked previously and had returned to the habit.

4.4 REASONS FOR DEVELOPING CIGARETTE SMOKING BEHAVIOUR

There were many reasons associated with CSB. Twenty three (42,6%) had a reason for smoking while the others did not. Some significant reasons were: 1) experimentation before smoking : 46 (83,6%; $p=0.001$); 2) smoking "Calmed the nerves : 41 (74,5%; $p=0.001$) 3) friends were also smokers : 52 (94,5%; $p=0.001$) 4) enjoyed smoking : 42 (77,8%; $p=0.001$). There are also other reasons for developing CSB, (see Table VII).

Table VII : Reasons For Developing CSB

Reason	Yes		No		Total	
	n	(%)	n	(%)	n	(%)
Have a reason for smoking	23	(42,6)	31	(57,4)	54	(100)
Experimented before smoking	46	(83,6)	9	(16,4)	55	(100)
Friends are smokers	52	(94,5)	3	(5,5)	55	(100)
Influenced by friends to smoke	18	(32,7)	37	(67,3)	55	(100)
Smoking attracts opposite sex	7	(12,7)	48	(87,3)	55	(100)
Smoking "calms the nerves"	41	(74,5)	14	(25,5)	55	(100)
Enjoy Smoking	42	(77,8)	12	(22,2)	54	(100)
Influenced by advertisements	10	(18,2)	45	(81,8)	55	(100)
Influenced by teachers	11	(20,0)	44	(80,0)	55	(100)
Influenced by family members	9	(16,7)	45	(83,3)	54	(100)

Although only a small number, 9 (16,7%) said that they were influenced by family members, an analysis of family members who were smokers was also done for both the smokers and the non-smokers in the study group. (See Table VIII and Figure 7).

Table VIII : Family Members Who Were Smokers

Family Member	Smokers	Non-smokers
	%	%
Father	75	70.9
Mother	19	15.3
Brother/s	41.1	27.1
Sister/s	6.3	4.9

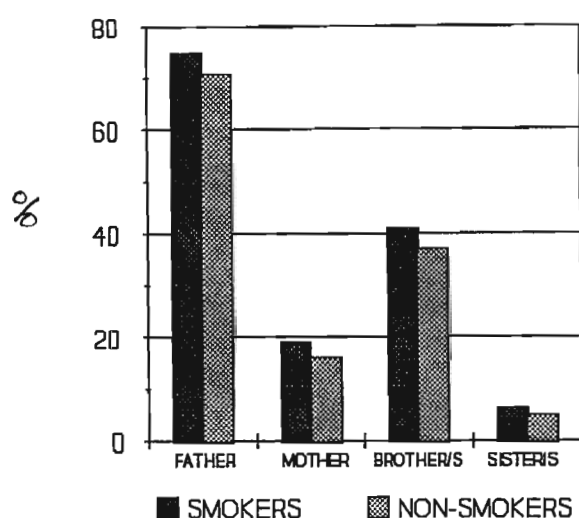


Figure 7 : Family members who were smokers

4.5

KNOWLEDGE ABOUT SMOKING AND HEALTH

Of the smokers 49 (89,1%) said that smoking was harmful to their own health and 41 (74,5%) said that it was harmful to others, while 38 (69,1%) believed that smoking was an addiction. (See Table XI). None of the smokers said that smoking was absolutely harmless.

Table IX : Effects Of Cigarette Smoking

Effects of Smoking	Yes		No		Don't Know		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Harmful to own health	49	(89,1)	2	(3,6)	4	(7,3)	55	(100)
Harmful to health of others	41	(9,1)	5	(16,4)	9	(16,4)	55	(100)
Absolutely harmless	0	(0)	49	(90,7)	5	(9,3)	54	(100)
Smoking is an addiction	38	(69,1)	14	(25,5)	3	(5,3)	55	(100)

Among the smokers 49 (90,7%) knew of the association between lung cancer and smoking, but the association between smoking and heart disease, and smoking and other cancers in was generally less well known. (See Table X).

Table X : Association Between Smoking And Disease

Diseases associated with smoking	Yes		No		Don't Know		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Lung Cancer	49	(90,7)	2	(3,7)	3	(5,6)	54	(100)
Chest Disease	27	(57,5)	5	(10,6)	15	(31,9)	47*	(100)
Other Cancers	20	(42,5)	5	(10,6)	22	(46,8)	47*	(100)
Heart Disease	23	(49,0)	3	(6,4)	21	(44,7)	47*	(100)

* (Some of the respondents did not respond to this question, hence totals of n=47).

4.6 ATTITUDE TOWARDS CONTINUATION OF CIGARETTE SMOKING

Fourty one smokers (77,4%) had tried to stop smoking, while 42 (77,8%) indicated that they would like to stop smoking. Nineteen (34,5%) said they would definitely continue to smoke, whereas 33 (58,2%) were uncertain about continuing smoking in the future (See Table XI).

Table XI : Attitude Of Smokers Towards Smoking

	Yes		No		Don't know		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Will continue smoking indefinitely	19	(34,5)	3	(7,3)	33	(58,2)	55	(100)
Would like to stop smoking	42	(77,8)	10	(18,5)	2	(3,7)	44	(100)
Tried to stop smoking	41	(77,4)	10	(18,9)	-	(-)	51	(100)

4.7 AWARENESS OF ORGANISATIONS INVOLVED IN ANTI-SMOKING PROGRAMMES

Seven smokers (12,7%) and 24 (9,3%) non-smokers were aware of organisations involved in anti-smoking programmes, (See Table XII). However only 4 (1,2%) smokers could actually name an organisation, ie., SANCA. With regards to formal talks or lectures given at school, 11 (20%) responded that they has been addressed at school about smoking.

Table XII : Awareness Of Organisations Conducting Anti-Smoking Programmes

	Yes		No		Total	
	n	(%)	n	(%)	n	(%)
Smokers	7	(12,7)	48	(87,3)	55	(100)
Non-smokers	24	(9,3)	234	(90,7)	258	(100)

CHAPTER 5

DISCUSSION

5.1 SOCIO-DEMOGRAPHIC DATA

There was a significant difference in the prevalence rate between males and females 52 (36,1%) and 3 (1,8%) respectively. Unfortunately no data is available to compare prevalence rates among Indian school girls in South Africa. However in one study, in South Africa, there was a prevalence rate of 3,2% among adult Indian females.⁹

There was no significant difference in CS between the various religious groups. Religion seemed to play no part in CSB, in this study. Given that smoking is forbidden by various religious groups it was expected that it would influence CSB.

Pocket money seemed to play a role in CS. Although the difference was not statistically significant, overall, smokers received more pocket money than non-smokers. There seemed to be a relationship between the amount of pocket money available and CSB, ie., the availability of money increased the purchasing power of smokers.

The study suggested that the age of onset of smoking was predominantly around the 10 year age group. The interests that pre-pubertal children develop exert a powerful influence on present as well as future behaviour.³⁵ There is thus a need to develop wholesome interests and avoid behaviour associated with risk, such as CS. This parameter can be of immense importance in formulating health education strategies. Anti-smoking campaigns can thus focus on the appropriate age group.

Alarming 27 (52%) smokers, smoked in the home environment and the school ranked next as an environment used for smoking for 12 (24%) smokers. A similar situation prevailed in Singapore, where the home, shopping centre and school, respectively were the common areas where CS occurred.¹⁰ Parents and school authorities need to take cognisance of these findings. Under current legislation in South Africa, it would be an offence to smoke in school, that is, if local authorities enacted bye-laws in terms of the new legislation in the country.

5.2 PREVALENCE

The prevalence of smoking in the study group was 16,9%. Figures relating to smoking in Indian school children in South Africa are not available. However in a study including all population groups, a prevalence rate of 21,7% was found in the 16-24 year age group among Indians in South Africa.⁹ The mean age of the study group was 17,2 years.

The prevalence rate in White high school children in Cape Town was 21% which corresponds to the 95% confidence interval for this study ie., (12,8%; 21%). However if only 17-18 years olds are considered, the prevalence rate is 34,5% in White school children.⁶ This is higher than the study group which had a mean age of 17,2 years. Black school children in Cape Town had an even higher prevalence rate (45%) in the 16 years and older age group.

5.3 REASONS FOR DEVELOPING CIGARETTE SMOKING BEHAVIOUR

A significant finding was that 46 (83,6%) smokers had experimented with cigarettes first before taking up CSB. This finding corroborates studies in Singapore and also in South Africa where Strebel et al. (1989) found that in Black school children in Cape Town regular smoking followed experimentation with cigarettes.^{10,2} The experimental phase seems to be important in establishing CS and for successful prevention programmes education must focus on this stage in the evolution of CSB.

The role of friends in CSB is significant. Of the smokers 18 (32,7%) were influenced by their friends, and 52 (94,5%) had friends who were also smokers. This was also the finding in Singapore where 13,7% of smokers were influenced by their friends.¹⁰ In a study by the Hong Kong Council on Smoking and Health, Chan and Hartz (1991) found that 88% of youngsters who smoked had a best friend who was also a smoker.²⁸ Most other studies

have shown that peer pressure is the single most powerful determinant of smoking in children.⁶ The findings in this study also emphasise the role of peers in the development of CSB.

Advertising of cigarettes is a powerful weapon in promoting smoking. Advertisements often convey messages which associate smoking with success, sophistication, sexuality, pleasure and relaxation.¹⁹ In this study 18,2% of smokers were influenced by advertisements. Research in the USA has found that adolescents with a high exposure to cigarette advertising were significantly more likely to be smokers.¹⁴ According to the NCAS, in South Africa, R150 million is spent on promoting smoking.³² The impact of advertising on CSB is hardly surprising, especially on the impressionable minds of children. This is one area in which legislation can certainly assist in curbing smoking. In some countries advertisements of tobacco products are completely banned, while in South Africa, only a partial ban applies.⁵ The new legislation in South Africa requires that all advertisements of tobacco products carry a health warning.¹⁶ Advertisement of tobacco products on television are banned in South Africa but advertising on radio continues, a medium that reaches more people than does television. Indirect advertisement occurs on television in South Africa by way of sports sponsorship, eg. Benson & Hedges cricket. Tobacco advertisements are permitted in cinemas where, on average, over 50% of the audience is under the age of 17 years.¹⁷ If legislators are serious about preventing exposure of the young to tobacco advertisements, then a total ban should be imposed on cinema advertisements.

Of the smokers, 11 (20%) were influenced by teachers. In Singapore 1,5% of smokers emulated their teachers.¹⁰ In a single school at Thaba Nchu in South Africa it was found that 81,6% of male teachers were smokers. The role of teachers in CSB is very important, because of their role-model status. Children tend to imitate their teachers. Teachers' serve as influential models for children.³⁶ Thus teachers attitudes towards smoking has an impact on school children. It is important that teachers project and promote a healthy lifestyle.

With regards to CS by family members, 9 (16,7%) were influenced by their family. Although statistically not significant, it is noteworthy that there were more smokers in the families of the smoking group as opposed to those students who did not smoke (See Figure 5). Parents invariably serve as models for children to imitate. Imitation is assumed to play a key role in the development of behaviour which is viewed as appropriate in the family.³⁶ Family members are therefore very important role models. If they convey a message that smoking is a harmless activity, this influences children unless they receive a stronger anti-smoking message via health education programmes.

Fourty two smokers (77,8%) enjoyed smoking. The others did not enjoy smoking, but presumably continued because of their addiction to nicotine. Smoking also had a calming effect on 41 (74,5%) smokers, possibly due to the fact that nicotine reduces aggression and decreases irritability.²⁶

It is interesting that all the smokers agreed that smoking was not completely harmless and yet they continued to smoke. Forty one smokers (74,5%) were aware that passive smoking was harmful. Pollution of the environment leads to non-smokers inhaling cigarette smoke. This is a phenomenon that almost everyone is subjected to daily, and raises an important question. Is there such a being as a non-smoker?

The disease risk due to inhalation of tobacco smoke is doubled in children of parents who smoke.³² The Surgeon-General of the USA in 1986 recommended that protecting the individual from environmental tobacco smoke is a responsibility shared by all including parents protecting their children. Under the new legislation, local authorities can restrict smoking in public places and enforce it by law.¹⁶ This has very wide implications, as the legislation is not directed at the smoker, but at protecting the non-smoker from environmental tobacco smoke. Environmental tobacco smoke or ETS has been classified as a Class A carcinogen, that is, a known human carcinogen.²¹ There are only nine other substances in this category.

This study showed that while the association between lung cancer and CS was well known among 49 smokers (90,7%), the association of CS with other cancers and heart disease was less well known. Many either did not know or were uncertain about the association.

It is alarming that while the effects of smoking on health are generally well known but smoking in adolescence continues. The same holds true in the USA where publicity made a considerable impact on adults who are addicted to tobacco, while having less effect on non-addicted youth.¹¹ The conclusion is that the knowledge concerning the health risks of smoking and exposure to negative attitudes towards smoking are not sufficient reasons to prevent smoking among adolescents. This fact is of concern, especially in planning and presenting anti-smoking campaigns to youth. Research should be directed at prevention programs which take into account the developmental processes, and the personal and social expectations of adolescents.^{11, 35}

5.5 ATTITUDE TOWARDS CONTINUING CIGARETTE SMOKING

There were mixed attitudes towards smoking, in the main, an air of uncertainty about continuing CS in the future, with 42 subjects (77%) expressing the desire to stop smoking. Forty one respondents (77,4%) had tried to stop but had failed.

This ambivalence towards smoking in youth, is a vexed question. In adults there is always a desire to stop. Perhaps it is the image of bravado and rebellion; a "macho" image; in the eyes of peers that creates this ambivalence and uncertainty. Smoking in adults is socially acceptable, while it is prohibited in childhood. Adolescence is a transitional zone in which childhood prohibitions are shed, and adult behaviour becomes incorporated. Smoking can perhaps be viewed as part of this progression into adulthood.¹¹

While smoking remains socially acceptable children will see no harm in CSB. Only when smoking becomes socially unacceptable behaviour in adults, young smokers will be motivated to change their habits.

5.6

AWARENESS OF ORGANISATIONS INVOLVED IN ANTI-SMOKING PROGRAMMES

There was hardly any awareness of organisations or groups that conducted anti-smoking programmes, (12,7% of smokers and 9,3% of non-smokers). The only organisation that was known was SANCA. None of the respondents mentioned the NCAS (National Council Against Smoking) or TAG (Tobacco Action Group). Very little was known of formal lectures given in school on the dangers of smoking.

It is absolutely mandatory for all health care professionals and health care organisations to educate the public about the dangers of tobacco. This responsibility should not be limited to the health sector. Community organisations, religious groups, sporting bodies, industry, etc. need to be involved in anti-smoking drives.

CHAPTER 6

CONCLUSION

The study was conducted in Northern Kwa-Zulu Natal and results reflect findings in a small percentage of the Indian matriculation population of South Africa. Certain clear points have emerged from the study.

- Smoking prevalence in the matriculation Indian school going population of Northern Kwa-Zulu Natal was 16,9%.
- Generally smoking commences around the 10 year age group in Indian school children.
- The main factors influencing CSB were teachers, family members, friends and advertisements.
- There was general awareness of diseases associated with smoking.
- There was uncertainty with regard to future smoking behaviour.
- There is very little awareness about organisations involved in anti-smoking campaigns.

6.1 LIMITATIONS OF THE STUDY

The results cannot be generalised to all Indian matriculants in South Africa or to the general matriculation population of South Africa. The smoking prevalence rates in this study are based on questionnaires and therefore sometimes open to bias from inaccurate responses. Absenteeism from school also probably affected the results.

6.2 RECOMMENDATIONS

- Education about health be made mandatory in schools, with special reference to hazardous activities like smoking.
- Prohibiting smoking in school, including academic and non-academic staff.
- Conducting anti-smoking campaigns in schools on a regular basis by interest groups, directed at pupils, teachers and other staff members.
- Prohibiting tobacco advertisements in schools either in a direct or indirect manner.
- Local authorities should use their legislative powers to prohibit smoking in most public places, especially those frequented by children, such as

discotheques and sports events.

- Smoking cessation programmes be made available at schools.
- Shop owners and other sales points be cognisant of the law which prohibits the sale of cigarettes to children under the age of 16 years.

APPENDIX

Appendix A



EDUCATION AND CULTURE SERVICE
ONDERWYS EN KULTUURDIENS

(EX ADMINISTRATION: HOUSE OF DELEGATES)
(EX ADMINISTRASIE: RAAD VAN AFGEVAARDIGDES)

Tel: (031) 3606911

Fax: (031) 374261

Ref. No.
Verw. No.

A 10/29/2/42

Enquiries
Navrae

H. Rambehari

Truro House
Trurohuis
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Victoria Embankment 17
Private Bag X54323
Privaatsak X54323
DURBAN
4000

1994 -07- 2 6

Dr M. Bayat
P.O. Box 139
DANNHAUSER
3080


Sir

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN DEPARTMENTAL SCHOOLS

Your letter dated 94-06-25 (received on 94-07-25) has reference

1. Permission is hereby granted to you to conduct your research at the 5 Secondary schools indicated in your letter provided that :
 - 1.1 prior arrangements are made with the principals concerned;
 - 1.2 the prior consent of parents of pupils participating in the research is obtained;
 - 1.3 participation in the research by pupils is on a voluntary basis;
 - 1.4 completion of questionnaires is done outside normal teaching time; and
 - 1.5 all information pertaining to pupils is treated confidentially and used for academic purposes only.
2. Kindly note that Departmental approval must be obtained before any of the findings is published.
3. Kindly produce a copy of this letter when visiting the schools.
4. The Department wishes you every success in your research and looks forward to receiving a copy of the findings.

Yours faithfully


EXECUTIVE DIRECTOR

9408/bay/lp

Appendix B

DR M BAYAT

B.Sc. M.B.Ch.B. D.T.M.&H. D.P.H. M.F.G.P

P.O. Box 139, DANNHAUSER, 3080, Telephone: (0344) 2253

Dear Parent/Guardian

Smoking is a major health hazard, as you probably know. It is also a very common habit in all communities, including ours.

Studies have shown that smoking is also common in school children as well. In view of this, I am conducting a study on smoking among matriculants in Northern Natal.

I will appreciate it if you will kindly allow your child to participate in the study. All that is required of your child is to complete a simple questionnaire which would only take a few minutes. This will be done at school, by me personally and the information will be strictly confidential, only my research assistants at the University will have access to it. Your child's name will not appear on the questionnaire.

Please complete the form below and return it with your child.

I thank you.

Your sincerely

DR. M BAYAT

CONSENT

I _____ hereby give permission for my child / ward,
_____ to take part in the
study being conducted by Dr. M Bayat, at the school.

I understand that I give my consent freely, without any obligation.

Signature of Parent/Guardian : _____

Witnessed by : _____

Student's signature : _____

Date: _____

Appendix C

QUESTIONNAIRE

This questionnaire is being presented to you by a medical practitioner who is involved in research on cigarette smoking.

1. This questionnaire is strictly confidential.
2. Only those involved in the research will have access to the questionnaire.
3. No other person will view your questionnaire.
4. Your teachers, parents, friends or family will not have access to the questionnaire.
5. Please be completely honest.

MAKE A CROSS "X" IN THE APPROPRIATE BOX PLEASE

DEMOGRAPHIC DATA

1. SCHOOL:

2. SEX:

MALE

FEMALE

3. AGE IN YEARS:

15

16

17

18

19

20

20+

4. RELIGION:

CHRISTIAN

HINDU

MUSLIM

NONE

OTHER (Specify):

5. HOW MUCH POCKET MONEY DO YOU GET PER WEEK?:

R0-5

R6-10

R11-20

MORE THAN
R20

PREVALENCE

1. DO YOU SMOKE?

YES

NO

9. ARE YOU INFLUENCED BY THE FACT THAT SOME TEACHERS SMOKE?

YES	NO
-----	----

10. WHICH MEMBERS OF YOUR FAMILY SMOKE?

FATHER

MOTHER

BROTHER/S

SISTER/S

NONE

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

11. ARE YOU INFLUENCED BY THE FACT THAT SOME MEMBERS OF YOUR FAMILY SMOKE?

YES	NO
-----	----

KNOWLEDGE

1. DO YOU THINK SMOKING IS HARMFUL TO ONE'S OWN HEALTH?

YES	NO	DONT KNOW
-----	----	-----------

2. DO YOU THINK CIGARETTE SMOKE IS HARMFUL TO HEALTH OF PEOPLE IN CLOSE PROXIMITY TO THE SMOKER (This is called "Passive Smoking")

YES	NO	DONT KNOW
-----	----	-----------

3. DO YOU THINK CIGARETTES ARE ABSOLUTELY HARMLESS?

YES	NO	DONT KNOW
-----	----	-----------

4. WOULD YOU SAY THAT CIGARETTE SMOKING IS ASSOCIATED WITH THE FOLLOWING DISEASES:

LUNG CANCER

CHEST DISEASE

OTHER CANCERS

HEART DISEASE

YES	NO	DONT KNOW
YES	NO	DONT KNOW
YES	NO	DONT KNOW
YES	NO	DONT KNOW

5. DO YOU CONSIDER CIGARETTE SMOKING TO BE AN ADDICTION?

YES	NO	DONT KNOW
-----	----	-----------

ATTITUDE

1. WILL YOU CONTINUE SMOKING INDEFINITELY AFTER LEAVING SCHOOL?

YES	NO	DONT KNOW
-----	----	-----------

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