

https://dspace.org/

Knowledge, attitudes and practices of students in matric regarding smoking

Mokonoto, Maggie Dimakatso

2003-06-06
https://hdl.handle.net/10539/24416

Downloaded from a DSpace repository. https://dspace.org/

KNOWLEDGE, ATTITUDES AND PRACTICES OF STUDENTS IN MATRIC REGARDING SMOKING

BY

MAGGIE DIMAKATSO MOKONOTO

Submitted in fulfilment of the requirements for the degree of

MASTER OF PUBLIC HEALTH

In the

DEPARTMENT OF SCHOOL OF PUBLIC HEALTH

Faculty of Health Sciences

UNIVERSITY OF THE WITWATERSRAND

Supervisor: Dr. Shan Naidoo

Co – supervisor: Bridget Smuts

Johannesburg, 2003

Declaration

I, Maggie Dimakatso Mokonoto declare that this research report is my own work This report is being submitted for the degree of Master of Public Health (M P H) in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

Ethics Committee, for Research on Human Subjects Clearance certificate number:

M 01- 05- 48

Signed.....

06 day June of 2003 year

Dedication

I dedicate this work to my husband Joel, my son Tshegofatso and daughter Didintle. I really appreciate the support and courage you have given me throughout this process. In particular my husband who chaperoned me until I got used to the typing skills.

ABSTRACT

KNOWLEDGE, ATTITUDES AND PRACTICES OF STUDENTS IN MATRIC REGARDING SMOKING

Smoking is a preventable cause of death. Young people start smoking at an early age due to certain external influences such as peer pressure, advertising etc. Once they start smoking, they often remain smokers forever because of the addictive effects of nicotine. The international studies show that the high morbidity and mortality rates caused by cigarette smoking can be reduced if health promotion strategies target school going children.

The aim of the study was to investigate knowledge, attitudes and practices of students in matric as regards smoking in the Greater Tshwane Metropolitan area (Pretoria). This will inform the health promotion programmes, in particular health education, dealing with tobacco smoking prevention and control in schools.

A cross sectional analytical survey was conducted in three high schools of the Tshwane South Education District, in the Greater Tshwane Metropolitan area (Pretoria). All racial groups (i.e. Whites, Africans, Indians and Coloureds) were studied. An anonymous self - administered questionnaire, containing both open and closed ended questions was used.

The results were analysed using Epi Info 6 and STATA. 95% of the students had an overwhelming knowledge of the dangers of smoking. Of all the students (26%) were current smokers.

Multiple logistic models found that the following factors were significantly associated with whether or not students currently smoked, and whether or not they ever smoked:

Race - Coloured students smoked the most. The Odds Ratio for each category was as follows;
Whites OR: 1.78 (CI: 0.67 – 4.76), Indian OR: 2.81(CI: 0.82 – 9. 60) and Coloured OR: 3.94 (CI: 0.84 - 9.54).
Centre (i.e. type of school) – There is a centre effect, with the eastern suburb school (centre 3) having a higher prevalence of smoking than Laudium (centre 2) and Mamelodi (centre 4). The odds ratio for smoking for eastern suburb school is 3.2 and for smoking for Laudium and Mamelodi is close to 1.

Sex – Males smoked more than females OR: 0.26 (CI: 0.37 – 3.26). However Coloured students smoked the most amongst the females. The Odds Ratio for smoking amongst females among the different race groups were as follows: White: OR: 3.15 (CI: 0.93 – 10.64), Indian: OR: 0.32 (CI: 0.05 – 1.93) and Coloured: OR: 13.55, (CI: 0.88 – 207.6).

Overall the prevalence of cigarette smoking is very high amongst matric students in the public high schools of Tshwane and there is a need for urgent preventive programmes.

Acknowledgements

I would like to thank my Almighty God and the following people without whom my research work would not have been possible:

My supervisor Doctor Shan Naidoo for the encouragement and support as well as instilling the spirit of academic excellence.

My statistician Doctor Jonathan Levin (M.R.C.) for supporting me throughout this project. He always discouraged me from looking down on myself and to have the quest for a "Positive Outlook".

The Department of Education in Gauteng for the permission to conduct the study

The principals of the schools; guidance teachers; receptionists and parents from the four high schools one in North –West and the others in Tshwane.

Evah Matome, my colleague for motivating me to pursue this topic on smoking.

All the students who participated in the study, your humour and exuberance inspired me to investigate more on this problem and in future studies.

Management and colleagues of the S. G. Lourence Nursing College in Pretoria for granting me permission to pursue my studies.

Kindest gratitude to my husband, son and daughter.

The W H O and the National Department of Health for the financial assistance.

TABLE OF CONTENTS PAGE

DECLARATION i

DEDICATIONS ii

ABSTRACT iii

ACKNOWLEDGEMENTS iv

TABLE OF CONTENTS v

LIST OF FIGURES xii

LIST OF ABBREVIATIONS xiii

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND INFORMATION 1

1.2 STATEMENT OF PROBLEM 3

1.3 JUSTIFICATION 4

1.4 DEFINITION OF TERMS 5

1.4.1 Knowledge 5

1.4.2 Attitudes 6

1.4.3 Practice and behaviour 6

1.4.4 Curriculum 6

1.5 AIM OF THE STUDY 7

1.6 STUDY OBJECTIVES 7

1.7 SUMMARY 7

CHAPTER 2: LITERATURE REVIEW

2.1	INTRODUCTION	8
2.2	BEHAVIOUR CHANGE	8
2.3	PREVALENCE OF SMOKING AMONG ADULTS AND YOUTH GLOBALLY AND IN SOUTH AFRICA	9
2.4	KNOWLEDGE ABOUT SMOKING	14
2.5	ATTITUDE TOWARDS SMOKING	16
2.6	HEALTH PROMOTION AND PREVETION OF SMOKING	18
2.6.1	Advocacy	18
2.6.2	Enablement	19
2.6.3	Mediation	19
2.7	CONCLUSION	20

CHAPTER 3: STUDY METHODS

3.1	INTRODUCTION	21
3.2	STUDY POPULATION AND SAMPLING	21
3.3	THE DATA COLLECTION MEASUREMENTS	22
3.3.1	Introduction	22
3.3.2	Section A of the questionnaire	22
3.3.3	Section B of the questionnaire	23
3.3.4	Section C of the questionnaire	23
3.3.5	Study type	23

3.3.6	Variables to be measured	23
3.4	DATA COLLECTION	24
3.4.1	Instrument	24
3.4.2	Procedure	24
3.5	CONTROL OF BIAS	25
3.6	QUALITY CONTROL	25
3.7	RECORDING	26
3.8	ETHICAL CONSIDERATIONS	26
3.9	PILOT STUDY	27
3.9.1	Introduction	27
3.9.2	Operationalisation of the pilot study	27
3.9.3	Findings of the study	27
3.9.4	Conclusion	28
3.10	SCOPE OF THE STUDY	28
3.11	POSSIBLE LIMITATIONS	29
3.12	DATA PROCESSING AND ANALYSIS	29
3.13	CONCLUSION	30

CHAPTER 4: DATA ANALYSIS AND RESULTS

4.1	INTRODUCTION	31

4.2	DEMOGRAPHIC DATA BROKEN DOWN BY CENTRES	31
4.2.1	Sex	31
4.2.2	Residential area	32
4.2.3	Race	32
4.2.4	Religion	34
4.2.5	Age	36
4.2.6	Marital status of parents	35
4.2.7	Employment status of the parents	35
4.3	PREVALENCE OF SMOKING AMONG STUDENTS	36
4.3.1	Frequency of smoking	37
4.3.2	Sex by smoking status	37
4.3.3	Race by smoking practice	38
4.3.4	Marital status of parents by smoking practice	38
4.3.5	Smoking status and employment of parents	39
4.3.6	Smoking habit and smoking status of parents	40
4.3.7	Smoking status of siblings	41
4.3.8	Smoking and sports activity	42
4.3.9	Smoking practice and having a friend who smokes	42
4.4	Knowledge and attitude about smoking	44
4.4.1	Sources of information about dangers of smoking	44
4.4.2	Identified dangers of smoking	45
4.4.3	Heard of dangers of passive smoking	46
4.4.4	Heard of the negative impact of smoking on the economy	46
4.4.5	Attitudes towards Tobacco Product Control Amendment Act,2000	48
4.4.6	Attitudes of students towards smoking	50
4.4.7	Perception of family influence on smoking	51
4.4.8	Opinion on perception of friends' influence on smoking	52
4.4.9	Opinion on perception of smoking and adults	53
4.4.10	Opinion on factors influencing smoking	54
4.4.11	Opinion on perception of smoking prevention	55

4.5 LOGISTIC REGRESSION ANALYSIS OF RISK FACTORS FOR SMOKING 56

CHAPTER 5: DISCUSSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION 60

5.1.1 Having heard of the dangers of smoking 60
5.1.2 Sources of information on smoking 60
5.1.3 Dangers of smoking 62
5.1.4 Smoking and having heard of the harmful effects on non – smokers 63
5.1.5 Smoking and negative effects on economy of the country 63
5.1.6 Knowledge of Tobacco Products Control Act, 2000 64
5.1.7 Attitudes of students towards smoking 64
5.1.8 Perception of peer influence on smoking 65

5.2 RESULTS ON SMOKING PRACTICES 66

5.2.1 Prevalence of smoking 66
5.2.2 Environmental exposure to smoking 67
5.2.3 Participation in sports 67
5.2.4 Smoking and influencing factors 68
5.3 RECOMMENDATIONS ON PREVENTION OF SMOKING 69
5.3.1 Political will 69
5.3.2 School policy development and enforcement 70
5.3.3 Development of the curriculum 70
5.3.4 Creating a safe environment for children 71
5.3.5 Appropriate training and support 72
5.3.6 Inter-sectoral collaboration 73
5.3.7 Community development and participation 73
5.3.8 Health instructions 73

6. CONCLUSION 74

REFERENCES 76

APPENDIX A 85
APPENDIX B 89

LIST OF TABLES

1.	Residential area by centre	32
2.	Religion by centre	34
3.	Age by centre	35
4.	Marital status of parents	35
5.	Employment level of parents	36
6.	Smoking state by centre	37
7.	Number of cigarettes smoked by centre	37
8.	Smoking status by sex	38
9.	Smoking status by race	38
10.	Smoking status by marital status of parents	39
11.	Smoking status by employment level of fathers	39
12.	Smoking status by employment level of mothers	40
13.	Smoking status of father by smoking status	40
14.	Smoking status by smoking status of mother	41
15.	Smoking status of brother by smoking status	41
16.	Smoking status of sister by smoking status	41
17.	Participation in sports by smoking status	42
18.	Having a smoking friend by smoking status	43
19.	Impressions on smoking influence	43
20.	Ever heard of the danger of smoking	44
21.	Dangers of smoking	45
22.	Heard of the dangers of passive smoking by smoking status	46
23.	Heard of the negative effect of smoking on the economy	47

24. Opinion of Tobacco Product Control Amendment Act, 2000 48

25. Attitude towards tobacco control legislation 49

26. Opinion on tobacco control legislation by smoking status 50

27. Attitudes by smoking status 50

28. Expressed attitude on smoking 51

29. Influence of family member by smoking status 51

30. Influence by friends by smoking status 52

31. Views about influence by friends 52

32. Responses on perception of smoking and adulthood 53

33. Factors influencing smoking 54

34. Strategies of prevention of smoking 55

35. Logistic regression model for currently smoking by centre 56

36. Logistic regression model for currently smoking for race and gender 57

37. Predicted smoking prevalence by race and gender 58

38. Smoking status by sex for African students 59

LIST OF FIGURES

1.Sex by centre 32

2. Place of residence by centre 33

3. Race by centre 33

4. Identified sources of information 45

5. Identified dangers of smoking 46

LIST OF ABBREVIATIONS (NOT FOR CIRCULATION/ NOT TO BE QUOTED)

BC	Breast cancer
C D C	Chronic Disease Control
D U B	Danger to unborn babies
G D P	Gross Domestic Product
HP	Health professionals
Heart D.	Heart diseases
I C D – 10	International Classification of Diseases
Lung C.	Lung cancer
Lung D.	Lung diseases
M R C	Medical Research Council
M & M W R	Morbidity and Mortality Weekly Report
Np & Mag	Newspapers and magazines
Par & Rel	Parents and relatives

CHAPTER 1

1. INTRODUCTION

1.1 BACKGROUND INFORMATION

The number of young people who smoke is increasing. There are over one billion smokers in the world today (World No Tobacco Day, 1995). According to the WHO, if the current global smoking patterns are not corrected, then half a billion people who are currently alive will be killed by tobacco. Globally smoking prevalence is higher among males than females. According to Lamkin & Houston (1998), teenage tobacco use is an increasingly prevalent health problem in the United States of America (USA) where three thousand teenagers become regular smokers each day.

In South Africa the smoking prevalence in 2001 among males was 43.8% and 12.9% among females (Research Release, 2001). It was further reported that smoking prevalence was significantly higher in urban areas at about 32.5% than in rural and small settlements (20%). The South African overall prevalence of smoking among young people was found to be 19.6% in 1998 (Guthrie, Shung-King, Steyn & Mathambo, 2001).

Young people start smoking at a very young age. The average age for smoking initiation was found to be 10 years or under in the Global Youth Tobacco Survey in 1999 (Swart, 2001). Siemiska, Jassem, Konopa, Damps & Slomiski (2000) reported that the average age of smoking initiation in Poland was 13 years for boys and 15 years for girls.

Once young people start smoking they could be smokers for life because of the addictive effect of nicotine. Nicotine is one of the harmful substances found in cigarettes and is capable of crossing the blood-brain barrier bound on the right site of the brain cells. Nicotine is known to be one of the most addictive drugs in the world (Department of Health, 1998). It is a deadly poisonous substance: 60 mg of nicotine, the size of a small pill taken at once would kill the average adult within minutes by paralysing the muscle that assists with breathing. This deadly substance has a stimulating effect that leads to addiction to cigarettes (Engel, 1996). Engel (1996) also states that addiction is characterised by repeated self - administration even if the person is willing to quit smoking.

Barry (1991) in her report indicated that the USA tobacco companies sell brands in the developing world with substantially higher amount of tar and nicotine. Sales of cigarettes were promoted in the developing world to aggressively expand the markets for tobacco companies because activities in the developed world were being curtailed. Tobacco companies were faced with increasing litigation in the United States of America in particular hence they started targeting the developing world.

Meyer- Weitz, Reddy & Levin (1996) indicated that people and particularly young smokers find it difficult to give up smoking once they have been smoking regularly. This is mainly due to the withdrawal effects of stopping nicotine.Engel (1996) stated that an addicted person has a continuous urge to maintain the blood nicotine level to avoid unpleasant withdrawal effects which include the following signs:

- Slowed heart rate.
- Difficulty in concentration.
- Reduced thinking ability.
- Irritability.
- Anger.
- Anxiety.

The highly addictive effect of nicotine is forcing us to discourage tobacco use especially among young people. Meyer- Weitz, Reddy & Levin (1996), say that prevention of smoking among youth in South Africa requires urgent Public Health attention.

1.2 STATEMENT OF PROBLEM

Smoking is a health risk and there is overwhelming scientific evidence to prove this, but many people seem to be totally unaware of this or consciously ignore it's dangers. Smoking results in severe health problems such as cancer.
Engel (1996) reports these problems as cancer of:

- Lung.
- Colon.
- Mouth.
- Oesophagus.
- Throat.
- Pancreas.
- Bladder.
- Cervix.

Engel (1996) states that the earlier someone starts smoking, the greater the danger of addiction and death from tobacco related disease. International studies have shown that young people start smoking at the age of 13 - 15 years (Sieminska et al, 2000). According to Engel (1996), it takes almost 20 years for high smoking rates to have their impact on mortality. Engel (1996) further stated that studies in South Africa have indicated that children begin to smoke between the ages of 10 - 12 years. The Department of Health (1998), states that each cigarette a person smokes, shortens one's life by about 5.6 minutes i.e. for each year that a person smokes, he or she takes one month off his or her life. The Department of Health further states that nine out of ten smokers, including teenagers, develop emphysema, a lung disease that kills slowly.

1.3 JUSTIFICATION OF STUDY

Tobacco smoking endangers the lives of both smokers and non-smokers (Engel, 1996). According to Engel (1996), non - smokers inhale smoke from idling lit cigarettes and smoke that is exhaled by the smokers. Once ill - health has set in, the quality of life of people and their economic production level declines. The burden of ill - health is high costing the country a lot of money to deal with health problems caused by smoking 20 - 30 years ago. The Department of Health reported that smoking 20 cigarettes a day is going to cost R 60 000 per person to treat in the next 15 years, allowing for a 15% in inflation rate annually. Health authorities should think of what a person could do with that money if smoking was controlled in South Africa. In 1998 it was reported in a preliminary report of the Department of Health that the smoking rate for both sexes is 24%, which translates into seven million South Africans, 15 years or older who smoke regularly (Department of Health, 1998). Tobacco use is reported to be a Public Health disaster because tobacco kills over three million people every year and the death toll is estimated to rise to ten million per year by 2020 (W H O Report, 1997). Tobacco use in South Africa affects males and females and young and old differently.

Smoking practices among young people seem to continue even at tertiary educational level. Some of the smokers in the nursing profession are reported by Casey, Haughey, Dittmar, O' Shea & Brasure (1998) to be having difficulty in positively influencing patients who are smoking, because they have failed to quit smoking themselves. Boccoli, Federichi, Melani & De Paola (1996) also reported that only a quarter of nursing students considered medical cessation approaches as useful for quitting and advised patients with tobacco related diseases against smoking.

It is hoped that if the knowledge, attitudes and practices of high school students are understood, the health promotional support needed by the school age pupils will be strengthened for them not to start smoking or stop if they have started in order to maintain a healthy life style and therefore, contribute to a healthier nation in the future.

Health promotion could be successful if it could change the smoking behaviour of young people. Changing the behaviour of a person is a dynamic action. Human - beings are said to be rational and make systematic use of information available to them. If she/he is given relevant information, a person is capable of considering the implications of her/his actions before deciding to engage in a particular behaviour (Mavundla & Uys,1997).

The impact of strategies in health education campaigns varied; multimedia campaigns were effective in changing peoples' behaviour, however the use of statistics given by the anti-tobacco lobby was less effective, as young people were sceptical of these statistics (Guthrie et al. 2001). Tobacco control interventions such as controlling sales to minors, increasing excise taxes and banning of advertising and sponsorship by tobacco were found to decrease consumption among youth in South Africa 1998 (Guthrie et. al, 2001).

Even though the tobacco legislation was successful in decreasing tobacco consumption, the cause for concern is that seven million South Africans were still smoking in 1996 (South African Medical Research Council, 1996). Also, 48% of adults in South Africa reported exposure to smoking by at least one household member who smoked (Reddy, Meyer- Weitz & Yach, 1996).Furthermore it was found that black women who had bought tobacco products as children were current smokers (Marks, Steyn & Ratheb, 2001). We need to explore other innovative prevention programmes to decrease smoking and also to understand why people and in particular the youth take up the habit.

1.4 DEFINITION OF TERMS

1.4.1 Knowledge

What everybody or someone knows about a subject. (Augarde, Hope & Butterworth,1993). Children learn to know reality in and outside their homes. They learn more complex skills at school so that they are capable of joining the society and living responsibly in the future (Fraser, Loubser & van Rooy, 1991).

1.4.2 Attitudes

Attitudes are ways of thinking, feeling and behaving (Augarde, Hope & Butterworth, 1993). They also describe how a person feels about certain issues and events.

1.4.3 Practice and behaviours

Practice is when a person performs something over and over to get better at it (Augarde, Hope & Butterworth, 1993). Behaviour is a noun from the verb to behave (to act in a particular way) (Augarde, Hope & Butterworth, 1993). Smoking is a health risk factor associated with personal behaviour. Social and economic factors are regarded as some of the determinants of smoking behaviour among most people (Naidoo and Wills, 1997).

1.4.4 Curriculum

It is a course of study (Augard, Hope & Butterworth, 1993). The content is selected and arranged into school subjects according to the level of development and needs of the children (Fraser, Loubser & van Rooy, 1991).

It is recommended that an appropriate health education program on tobacco smoking be incorporated into school curricula (Abul & Lisk, 1995). Another study conducted on smoking suggested that health education should start earlier at school and a greater emphasis within the curriculum to be carried out (Osaki & Minowa, 1996). According to Meyer -Weitz et al (1997), " the prevention of smoking among young people remains urgent while improved education as an important strategy for tobacco control should be actively pursued".

1.5 AIM OF THE STUDY

The aim of the study is to investigate the prevalence of cigarette smoking among students in matric.

1.6 STUDY OBJECTIVES

1.6.1 Investigate the knowledge, attitudes and practices of students in matric regarding smoking.

1.6.2 Investigate how knowledge and attitude regarding smoking differ between smokers and non-smokers.

1.6.3 Investigate whether socio-demographic factors (such as age, sex, race, place of residence, employment status of parents and marital status of parents) and behavioural factors (smoking habits of parents and friends) influence the smoking practices of student

1.7 SUMMARY

Smoking is a global problem because it results in high morbidity and mortality rates. Smokers become addicted to cigarettes because of the substantial amount of nicotine contained in it. Tobacco companies have targeted the youth and with the younger starting age of smokers (10-12 years) and the high prevalence of smoking among the youth (16.8%), it is imperative that we explore the problem in Public Health prevention strategies.

CHAPTER 2

2. LITERATURE REVIEW

2.1 INTRODUCTION

The literature review has been grouped into the following sections for convenience.

- Behaviour change.
- Prevalence of smoking among adults and youth globally and in South Africa.
- Knowledge about smoking.
- Attitude towards smoking.
- Health promotion and prevention of smoking.

2.2. BEHAVIOUR CHANGE

Health promotion and prevention of smoking depend on the attitudes and behaviour of the smokers and non-smokers. According to Gilbert, Selikow & Walker (1998), promotion and maintenance of health could be possible if socio – environmental and behavioural changes would take place. In changing the behaviour, we need to know and understand the person's practice of smoking, how she/he perceives smoking and what influences the practice (Gilbert et al.,1998).

A person is regarded to be a rational being that is capable of making use of the information available to her/him. The rational use of the information enables her/him to consider the implications of the action before engaging in a particular behaviour (Mavundla & Uys, 1997).According to Mavundla & Uys (1997),

deciding to engage or not to engage in the behaviour is determined by: (1) Intention to perform the practice. (2) Personal factors (3) Behavioural beliefs.

The intention to act depends on motivation and volitional control of an individual (Stroebe & Stroebe, 1995). The personal factor can be a positive or negative attitude towards the behaviour. This personal factor is evaluated by a person herself/himself. Attitude could change if a person would be aware of the risk of taking the action (Stroebe & Stroebe, 1995).

Sometimes an action is taken because of behavioural belief. Behavioural belief deals with prescriptions from the peer group on whether or not to undertake the practice. This would be determined by checking whether or not an individual performs the actions under her/his control (Stroebe & Stroebe,1995).

Behaviour change is not logical but psychological. Young people are not passive victims of smoking but they can participate in the decision of whether or not to smoke (Gilbert et al. 1998).

2.3. PREVALENCE OF SMOKING AMONG ADULTS AND YOUTH, GLOBALLY AND IN SOUTH AFRICA

The Morbidity and Mortality Weekly Report (1999) stated that out of six of the eleven states of the United States of America, 80% of persons who use tobacco are said to begin before the age of eighteen. The prevalence of current smoking increased among high school students during that time.

Over the past ten years there is a consistent pattern for more English girls than boys to become regular smokers and the ratio is 13%:10% in 1994 (Foulds &

Godfrey, 1995). It is also reported that by the age of fifteen, a quarter of young people are smoking every week in England (Foulds & Godfrey, 1995).

A WHO Report (1997) titled "Tobacco use: a Public Health Disaster" reported that tobacco kills over three million people every year and it is estimated that the death toll will rise to ten million in the year 2020. It is stated in this report that there are approximately one thousand million smokers in the world of which one third are aged fifteen years and younger (WHO Report, 1997).

A study conducted by Hill, White & Segan (1995) in Australia, indicated that the prevalence of smoking among 17 years old secondary students was much higher, with 28% of boys and 31% of girls reported to smoke. The study also stated that there was no increase in the proportion of students who smoked on three or more days per week suggesting that the increase was limited to occasional, casual or social smoking (Hill, White & Segan, 1995).

Osaki and Minowa (1996) in their study among junior and senior high school students of Japan reported that the current smoking rate increased with age to reach 25.5% for boys and 4.9% for girls in the twelfth grade. The percentage of regular smokers was also reported to have increased to 20.3% for boys and 2.2% for girls, with the proportion of boys smoking ten or more cigarettes per day increasing as age increased (Osaki & Minowa, 1996).

The smoking status of students in Hong Kong was reported as follows: "(1) never smoker, 71%; (2) tried only, 15.5%; (3) used to smoke but not now, 4.2%; (4) smoked less than one cigarette per week, 2.9%; (5) smoked one to six cigarettes per week, 1.7%; (6) smoked more than six cigarettes per week 4.5% (Lam, Chung, Betson, Wong and Hedley, 1998). Lam et al (1998) also postulated that ever smoking was associated with the following factors: (1) increasing age, (2) place of birth,(3) poor knowledge of hazards of smoking, (4) positive attitudes to smoking, (5) smoking in family members, (6) participation in tobacco promotional

activities and (7) perception of cigarette advertisements as attractive". The strongest association observed was the youth's "perception of cigarette advertisements as attractive" (Lam et al, 1998).

The study on the prevalence of cigarette smoking among secondary school students in America revealed that one third of all students smoked, half of all the eighteen year old smoked, and of those students who smoked, 41% most frequently smoked an internationally recognised cigarette brand (Morbidity Mortality Weekly Report, 1997).

A study titled "Smoking: high hazards in high school" in America, revealed that the prevalence of smoking among young adults (age 18- 24) is high at more than 12%. It indicated that a disturbing feature is that smoking is higher among females than among young males. The percentage among students who classified themselves as current smokers has risen from 23% to 30% as the students progress to grade twelve (Hann, Asghar, Owen & Asal, 1995).

An American study on "Cigarette smoking and sports participation in adolescents", revealed that the percentage of smokers showed a steady increase from the lowest to the highest grade in students practising no or occasional activity, but there was no increase in those who regularly practice sports. Therefore students' smoking was negatively associated with regular practice of sport among the grade twelve students (Donato, Assanelli, Chiesa, Poeta, Tomasoni & Turla, 1997).

In South Africa and in other countries race is considered one of the determinants of tobacco use. According to Goldstein (1996), South Africa is a "microcosm" of international tobacco trends. It means that White males represent the developed world, decreasing their smoking habits. Also Coloured males and females increase in number of smokers, representing the developing world. Furthermore Black women and men smoke less, representing the least developed countries. Coloured people (37%) had the highest smoking prevalence followed by Whites (28%) in South Africa. The prevalence of smoking was found to be lower among

the Blacks (22.7%) (Research Release, 2001). According to Reddy et al, (1998), the smoking rate among Coloured people had increased alarmingly by 1992. Black people have a potential to increase in their smoking habits because remaining a non - smoker depends on how committed a person is. Therefore Black people just as any other non-smokers are at the risk of converting to high smoking prevalence (Marks et al, 2001).

McKenna, Gutierres & McCall (2000) reported that tobacco smoking among youth is prompted by socio - economic factors prevailing in the particular society. Ogawa, Tominga, Sellert & Aoiki (1988) in their study, indicated that current smokers tend to have friends who are smokers and also smoking among family members leads to smoking among young people. Recently, it was reported that smoking pupils who were not having friends who were smokers resulted in a decrease in their cigarette consumption (Sieminska et al. 2000).

Young people are seen as being predisposed to smoking by the impact of their family background. Smoking is also considered a way of measuring adaptive feelings and concerns (Brynin,1999). It was reported that family influence, especially that of the father, contributed towards initiation of smoking by male secondary school children (Shamsuddin & Haris, 2000). The study conducted by the latter two authors indicated that "father's smoking habit and presence of negative role models within the home need to be considered in any cigarette smoking prevention programs among secondary school adolescents".

In a study by Morello, Duggan, Adger, Anthony & Joffe (2000) the eleventh grade students (20%) were more likely to be current smokers than the eighth graders (11%) in a study of "Tobacco use among high school students" in Argentina. In the very same study current smoking between the eighth and ninth graders was associated with having a best friend who smokes (Morello et.al,2000). A study that was conducted on eleven to fifteen year old secondary school children in

England discovered that the prevalence of smoking for both father and mother influenced the smoking behaviour of children (Jarvis, 2000).

Peer group influence was reported to be the single most important determinant of smoking habits in Cape Town (Prout & Benatar 1983). The study on "Tobacco smoking among students at the University of the Witwatersrand" in Johannesburg, revealed that 22% smoked, 17% were ex-smokers and 61% never smoked. Again peer group pressure is taken to be the strongest stimulus for smoking in children (Meijer, Branski, Knol & Kerem, 1999).

In a study conducted by Haidinger, Waldhoer & Vutuc (1998) in Austria, the prevalence of regular smoking among men increases with age and reaches its highest level between the ages of twenty-five and thirty-five. The rate of smoking among boys was found to be 28% while that of girls was only 3%. Most of the smokers were reported to have smoked between ten and twenty cigarettes a day (Borkoni, Baird & Siff, 1983).

In China, smoking was also associated with lower parental socio -economic status; having parents, siblings or teachers who smoked; buying cigarettes for adults; performing poorly in school and not believing that smoking is harmful to health (Zhu, Liu, Shelton & Giovino, 1996).

It was also discovered that smoking behaviour among adolescents in Shanghai (America) is affected strongly by enabling factors such as socio - economic, cultural and environmental (Sun and Ling, 1997).

In the studies by Padget, Selwyn & Kelder (1998) in Panama and Bawazeer, Hattab & Morales (1999) in Yemen, the smoking status of family members and peers also predicted student's smoking status.

2.4 KNOWLEDGE ABOUT SMOKING

According to Jones & Kirigia (1999) in their study of knowledge and smoking among South African women, the probability of being an uninformed non smoker or uninformed smoker vary according to different socio - economic groups.

In the study of cigarette smoking habits among high school boys in the developing countries, all student groups were found to be equally aware that smoking is a risk factor for lung cancer, respiratory diseases and ischaemic heart diseases (Bener & al-Ketbi, 1999).

It was reported that the majority of smokers (97,6%) and non smokers (94,8%) in Mexico know that cigarettes are damaging to one's health, hence 90% of smokers are trying to quit or intend to quit in the near future (Tapia-Conyer, Cravioto, de la Rosa, Galvan, Garcia - de la Torre & Kuri, 1997).

Current smoker in Sierra Leone were reported to be less aware of the health hazards of smoking but the majority of previous smokers indicated that they stopped the habit because they thought it was bad for their health (Abul & Lisk, 1995).

Warren, Riley, Asma, Erikson, Green, Blanton, Loo, Batchelor & Yash (2000) reported that in most countries the majority of young people had been taught in school about the dangers of smoking but this is not incorporated into the curriculum in a systematic fashion. Warren et al. (2000) also reported that very few students had been taught reasons for not smoking or about the effects of tobacco. The percentage of students who reported having been taught in school about the dangers of the use of tobacco varied from over 70% in China to approximately 33% in South Africa, Barbados, Costa Rica, Russia and Zimbabwe (Warren et al, 2000).

Bener & Ketbi (1999) indicated that the source of students' information regarding smoking hazards was highest from the media (35%) and lowest from doctors (17-19%).

There are misconceptions about effects of tobacco in Chad but the majority of smokers (97.6%) and non- smokers (94.8%) are reported to know that cigarettes are damaging to health (Leonard, 1996).

Ninety - eight percent of the respondents considered themselves knowledgeable about adverse health consequences of smoking in the American study (De Bernardo, Aldinger, Dawood, Hanson, Lee & Rinaldo, 1999).

In a study that was conducted by al- Faris (1995) about smoking habits of secondary school boys in rural Riyadh, the majority knew about and understood the hazards of smoking. al - Faris (1995) continued to state that the sources of knowledge about smoking in secondary boys were the media (66%) followed by doctors (45%) and then educators (30%).

The American study reported that ninety percent of junior high school children recognised that cigarette smoking was seriously harmful and their source of information was mainly teachers and parents (Sun, Anderson, Shah & Julliard, 1998). The latter study also stated that while 53% of the students identified their parents as the ones who taught them not to smoke, 47,8% of these parents were smokers themselves (Sun et al, 1998).

2.5 ATTITUDE TOWARDS SMOKING

Studies throughout the world found similarities in the attitudes of smoking of youth towards smoking. The respondents in a study in Singapore who were asked attitudes towards smoking and whether cigarette smoking was harmful and whether smoking made a person popular, stated that a boy or girl who smoked looked bad (Emmanuel, Ho & Chen, 1991). In this study it was also reported that the reasons for giving up smoking by ex-smokers were the harmful effects of cigarettes (Emmanuel, Ho & Chen, 1991).

Use of tobacco in a study titled "Cigarette smoking and its risk factors among elementary school students in Beijing", was associated with not believing that smoking is harmful to health (Zhu et al, 1996).

Among ex-smokers and non smokers, it was reported that the main reason for not smoking was that smoking was "useless" and the students of that study in Malaysia felt that cigarette smoking was "socially unacceptable among females" (Yaacob & Abdullah,1994).

In a study of Cigarette smoking in China, it was reported that all respondents believed that smoking is harmful for both the smoker and those exposed passively to the smoke (Gong, Koplan, Feng, Chen, Zheng & Harris, 1995).

A study on cigarette smoking habits among school children in Jerusalem, conducted by Meijer, Branski, Knol & Kerem, (1996), indicated that non -smoking children associated more negative characteristics with smoking and all children studied were well aware of the health hazards of cigarette smoking.

A recent health report in the Seatle Times indicated that girls between fourteen and eighteen years of age gave reasons for risking their lives by smoking as follows " I did it to show off", " I wanted to do something no one expected me to do", "I was the quiet little girl, and I wanted to impress people" (Keiko, 2001).

It is also reported that one of the girls said that she began smoking "because she hung around people who smoked". Lastly the other girl " felt she had no sense of self esteem" (Keiko, 2001).

While Ogawa et al (1988) reported that smoking among Japanese teenagers is associated with adulthood, Alexander, Allen, Crawford & McCormick (1999) in America, stated that it is the behaviour of peer group influence that is the most important associated factor. According to Sieminka et al (2000), teenagers feel more mature and self-confident when they smoke.

The causes of smoking among 16 -17 year old girls in Sweden, was found to be the lack of a practical school curriculum, lack of interest in sports, smoking by one's best friend, maternal smoking and desire for weight control (Herlits & Westholm,1996). In another study, Pate, Trost, Levin & Dowda (2000) reported that sport participation is highly prevalent among USA high school students and is associated with numerous positive health behaviours and few negative ones. Furthermore, Donato, Assanelli, Chiesa, Poeta, Tomasoni & Turla (1997), in the study of "Cigarette smoking and sports participation in adolescents" in Italy, revealed that students smoking was negatively associated with the regular practice of sports in twelfth to thirteenth - grade students.

On the same note, Sieminska et al (2000) show that among students who went for a summer camp, there were no smokers in those students who participated in sports. They also identified an increasing number of smokers among the girls and a possible reason was thought to be psychosocial such as "if I smoke I will be slim "(Sieminska et al, 2000). Respondents in this particular study indicated that smoking helped them to adapt to a new environment easily (Sieminka et al., 2000).

Among the strongest associations observed in Hong Kong, was the youths' perception of cigarette advertisement as attractive and environmental tobacco advertising is considered an important factor in causing smoking among the students (Lam, Chung, Wong & Hedley, 1998).

2.6 HEALTH PROMOTION AND PREVENTION OF SMOKING

According to the OTTAWA Charter (1986), Health Promotion is the process of enabling people to increase control over and to improve their health. People should have aspirations to satisfy their needs and cope with the environment. It is not just the responsibility of the Health Sector and goes beyond healthy life – styles (OTTAWA Charter, 1986). The charter suggests the process methodology of behavioural change for the prevention of smoking as follows:

2.6.1 Advocacy

Having good health is said to be a major resource for social, economic and personal development as well as an important dimension of quality of life. Therefore developing the healthy public policies is regarded as the cornerstone of Health Promotion. These policies are other measures of health promotion that do not rely only on behaviour change.

The South African Tobacco Products Control Amendment Act (2001) as amended, puts our country in the forefront of tobacco control globally. It has been implemented since the first of January 2001. The Act states that: "WE CANNOT, BY LAW SELL TOBACCO TO ANYONE UNDER THE AGE OF 16 YEARS" (Tobacco Products Control Amendment Act, 2000). Further on this Act No 12 (2001) makes it clear that authorities should restrict smoking in public places, provide health warnings on the cigarette pack, ban tobacco advertising, prohibit sale to minors and prevent youth from having access to vending machines. The aggregate consumption decreased by 22% in South Africa since the tobacco control legislation (Research Release, 2001). Tobacco control policies were effective in other countries. Singapore achieved "Best Practices on tobacco use", due to the implementation of a mix of policy and programme interventions (Tan, Arulanandam, Chng & Vaithinathan, 2000).

2.6.2 Enablement

The OTTAWA Charter states that Health Promotion strives for equity in health. Children need a supportive environment, access to information, life skills and opportunities to make healthy choices.

Education for the health of young people should focus on the individual behaviour and be health promoting through acknowledgement of the influence of the school itself as a health promoting environment and as part of wider community development (Naidoo & Wills, 1997). Behaviour change depends on willingness of a person to change but a human- being needs to be assisted to take the intended action. Giving health education at a young age enables a human- being to make choices between several alternatives (Stroebe & Stroebe, 1995). In taking an informed decision, the young person will be able to consider the implications of the smoking behaviour before getting involved or quit if he or she had already started smoking.

2.6.3 Mediation

In South Africa, the Tobacco law mediates between smokers and non-smokers. It seeks to protect the rights of non - smokers from the dangers of smoking. This law makes provision for designated smoking areas in public places, working areas, schools, restaurants, airports, entertainment areas, accommodation facilities, public transport etc.

The legislation also protects young people from being exposed to tobacco products by banning sales to minors. All those who contravene this law are liable to a fine.

A range of different tobacco control interventions, have proved to be effective in some countries. Singapore and California have used community - based interventions to reduce tobacco consumption among the youth (Elder, Edwards,

Conway, Kenny, Johnson & Bennett, 1996 and WHO Report, 1999). Australian and Hong Kong students were found to be more likely to support tobacco control policies than Dutch students (Lafarge, Velicer, Levesque, Fava, Hill, Schofield, Fan, De Vries, Shisana & Conner, 1998).

Tobacco control measures need to be targeted towards youth bearing in mind the nature of an adolescent in the South African society. Adolescence is said to be the period of transition from childhood to adulthood extending roughly from the thirteenth to the nineteenth year (Watson, 1979). It is characterised by marked structural, physiological, emotional and social behavioural changes. During this stage, the individual is seeking independence and a new set of values and standards. The individual also struggles with identity conflict (Watson,1979).

The former president of South Africa Nelson Mandela, in his speech on world tobacco day said, "I call on youth not to take up this deadly addiction. The time has come for governments, communities and individuals to build a healthy tobacco free world (WHO, 1995)".

2.7 CONCLUSION

In spite of the limited data in South Africa on the topic being studied, a considerable number of international studies have investigated the attitudes, knowledge, practices, behaviours and tobacco control as well as dangers of smoking on school children. Little research has been conducted on knowledge, attitudes and practices of South African school students on smoking. Such research studies may help the government to institutionalise Health Promotion programmes in schools and redevelop the curriculum to prevent smoking specifically.

CHAPTER 3

3. STUDY METHODS

3.1 INTRODUCTION

This chapter examines the methods employed to carry out the research. Contents of this chapter include the following: the research design, scope of practice, population and sampling method, description of the data collection instrument and description of the pilot study. This chapter then discusses the method of collection and analysis of data. This is a cross sectional analytic study.

3.2. STUDY POPULATION AND SAMPLING

The target population consisted of all matric students in the public high schools of Tshwane South District in the province of Gauteng, which is one of the nine provinces in the Republic of South Africa. There were forty high schools in this district. Private schools were excluded from the study. The Gauteng Education Department has twelve Education Districts of which Tshwane South is one

The sample size required is a compromise between the wish to get precise results and to examine associations within the data, and the constraints of budget and time due to this being a student research project; hence a maximum of three schools could be included, which would lead to a sample size of at least 300 participants. Assuming (from national data) a smoking prevalence of 25%, this sample size will be sufficient to estimate the smoking prevalence to within approximately +_5% using 95% confidence limits. It should be noted that the precision is not very sensitive to small changes in the estimated prevalence. It means that if the actual prevalence of smoking were 20% then a sample size of 300 would give a similar precision. In addition the sample size of 300 will be sufficient to examine associations in the data using chi – squarred tests. In the three schools chosen from stratified sample there were 452 matric students of

whom 402 completed the self - administered questionnaires. This is a response rate of 89%.

The study was done in two stages. Firstly, a sample of public high schools from the Tshwane South District of the Gauteng Department of Education was taken. Three high schools were randomly selected from the sampling frame; Tshwane South was divided into three strata (eastern suburbs, Indian residence - Laudium and a township - Mamelodi) and one school chosen from each stratum. Stratification and random sampling of schools within strata means that the pupils sampled can be regarded as being representative of public school pupils in Tshwane South. All participating students in matric of the three high schools were questioned on their knowledge, attitudes and practices as regards smoking.

3.3 THE DATA COLLECTION MEASUREMENTS

3.3.1 Introduction

An assisted self - administered questionnaire was used and divided into three sections. Section A of the questionnaire covered questions on the demographics of the respondents. Section B of the questionnaire contained questions to evaluate knowledge and attitudes of students about smoking.
Section C consisted of questions to assess the smoking practices of students. The questionnaire was adapted from the literature; the questions were developed making use of the literature (Smith, & Umenai, 2000).

3.3.2 Section A of the questionnaire

The participants were asked to state their sex, residential area, racial group religion, age, marital status as well as employment of the parents (Morbidity and Mortality Weekly Report, 1994).

3.3.3 Section B of the questionnaire

The participants were asked what they know about smoking, where they got the information , what the dangers of smoking are, whether or not smoking has ill effects on non - smokers, whether or not smoking has negative implications on the economy of the country, their knowledge about the Tobacco Products Control Amendment Act, 2001 and how they perceive smoking as a habit.

3.3 4 Section C of the questionnaire

The participants were asked about their smoking status i.e. whether they smoked, to indicate the number of cigarettes they smoked, about the smoking status of their parents and siblings, whether their relatives and friends influence their smoking behaviour, whether they take part in sport, whether they have friends who smoke, whether smoking is related to adult behaviour, their opinion regarding what influences youth to smoke and how they can be helped not to smoke.

3.3.5 Study type

The study design was a cross sectional analytic survey, with the aim of exploring the smoking related attitudes, knowledge and practices of students in matric and to link different socio-demographic variables to smoking behaviour.

3.3.6 Variables to be measured

The variables that were measured in the survey were:

- Sex
- Age
- Race
- Residential area

- School or centre
- Religion
- Knowledge
- Attitudes
- Social and environmental factors (practices, family structure and employment status of parents).

3.4 DATA COLLECTION

3.4.1 Instrument

A questionnaire consisting of standardised questions with responses ranging from the "Yes", "No," "I do not know" and "No Response" were used to obtain data from the participants. Open - ended questions were included to get more clarity on the responses. The questionnaire was developed in English because it was the medium of instruction in all the schools including the pilot group.

3.4.2 Procedure

The researcher chose a district that she is not familiar with; therefore the participants did not know the researcher. Permission to conduct research was obtained from the principals of the schools and the Gauteng Education Department. Consent to participate in the study was obtained in writing from the students, parents, principals and the Gauteng Education Department. All 452 students consented to the study but only 402 completed the questionnaire. Students from the pilot study were excluded from the main study. The study was conducted on 28th, 29th and 30th of September 2001. On the 28th the study was conducted in the eastern suburbs, on the 29th in Mamelodi and on the 30th in Laudium. All participants completed the questionnaire within thirty minutes. The researcher started by explaining the procedure emphasising the purpose of the study to the participants.

A self-administered questionnaire was given to each participant by the researcher who was available to give assistance if needed. The participants were made comfortable in a classroom situation and no teacher was present during the administration of the questionnaire. Participants were instructed not to write their names, nor the school's name or any form of identification on the questionnaires. They were also told to place the questionnaire inside an envelope after completion, and drop it through a small window of the box that was provided. Each completed questionnaire was given a response number from 1 – 402.

3.5 CONTROL OF BIAS

The researcher oversaw the distribution of the questionnaires to the participants. The participants completed the questionnaires themselves. They were allowed to complete the questionnaires in such a way that they were not incriminated if they smoked. The researcher briefed them as to the anonymity of the questionnaire as well as the confidentiality of individual results. The box containing the questionnaires was collected after all the participants had left the room. Furthermore leading questions were excluded to avoid bias. Open - ended questions were included in the study to get views of the participants.

3.5 QUALITY CONTROL

Both Ethics and Postgraduate committees of the University of the Witwatersrand approved the questionnaire before it was administered. The biostastician also checked the questionnaire before it was administered. Items in the questionnaire were phrased in such a way that the content covers the topic and what is contained in the literature.

3.7 RECORDING

Data from all participants of the high schools were recorded and reported as an aggregate report. The study was anonymous and answers were treated with utmost confidentiality.

3.8 ETHICAL CONSIDERATIONS

The researcher ensured that she was registered for the Masters of Public Health at the University of the Witwatersrand before starting with the study.

Before the study was conducted, a protocol was presented successfully to the Post Graduate Committee of the University of the Witwatersrand. The letter of approval in this regard was received from the Committee. The Ethics Committee of the University also approved the study.

The purpose of the study was explained to the participants, parents, school management and Gauteng Education Department by the researcher in writing.

Written permission was received from the Gauteng Education Department before the study was conducted.

Participants were given full verbal information about the study before they started completion of questionnaires.

The participants were told not to write their names on the questionnaires to maintain anonymity and confidentiality.

Participants as well as parents were asked for written consent and participation was voluntary.

Participants were told that they were free to withdraw from the study if they wished to do so.

Participants were reassured that they would not be incriminated by their participation in the study. Therefore there would be no victimisation.

No teacher was involved in the administration of the questionnaire.

Parents and the participants were informed that the study would bring the benefit of providing understanding of youth smoking behaviour so that the relevant authorities such as the Health Department could take appropriate actions in the prevention and control of smoking in our country.

3.9 PILOT STUDY

3.9.1 Introduction

The pilot study was successfully conducted at a high school in Ga - Rankuwa, North West province in South Africa. Ten volunteer students were asked to complete the questionnaire in a classroom after the purpose of the study was explained. This study familiarised the researcher with the research setting and it served as a pre - test to identify ambiguous questions as well as to check the feasibility of implementing of the study.

3.9.2 Operationalisation of the pilot study

A total number of ten questionnaires were administered to matric students who volunteered to take part in the study. These students are full – time matric learners of one of the public schools in Ga – Rankuwa (North – West province in South Africa). All participants used English as a medium of instruction at school. The researcher was well received by the principal of the school and students

were chosen on a voluntary basis. There were no problems encountered by the researcher during collection of the data.

3.9.3 Findings of the study

Completion of the questionnaires took the participants 20 minutes. The time was shorter than the proposed one by the researcher. The researcher explained some of the questions such as in item B.5 on request by the participants.

3.9.4 Conclusion

It was discovered that some of the questions were unnecessary and ambiguous. These questions were removed. However, the questionnaires were easily administered and the students found them easy to fill in. There were no problems in its implementation.

3.10 SCOPE OF THE STUDY

The sample that was studied came from three high schools in Tshwane South District of the Gauteng Department of Education. The schools had Black, White, Coloured and Indian students from different, socio - economic backgrounds. All students studied were in the grade twelve classes. The schools were given centre numbers as follows:

- Centre one, was a pilot group that is situated in Ga - Rankuwa, in the North -West Province of the Republic of South Africa. The pilot group was not included in the analysis.
- Centre two, three and four were parts of the main research study and they are situated in the Gauteng Province.

- Centre two Laudium is a predominantly Indian residential area.
- Centre three is located in one of the eastern suburbs of Tshwane.

- Centre four is in a predominantly Black area, Mamelodi, next to a developing informal settlement. This area is accessible to students from the rural areas of the Mpumalanga Province.

3.11. POSSIBLE LIMITATIONS

The results may not represent all young people in Tshwane because the study was limited to one district i.e. Tshwane South. There is a problem with self-administered questionnaires because some respondents might not complete the questionnaire hence some of the questions were not answered. Some of the questions were answered by few respondents e.g. in a question on negative impact of smoking on the economy, 31% of the students gave no response. A question on opinion on tobacco control legislation had only 44% of students who had an opinion about the Act. Such responses could bias the results. The question ended up testing having heard of, instead of having knowledge of dangers of smoking to smokers and non-smokers. An investigation on having knowledge on smoking among young people in South Africa should be pursued further. An overwhelming number of students in centre 4 could not express their opinion regarding tobacco control legislation. This issue needs to be explored. The proportion of smokers and non-smokers who said that giving health information would prevent smoking needs to be explored as this issue came up as a response from the question of "what in their opinion would assist the youth not to smoke".

3.12 DATA PROCESSING AND ANALYSIS

The questionnaires were coded and data entered into a computer using Epi Info version 6. Descriptive statistical analysis was used. Data was summarised including graphic presentations (graphs, histogram) for the interpretation of findings (Polite & Hungler1991: 446). Associations between demographic variables and smoking status, and between other risk factors and smoking status

were firstly examined using chi-squared tests for associations. More complex relationships were explored using multiple logistic regression models. The data analysis and logistic regression analysis were performed using the STATA statistical package.

3.13 CONCLUSION

A cross sectional analytical study of the knowledge, attitudes and practices of students in matric regarding smoking was done. The study was conducted in the Tshwane Metropolitan area (Pretoria) by getting the participants to complete an anonymous, self - administered questionnaire.

CHAPTER 4

4 DATA ANALYSIS AND RESULTS

4.1. INTRODUCTION

The results are presented in four sections as follows:

- Section 4.2 presents a summary of demographic data.
- Section 4.3 presents prevalence of smoking among students in matric.
- Section 4.4 presents knowledge and attitude about smoking.
- Section 4.5 presents logistic regression analysis of risk factors for smoking.

Note that of the total number of 452 matric students who were studied, only 402 questionnaires were returned; it means that 89% of the students responded.

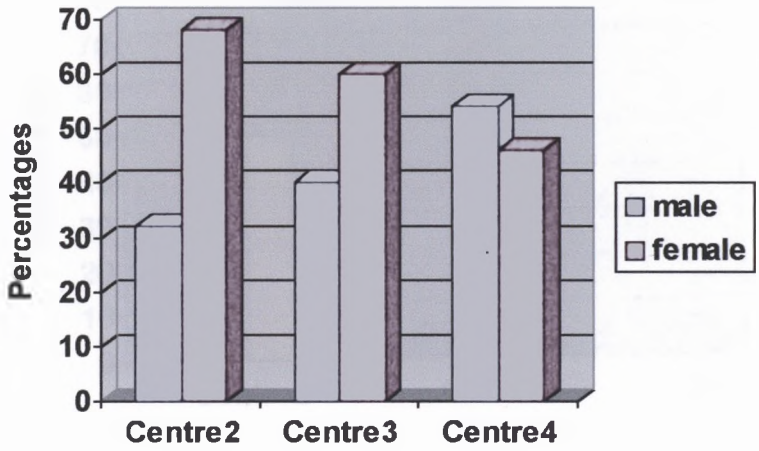
4.2. DEMOGRAPHIC DATA BROKEN DOWN BY CENTERS

For this section the results are summarised using tables and figures.

4.2.1. Sex

Overall, there were more females (59%) than males (41%) in the study. In particular, centres 2 (Laudium) and 3 (eastern suburb) had more females than males (Figure 1).

FIGURE 1:Sex by centre



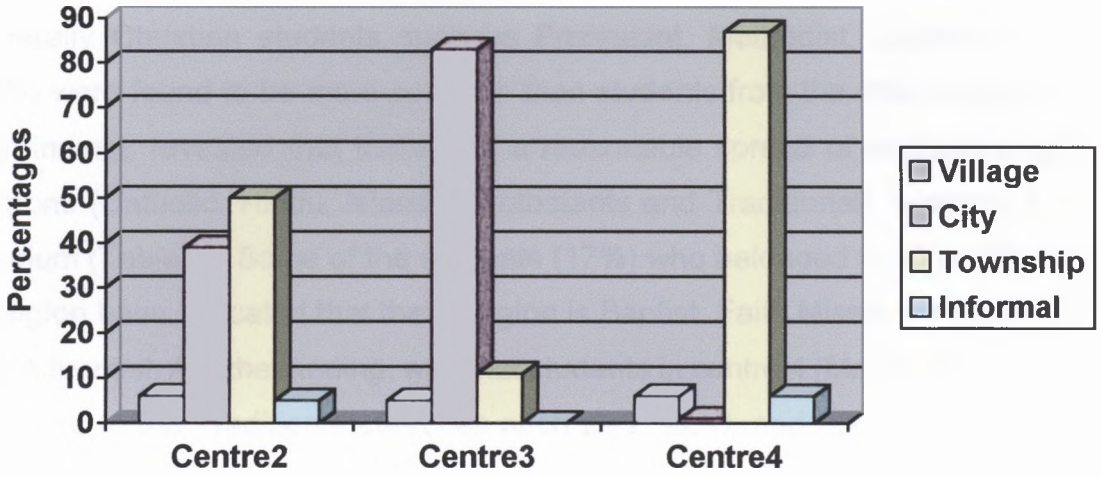
4.2.2. Residential area

It was discovered that overall most of the students came from the township (46%), followed by the city (45%), village (6%) and informal settlement (3%) (Table1). Since only a small number of students lived in the informal settlement (3.23% n= 13), the results cannot be generalized to give conclusions about informal settlements. It was also discovered that centre 2 (Laudium) which was predominantly an Indian area, had a large number of students coming from the African townships. It is possible that the high number of students in each centre who lived in the township (Figure 2) might be accounted for by admission of students from all the neighbouring black townships (Atteridgeville, Soshanguve, Mabopane and Ga - Rankuwa).

TABLE 1: Residential area by centre

Centre	Rural	City	Township	Informal
2	8(6%)	53(39.3%)	67(50%)	7(5.2%)
3	8(5.4%)	124(83.2%)	17(11.4%)	0(0.00%)
4	7(7%)	1(0.93%)	94(87%)	6(6%)
Total	23(6%)	178(45.4%)	178(45.4%)	13(3.3%)

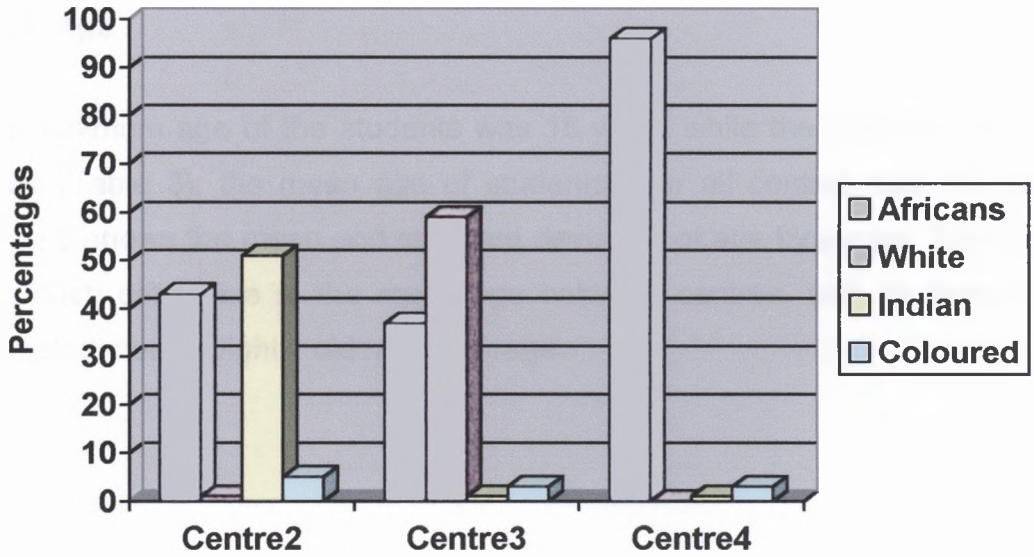
FIGURE 2: PLACE OF RESIDENCE BY CENTRE



4.2.3. Race

Although all racial groups were found within each centre, it was clear that Africans (56%) predominated. Figure 3 shows the distribution of racial group in each centre. It is worth-noting that there were fewer Coloured students (n=14) than the other groups

FIGURE 3:Race by centre



4.2.4. Religion

Generally Christian students such as Protestant, Methodist, Lutheran etc. (39%) were found to be more common than students from the other religions. The findings revealed that there was a reasonable spread of students in all religions (Catholic, Hindu, Islamic, Protestants and Traditional) in centre 2 – Laudium (Table 2). Some of the students (17%) who belonged to "OTHER" as a religion have indicated that their religion is Baptist, Faith Mission or Seventh Day Adventist. Another finding, was that students in centre 4 (Mamelodi) mostly belonged to the Traditional churches such as Z. C. C. and Apostolic that are common in the African culture (Table 2).

TABLE 2: Religion by centre

Centre	Catholic	Hindu	Islam	Protestants	ZCC	Other
2	14(11%)	27(20%)	38(28%)	40(30%)	3(2.24%)	12(9%)
3	30(21%)	0(0.00)	2(1.37%)	84(58%)	5(3.42%)	25(17%)
4	11(10%)	1(0.94%)	3(2.83%)	25(24%)	39(37%)	27(25%)
Total	55(14%)	28(7%)	43(11%)	149(39%)	47(12%)	64(17%)

4.2.5. Age

The minimum age of the students was 16 years while the maximum was 25 years (Table 3); the mean age of students over all centres was 18 years. Table 3 shows the mean and standard deviation of age by centre. There was not much difference in the mean age between centres, with students from Mamelodi being slightly older on average.

TABLE 3: Age by centre

Centre	Observed	Mean	Std. Dev.	Min.	Max.
2	135	17	.7595	16	21
3	151	18	.7177	16	19
4	101	19	1.5636	16	25
Total	387	18	1.2527	16	25

4.2.6. Marital status of parents

The study showed that the divorce rate of parents was highest in centre 3 – eastern suburb (10%), followed by centre 2 - Laudium (9,2%). There was also a higher proportion of single parenthood in centre 4 - Mamelodi (22%), compared to centre 2 Laudium (14%) and centre3 – eastern suburb (8%). Overall 79% of the students came from families with two parents (Table 4).

TABLE 4: Marital status of parents

Centre	Married	Single	Divorced
2	101(77%)	18(14%)	12(9%)
3	128(84%0	9(6%)	15(10%)
4	82(73%)	25(22.3%)	5(4.46%)
Total	311(79%)	52(13%)	32(8.1%)

4.2.7. Employment status of parents

To get a clear picture of their economic status, students were asked to indicate the employment status of their parents. Students of centre 3 – eastern suburb, reported that most of their fathers are employed full time (73%). The employment rate of parents of centre 2 - Laudium and centre 4 - Mamelodi were 64% and 65% respectively (Table 5a). Overall 68% of fathers were working (Table 5a).

TABLE 5a: Employment level of father

Centre	Full time	Part time	Unemployed	Self-employed
2	76(64%0	4(3.4%)	17(14.3%)	22(19%)
3	103(73%)	3(2.11%)	392.11%)	33(23.24%)
4	54(65%0	8(10%)	13(16%)	8(10%)
Total	233(68%)	15(4.4%)	33(10%)	63(18%)

The employment rate of the mothers was highest in centre 3, the eastern suburb (60%). The employment rate of mothers in centre 2 – Laudium was 45% and centre 4 - Mamelodi 41.2% (Table 5b). Mothers of the students in centre 4 had a high self - employment rate (21%). The overall employment rate among mothers was 50% and self- employment was 15% (Table 5b). There was a higher unemployment rate in mothers of students in centre 2.

TABLE 5b: Employment level of the mother

Centre	Full time	Part time	Unemployed	Selfemployed
2	59(45%)	12(9.16%)	44(34%)	16(12.21%)
3	90(60.4%)	16(11%)	23(15.4%)	20(13.4%)
4	39(42%)	8(9%)	26(28%)	20(22%)
Total	188(50.4%)	36(10%)	93(25%)	56(15%)

4.3 PREVALENCE OF SMOKING AMONG STUDENTS IN MATRIC

The results on smoking practices are given in Table 6. Students from centre 3 (44%) were most likely to be current smokers than students from other centres. Overall 26% of students were current smokers.

TABLE 6: Smoking state by centre

Centre	Non-smoker	Smoker
2	113(83%)	23(17%)
3	85(56%)	67(44%)
4	99(87%)	14(12.4%)
Total	297(74%)	104(26%)

4.3.1. Frequency of smoking

Students were requested to state the number of cigarettes they smoked per day. Centre 3 students (34%) were more likely to smoke more than two cigarettes per day than the other students (Table 7) .

TABLE 7: Number of cigarettes smoked by centre

Centre	> 2cig per day	2per day	One per day	Never smoked
2	23(18%)	5(4%)	1(0.78%)	99(77.3%)
3	46(34%)	14(10%)	11(8.1%)	65(48%)
4	12(12%)	1(0.96%)	0(0.0)	91(88)
Total	81(22%)	20(5.4%)	12(3.3%)	255(69%)

4.3.2. Sex by smoking status

Results of smoking status and sex are shown in Table 8. Boys (35%) were more likely to be current smokers than girls (20%). There was a strong association between smoking habit and sex (p =0.001).

TABLE 8 : Sex by smoking status

Sex	Non-smoker	Smoker
Male	109(65%)	58(35%)
Female	188(80%)	46(20%%
Total	297(74%)	104 (26%)

Chi Square = 11.525 on 1 d. f.

P =0.001

4.3.3. Race by smoking practice

There was strong association between smoking habit and race ($p < 0.001$). Coloured students (64%) were most likely to be current smokers followed by Whites (51%) then Indians (21%). African students were less likely to be current smokers (14%).

TABLE 9: Race by smoking practice

Race	Non-smoker	Smoker
African	191(86%0	31(14%)
White	44(49%)	46(51%)
Indian	56(79%)	15(21%)
Coloured	5(36%)	9(65%)
Total	296(75%)	101(25%)

Chi Square = 58.515 on 3 d. f.
P < 0.001

4.3.4. Marital status of parents by smoking practice

Students whose parents were divorced were most likely to be current smokers (39%) than students whose parents were married (26%) or single (21%). There was no evidence that marital status was associated with smoking practice (p = 0. 204).

TABLE 10: Marital status by smoking practice

Marital status	Non-smoker	Smoker
Married	230(74%)	81(26%)
Single	41(78%)	11(21%)
Divorced	19(61%)	12(39%)
Total	290(74%)	104(26%)

Chi Square = 3.175 on 2 d. f.
P = 0.204

4.3.5. Smoking status and employment of the parents

Students, whose fathers were unemployed, were less likely to be smokers (15%) and students whose fathers were employed part-time were likely not to smoke (Table 11). There was strong evidence of an association between smoking practice and employment status of the father (p =0.012).

TABLE 11: Smoking status by employment level of the father

Employment	Non-smoker	Smoker
Fulltime	166(72%)	66(29%)
Part-time	15(100%)	0(0.00%)
Unemployed	28(86%)	5(15%)
Self-employed	40(63%)	23(37%)
Total	249(73%)	94(27%)

Chi Square =10.904 on 3 d. f.

P = 0.012

Students whose mothers were unemployed were less likely to be smokers (Table12). The association between smoking habit and employment of mother was not statistically significant (p = 0.112).

TABLE 12: Smoking status by employment level of mothers

Employment	Non-smoker	Smoker
Fulltime	130(70%)	57(31%)
Part-time	26(72%)	10(28%)
Unemployed	77(83%)	16(17%)
Self-employed	43(77%)	13(23%)
Total	276(74%)	96(26%)

Chi Square = 5.998 on 3 d. f.
P =0.112

4.3.6. Smoking habit and the smoking status of parents

Results of smoking habit and smoking status of father and mother are shown in Tables 13 and 14. Students whose fathers were ex-smokers were more likely to be current smokers (46%) than students whose fathers were smokers (28%) and non-smokers (.22%). There was evidence of an evidence of association of smoking practice and smoking status of father (p= 0.007).

TABLE 13: Smoking status by smoking status of the father

Father	Non-smoker	Smoker
Smoker	99(72%)	38(28%)
Non-smoker	138(79%)	38(22%)
Ex-smoker	21(54%)	18(46%)
Total	258(73)	94(27%)

Chi Square = 9.963 on 2 d. f.
P = 0.007

Students whose mothers were smokers were more likely; to smoke than those whose mothers were non-smokers in Table 14. Note that there was a strong association between smoking practice and smoking status of mother ($p < 0.001$).

TABLE 14: Smoking status of mother by smoking practice

Mother	Non-smoker	Smoker
Smoker	23(50%)	23(50%)
Non-smoker	243(79%)	66(21%0
Ex-smoker	14(64%)	8(36%)
Total	280(74%)	97(26%)

Chi Square = 18.5700 on 2 d. f.

P < 0.001

4.3.7. Smoking status of siblings

Students, whose brothers were smokers, were more likely to be current smokers (31%) than students (23%) whose brothers were non-smokers in Table 15. There was no statistical association between smoking practice and a smoking brother (p=0.113).

TABLE 15: Smoking practice by smoking status of brother

Brother	Non-smoker	Smoker
Smoker	72(69%)	33(31%)
Non-smoker	172(77%)	52(23%)
Total	244(74%)	85(26%)

Chi Square = 2.518 on 1 d. f.

P = 0.113

Students whose sisters were smokers were more likely to be current smokers. It is worth noting that there was strong evidence of an association between smoking practice and the smoking status of sister (p = 0.006).

TABLE 16: Smoking practice by smoking status of sister

Sister	Non-smoker	Smoker
Smoker	22(58%)	16(42%)
Non-smoker	204(79%)	56(22%)
Total	226(76%)	72(24%)

Chi Square = 7.654 on 1 d. f.

P = 0.006

4.3.8. Smoking and sport activity

Whether or not student took part in sport did not influence the smoking practice. The response showed similar results of current smoking in whether or not student took part in sport (Table 17). There was no association with participating in sport and smoking practice (p= 0.952).

Table 17:Smoking status and participation in sports

Participate in sport	Non-smoker	Smoker
Take part	175(75%)	60(26%)
Not take part	115(74%)	40(26%)
Total	290(74%)	100(26%)

Chi Square = 0.004 on 1 d. f.

P = 0. 952

4.3.8. Smoking practice and having a friend who smokes

Students who had friends who smoke were more likely to be current smokers (32%) than students who said they did not have smoking friends (Table 18). There was strong evidence that smoking practice is associated with friendship ($p<0.001$).

TABLE 18:Smoking status by having a friend

Friend who smokes	Non-smoker	Smoker
Yes	217(69%)	100(32%)
No	74(99%)	1(1%)
Don't know	2(50%)	2(50%)
Total	293(74%)	103(26%)

Chi Square = 29.975 on 2 d. f.

$P < 0.001$

Students gave inputs about how they were influenced by their friends. The most common response was that friends do not force one to smoke (Table 19).

TABLE 19: Impressions and smoking influence

INPUTS	FREQUENCIES
They don't force us	103(25%)
They offer us cigarettes	29(7%)
Smoke because cigarette is available	17(5%)
They make it enjoyable	15(4%)
If I don't smoke they turn me into a fool	8(2%)
They discourage us from starting smoking	6(2%)
They force us to smoke	1(0.24%)
Some of our friends regret smoking	1(0.24%)

(n=223) 54% of the students did not respond to the question of influence by friends towards starting smoking.

4.4. KNOWLEDGE AND ATTITUDE ABOUT SMOKING.

Questions on knowledge and attitude towards smoking were asked in section B of the questionnaire. The results are summarised below. Since smoking status of the respondents is a potential determinant of knowledge and attitude, results are given separately for smokers and non-smokers.

The overwhelming number of the students (95%) had heard of the dangers of smoking (Table 20). The study showed that having heard of the dangers of smoking was reasonably consistent across the smokers and non- smokers. There is no significant difference between smokers and non-smokers in whether or not they have heard of the smoking danger.

TABLE 20: Ever heard about the dangers of smoking

Smoking status	Yes	No	Don't know
Non-smoker	281(95%)	11(4%)	5(1.68%)
Smoker	98(95%)	3(3%)	2(1.94%)
Total	379(95%)	14(4%)	7(.75)

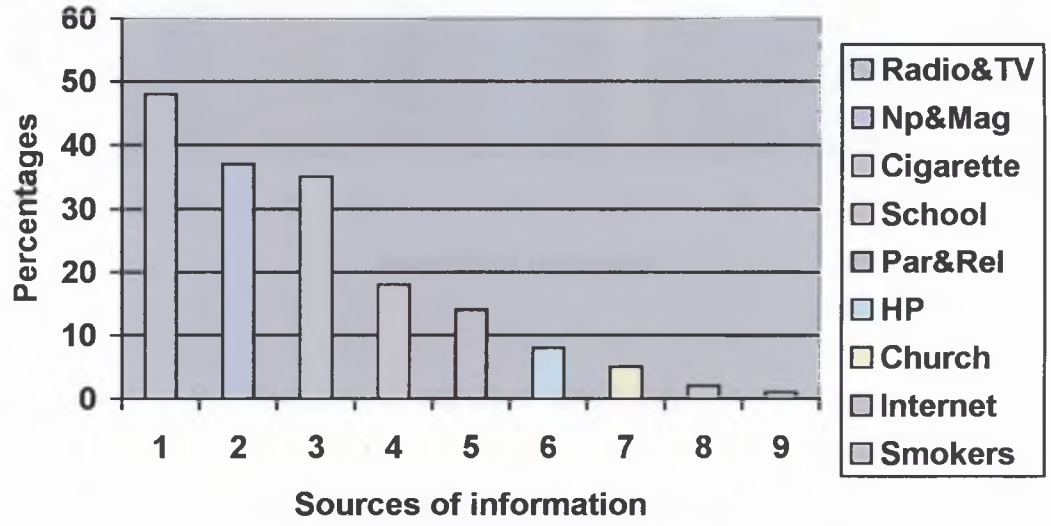
4.4.1. Sources of information about the dangers of smoking

Sources of information about smoking are presented in Figure 4. The following are explanations on the results of different sources. Participants could identify multiple sources hence frequencies will add to more than the sample size for each centre. Radio and television were found to be the highest source of information among the students (48%). It is evident that most of the young people listened to radio and watched television.

Newspapers and magazines came second (37%) as a source of information. Cigarette packs were the third (35,3%) source of information. These results were fairly consistent over the three centres. Eighteen percent of the students have reported school as one of the sources of information. Students indicated that most of the information was from the guidance teachers and subjects such as Biology and Economics. Parents and relatives (14%) were also seen as informing young people about the dangers of smoking. Other sources were

health professionals (8%), church (5%), Internet (2.1%) and other smokers (1%).

FIGURE 4: Identified sources of information



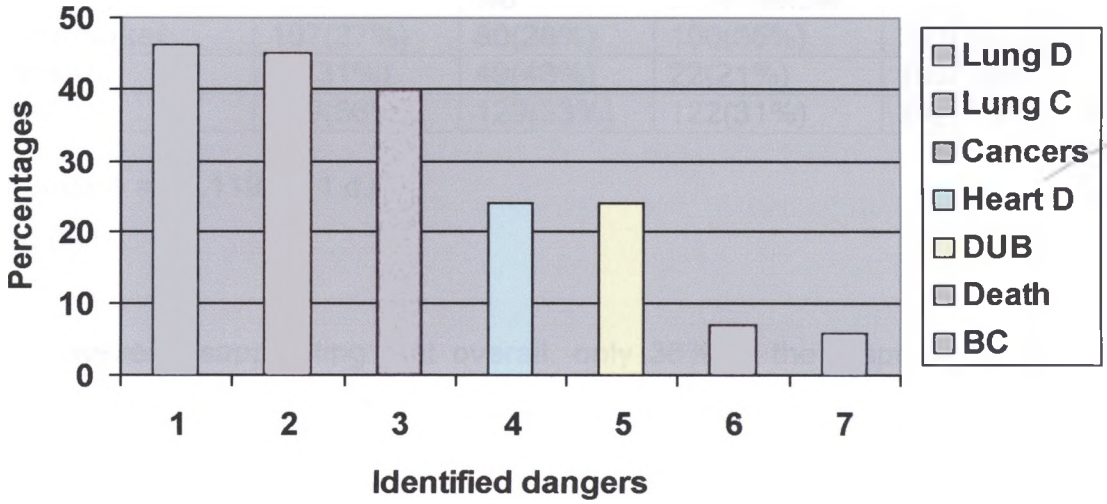
4.4.2. Identified dangers of smoking

Dangers of smoking as identified by the respondents are in Table 21. Lung diseases were the most identified danger.

TABLE 21: Dangers of smoking

Dangers	Percentage
"Lung diseases (asthma, tuberculosis etc)".	186(46%)
"Lung cancer"	189(45%)
"Cancers of mouth, throat oesophagus"	164(39%)
"Heart diseases"	97(24%)
"Danger to unborn babies"	99(24%)
"Death"	27(7%)
"Breast cancer"	25(6%)
"Affects the brain"	1(0.24%)
"Affects sexual performance"	1(0.24%)

FIGURE 5: Identified dangers of smoking



4.4.3. Heard of the dangers of passive smoking

A large number of students (85%) had heard about the dangers of passive smoking (Table 22). This was very similar for smokers and non-smokers.

TABLE 22: Heard of the danger of passive smoking by the smoking status

Smoking status	Yes	No	Don't know
Non-smoker	249(85%)	16(5.8%)	27(9%)
Smoker	87(83%)	9(9%)	8(8%)
Total	336(85%)	25(6.3%)	35(9%)

4.4.4. Heard of the negative the impact of smoking on economy

The responses to the question as to whether or not they had heard of the negative impact of smoking on the economy are given by smoking status in Table 23. There is overwhelming evidence that the response is related to smoking status with non-smokers more likely to say " yes" (37% versus 31%) and smokers more likely to say "no" (48% versus 28%) (p =0.001).

TABLE 23: Heard of the negative impact of cigarette on the economy

Smoking status	Yes	No	Don't know	Total
Non-smoker	107(37%)	80(28%)	100(35%)	287(100%)
Smoker	32(31%)	49(48%)	22(21%)	103(100%)
Total	139(36%)	129(33%)	122(31%)	390(100%)

Chi Square = 14.119 on 1 d.f.

P = 0.001

It is however disappointing that overall, only 36% of the respondents had heard of the negative impact of smoking on the economy.

Respondents expressed different opinions about the impact of smoking on the economy as follows:

- "People in parliament die and we lose them". "If people experience a lot of cancer it means many people cannot work / who will work if everybody is sick"?
- "People get sick and the state has to provide and pay for expensive treatment".
- "Many people are sick in hospitals because of diseases caused by cigarettes and this affects development of the economy".
- "People waste their money on cigarettes / smoking causes financial problems".
- "Many people die from smoking and if you find that the youth are smoking you sometimes ask yourself whether they might live up to the age of 80 years".
- "Many people get diseases".
- "Because many people will die and it would mean more cost in terms of government expenditure".
- "Cigarettes cause poverty in other areas".
- "Because it kills people who are educated and our economy will become poor and differ from other countries".

4.4.5. Attitudes towards Tobacco Products Control Amendment Act of 2000

Students were asked what their opinion was of the Tobacco Products Control Act. A positive response meant that the participant had heard of the Act and was positive towards it (e.g. from Table 25 "No cigarette sale to teenagers"). A negative response meant that the participant had heard of the Act but was negative towards it ("It is a ridiculous Act and must be withdrawn in Table 25"). A neutral response meant that the participant had heard of the Act but was neither for nor against, while don't know means that the participant had .not heard of the Act. Results are shown in Table 24.

TABLE 24: Opinion on Tobacco Products Control Amendment Act, 2000

Centre	Positive	Negative	Neutral	Don't know
2	39(27%)	18(13.%)	61(45%)	18(13.%)
3	87(57%)	12(8%)	42(28%)	12(8%)
4	9(8%)	15(13.%)	65(57%)	25(22%)
Total	145(35%)	45(11%)	168(41%)	55(13%)

Overall only 35% of students had a positive attitude towards the Act, i.e. 65% either did not know about the Act or were neutral or negative. In particular in centre 4, 92% of the students either did not know about the Act or were neutral or negative towards it. This is a disturbing finding which warrants further investigation. Table 25 shows some of the positive and negative attitudes expressed by the participants.

TABLE 25: Attitudes towards tobacco control legislation

Positive	Negative
"Smokers may not smoke in public or they will be fined"	"It is first time I hear about this Act"
"No cigarette sale to teenagers"	"It is ridiculous and must be withdrawn"
"So much nicotine is allowed per cigarette"	"This is a pathetic Act"
"It controls amount of tar and nicotine per mg per pack"	"Instead of putting an Act on crime and rape they put it on innocent people"

Table 26 shows the attitude towards the Act broken down by smoking status. Surprisingly smokers are far more likely to be positive towards the Act, while non-smokers are more likely to be neutral or don't know . There was association between smoking practice of students and having an opinion for tobacco control legislation (p= 0= 001). Smokers (61%) were more likely to have an opinion (i.e. either positive or negative) than non-smokers (39%). The majority of non-smokers (61%) did not have an opinion about tobacco control legislation. Here, there is probably a confounding effect of centre, since (a) pupils from the eastern suburb school are more likely to be smokers and (b) pupils from the eastern suburb school are also more likely to have a positive opinion of the Act (Table 24)

TABLE 26 Smoking status by opinion on tobacco control legislation

Smoking status	Positive	Negative	Neutral	Don't know
Non-smoker	84(28%)	32(11%)	135(45%)	46(16%)
Smoker	50(48%)	13(13%)	32(31%)	9(9%)
Total	14(33%)	45(11%)	167(42%)	55(14%)

4.4.6. Attitudes of students towards smoking

Students were asked to give the word or phrase that best summarised their attitude towards smoking, and the responses were then coded as being either positive, negative, neutral or don't know / no response. The results are given in Table 27 by smoking status

TABLE 27: Attitudes by smoking status

Smoking status	Positive	Negative	Neutral	Don't know
Non-smoker	10(3%)	26(9%)	171(58%)	90(30%)
Smoker	46(44%)	20(19%)	224(23%)	14(14%)
Total	56(14%)	46(12%)	195(49%)	104(26%)

Chi Square = 127.458 on 1 d.f.

P =< 0.001

There is overwhelming evidence that the attitude towards smoking is related to the smoking status ($p < 0.001$). Smokers are unsurprisingly far more likely to have a positive attitude towards smoking (44% versus 3%). Somewhat surprisingly they are also more likely to have a negative attitude towards smoking (19% versus 9%), while non-smokers are far more likely to be neutral, or don't know or not give any response. Some of the actual responses, both positive and negative are given in Table 28.

TABLE 28:Expressed attitudes on smoking

Negative	Positive
"Smoking is bad"	"It is cool"
"Hazardous, death"	"It relaxes the body"
"It is disgusting"	"It is yum-yum
"Quit smoking"	"It stimulates the mind"
"It is not cool'	"I like it"
"Shame"	
"Smells bad"	

4.4.7. Perception of family influence on smoking

The responses to the question as to whether family members influence smoking practices are given by smoking status in Table 29. There is no evidence of an association (p =0.61) with smoking status, with a large majority (74%) of respondents saying that smoking status of family members does not influence smoking practices.

TABLE 29: Influence of family members by smoking status

Family influence	Non-smoker	Smoker
Yes	34(68%)	16(32%)
No	211(74%)	74(26%)
Don't know	35(76%)	11(24%)
Total	280(73%)	101(27%)

Chi Square = 0.976 on 2 d.f.

P=0.614

The responses to the question as to whether or not friends influence smoking habits are given by smoking status in Table 30. There is slight evidence (p = 0.094) that the response depends on smoking status, with smokers more likely to say "yes" (34%versus 25%).

TABLE 30: Influence of friends by smoking status

Friend's influence	Non-smoker	Smoker
Yes	62(66%)	32(34%)
No	199(75%)	65(25%)
Don't know	25(83%)	5(17%)
Total	286(73.2%)	102(26.3%)

4.4.8. Opinion on perception of friends influence on smoking

Students gave inputs about how they were influenced by their friends. 59% of the participants did not give their views on the question of explaining how friends influence the smoking habit. Out of 41% of the students who responded to this question, 25% of them were not forced to smoke (Table 31). We need to increase the ability of young people to resist smoking.

TABLE 31: Views about influence by friends

Views	Percentage
"They don't force me"	25%
"They offer us cigarettes"	7%
"Smoke because cigarette is available"	5%
"They make it enjoyable"	4%
" don't smoke they turn me into a fool"	2%
"They discourage us to smoke	2%
"Some of our friends regret smoking"	0.24%
"They force us to smoke"	0.24%

4.4.9. Opinion on perception of smoking and adulthood

Participants were asked if they considered smoking as part of adulthood. 65.5% of the students did not respond to this question. Out of 34% of the participants, the highest proportion i.e. 8% indicated that it is a choice to smoke. Very few students (0.5%) reported that smoking is not for children under eighteen years old

TABLE 32: Responses on perception of smoking and adulthood

Perception	Percentage
"It's your choice to smoke"	8%
"Most people smoke"	4%
"No matter what smoking is bad"	4%
"Children smoke to relieve stress"	4%
"Both young and old smoke"	3%
"Smoking indicate some weakness"	2%
"Adults are the one to smoke"	2%
"You don't have to smoke to be an adult"	2%
"Whether young or old smoking is bad	2%
"Smoke to enjoy life"	1%
"Chances of living are less"	1%
"Not for under 18"	0.5%

4.4.10. Opinion on factors influencing smoking

Participants were asked what in their opinions influence smoking. Students could identify multiple factors hence the frequencies added to more than the sample size. Peer pressure (43%) was the most likely perceived cause of smoking among young people. The other factors of influence are shown in Table 33

TABLE 33: Factors influencing smoking

Influencing factor	Percentage
"peer pressure"	43%
"Stress"	14%
"Wanting to belong"	13%
"Fitting in"	9%
"Experimentation"	7%
"Adults"	5%
"Status"	5%
"Media"	3%
"Availability"	1%
"Movies"	1%
"Adverts"	1%
"No response"	20%
"Don't know"	6%

4.4.11. Opinion on perception of smoking prevention

Participants were asked to give their opinions regarding how to prevent smoking. Again students gave multiple answers that added to more than the sample size. Awareness of smoking effect (21%) was the most identified strategy. Different responses are shown in Table 34. 38% of the students did not respond.

TABLE 34: Strategies of prevention of smoking

Prevention strategies	Percentage
"Awareness of smoking effects"	21%
"Sport activities"	5%
"Apply strong policies"	4%
"Stop selling cigarettes"	3%
"Stop producing cigarettes"	3%
"Show them a sick person"	3%
"A will power"	3%
"Recreation"	2%
"Acceptance"	2%
"Counselling"	1%
"Self discipline"	1%
"Exempt from stress"	0.48%
"Nothing can be done"	12%

4.5. LOGISTIC REGRESSION ANALYSIS OF RISK FACTORS FOR SMOKING

Multiple logistic regression models were fitted to find which factors were the most important in determining whether or not the students currently smoked, and whether or not they have ever smoked.

The candidate explanatory factors were:

- Gender
- Centre
- Type of residence
- Religion
- Race
- Age
- Marital status of parents
- Employment status of father
- Employment status of mother.

Model selection was done using both forward selection and backward elimination. These techniques both resulted in choosing the same factors namely centre, race and gender. In addition there was a significant race by gender interaction. The results are summarized below.

Table 35: Logistic regression model for currently smoking for centre

Parameters	Odds ratio	95% Confidence interval
Centre		
Mamelodi	1	-
Laudium	1.10	0.37; 3.26
Eastern suburbs	3.20	1.37; 7.52

Table 36: Logistic regression model for currently smoking for race and gender

Parameter	Odds ratio	95% Confidence interval
African male	1	-
African female	0.28	0.12; 0.62
White male	4	1.73; 9.27
White female	2.92	0.90; 9.51
Indian male	2.28	0.97; 5.38
Indian female	0.29	0.05; 1.70
Coloured male	3.33	0.77; 14.49
Coloured female	18.15	1.24; 264.81

Overall model likelihood ratio Chi-square = 90.47 on d f p< 0.0001. It can be seen that there was a centre effect with the eastern suburbs (centre 3) school having a higher prevalence of smoking than Mamelodi and Laudium. The odds ratio for smoking for eastern suburb versus Mamelodi was 3.2 and the odds ratio for smoking for Laudium versus Mamelodi was close to 1 in Table 35. There was also a significant effect of gender and race, and race by gender interaction (Table 36).

Coloured students smoked the most (Table 37). The odds ratio for the various groups was as follows: Whites OR: 3.15 (CI: 0.93 –10.64), Indians OR: 0.32 (CI: 0.05 – 1.93) and Coloureds OR: 13.55 (CI: 0.88 – 207.6) as compared to Africans

Table 37: Predicted smoking prevalence by race and gender

Race	Male	Female
African	24.5%	7.8%
White	37.2%	32.7%
Indian	48.7%	7.2%
Coloured	56.8%	82.2%

Overall males are more likely to smoke than females; however for Africans and Indians the smoking prevalence of females was very low, while for Whites, females (32.7%) smoked almost as much as males (37.2%),and for Coloureds, females (82.2%) smoked more than males (56.8%). Thus the effect of sex is different for the different race groups.

A breakdown analysis of smoking status of African students by sex in each centre is shown in Table 38. The results showed a significant social and environmental influence on the smoking prevalence among African students (Table 38). Furthermore it indicated that both African female (26%) and male (29%) students in the eastern suburbs (centre 3) had more or less the same smoking prevalence. The African female students (26%) who were attending school in the eastern suburbs were more likely to be smokers than the African female students in other centres.

TABLE 38: Smoking status by sex for African students

Centre 2

Sex	Non-smoker	Smoker
Male	7(88%)	1(13%)
Female	48(96%)	2(4%)
Total	55(95%)	3(5.2%)

Centre 3

Sex	Non-smoker	Smoker
Male	17(63%)	7(27%)
Female	22(61%)	8(39%)
Total	40(73%)	15(27%)

Centre 4

Sex	Non-smoker	Smoker
Male	46(78%)	13(22%)
Female	51(100%)	0(0.00%)
Total	97(88.2%)	13(11.3%)

CHAPTER 5

5 DISCUSSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

Chapter five discusses the findings of the study and makes some recommendations on prevention of smoking among young people. Tshwane was divided into three strata (Eastern suburb, Indian residence - Laudium and township - Mamelodi). One school was randomly chosen from each stratum. Stratification and random sampling of schools within strata means that the schools sampled can be taken as representative of public schools in Tshwane.

5.1.1 Having heard of the dangers of smoking

An overwhelming number of students have heard of the dangers of smoking. Interestingly, there was no difference of having heard of the dangers of smoking between smokers and non-smokers. It is possible that having heard of the dangers of smoking shows that they are acknowledging the reception of information. The worrying issue is that a very small proportion of the students stated that use of information would prevent smoking. The findings in the question of what would be the opinion of the respondent in assisting youth to stop smoking might be biased by the over fifty percent of students who did not respond. Opinions of the students regarding prevention of smoking need to be explored by involving young people who had heard of dangers of smoking.

5.1.2 Sources of information on smoking

The most common source of information was found to be the media. Most students were able to identify different sources of information. These results were consistent with the results of Bener & al – Ketbi (1999) because in their study, media (35%) was reported to be the major sources of information on

health effects of smoking. al –Faris (1995) also supported these results by stating that the media was the primary source of knowledge. If the advertisement of tobacco products is being ignored, there will be an increased growth in consumers demand because the media is the quickest means of transmitting information.

Students also considered reading of newspapers and magazines as informative regarding use of cigarettes. Warning information that is written on the pack of cigarettes seems to have helped to educate people about the dangers of smoking because cigarette packs were shown as one of the sources of information in this study. Inclusion of health warnings on the cigarette pack serves an important role in tobacco control. In South Africa, 40% of smokers surveyed in a national study, reported that health warnings on tobacco products made them quit or cut down smoking (Reddy et al, 1998).

Schools were likely to be one of the information centres regarding smoking. However the health promotion activities should reach out to all school going children. These activities might empower youth to decide whether or not to use tobacco, and whether or not to quit. In South Africa it was discovered that tobacco users among women were less educated than non- smokers (Marks et al, 2001). Therefore starting with health - education at primary level would empower many people and enable them to make the right choices around smoking.

Parents were also a source of information about smoking. Sun et al (1998) supported these results by saying that sources of information were mainly parents. Health professionals (that include nurses and doctors) were also found to be a source of information. Doctors were reported to be one of the sources of information by 17 – 19% of responders by (Bener & al – Ketbi (1999) and 45% by al – Faris (1995). Lastly Internet and smokers were also identified to be informative about smoking. It should be noted that only a few students would have access to the Internet, and also not all students had friends who are smokers. All health professionals have a moral obligation to

inform the public about health dangers of smoking because of the expert knowledge they have.

5.1.3 Dangers of smoking

There was a high number of participants who have heard of the dangers of passive smoking. The results were similar for both smokers and non-smokers. The students were able to give more than one response about the dangers of smoking. Out of all the responses, the answers were grouped into positive and negative. The positive answers included the following responses: lung diseases (asthma, tuberculosis, bronchitis etc.); lung cancer, cancers of mouth, throat oesophagus; heart disease; danger to unborn babies; death; cancer of the breast; brain damage and decreased sexual performance. The negative answers included the following: it cheers one up; simulates mental ability; makes one forget worries and helps one to cope with studies.

The studies of Bener & al – Ketbi (1999) and Leonardo (1996) gave similar results on the damaging effects of cigarettes. They indicated clearly that lung diseases (46%) were the most commonly known dangers of smoking. The Cape Town results were consistent with these findings where chronic cough, productive sputum, asthmatic symptoms, dyspnoea and parental history of lung diseases were reported to be most common among ex- smokers (Engel,1996).

Lung diseases as the most common danger of smoking; are known globally by smokers and non-smokers (W. H .O. Report , 1997). While it seems as if the majority of the young people are aware of the dangers of smoking, the awareness should target each and every person in the society. The great concern is those students who still believe that cigarettes are good for mankind. There is a need to implement nationwide media campaigns aimed at increasing awareness about smoking and its dangers.

Knowledge of the dangers of smoking is an important step in tobacco control because 7% of smokers were prompted to quit after warnings were introduced in South Africa (Reddy et al, 1998).

5.1.4 Smoking and having heard of the harmful effects on non–smokers

A high number of participants had heard of the dangers of passive smoking. The response was similar for smokers and non-smokers. Respondents expressed their views on how they feel about passive smoking. Some of their opinions were stated as follows:

- "Because the non-smokers also inhale the smoke and they are even in more danger".
- " It is proved that non-smokers can get smoking related cancer".

5.1.5 Smoking and negative effects on the economy of the country

The response to whether or not smoking has an impact on the economy was related to smoking status. Non-smokers were more likely to say that smoking impacts negatively on the economy than smokers. However, it is disappointing that less than fifty percent of students had heard of the impact of smoking on the economy of the country. This results correlate with the findings in the study in Japan that stated that the majority of non-smokes had poor knowledge on the economic impact of tobacco (Smith & Umenai, 2000). Young people should be informed about different ways of sustaining the economy of our country. There is a need to ensure that young people have information on how to make choices in utilising cash. Marks et al (2001) in South Africa recommended that the health promotion measures should focus on making people aware of spending money on alternatives that benefit their health. The most effective way of making young people feel the financial impact of cigarettes is to increase the price of cigarettes to an extent that they would not afford it. Young people have less disposable income than adults (Stroebe & Stroebe,1995). Therefore they are more likely to be deterred from smoking by price increases. Being aware of the negative impact of smoking on the economy is more likely to help young people to be keen to change their smoking behaviour of smoking by either quitting or abstaining from starting to smoke. Changing the health behaviour depends on what a person values most. According to Stroebe & Stroebe (1995) in "Social Psychology and

Health", a person who is willing to change is capable of weighing different alternatives and coming up with the best decision to take a course of action. Therefore to be convinced that smoking has a negative impact on the economy young people should weigh their values first.

5.1.6 Knowledge of Tobacco Products Control Amendment Act, 2000

Over fifty percent of the participants indicated a negative answer or neutral or did not know on their understanding of the Tobacco Products Control Amendment. Respondents differed in opinions on the Tobacco Products Control Amendment Act. Smokers were more likely to have a definite answer (i.e. either positive or negative) than non-smokers. Smokers were also more likely to be positive about the Act than non-smokers. It is possible that smokers were able to give a definite answer because they were involved in the smoking habit. Students from centre 3 (eastern suburb) were more likely to have a definite answer and had the most positive attitude than students in other centres. A disappointing issue is that a high proportion of students from centre 4 had no opinion on the tobacco control legislation. There is an urgent need to make all students (i.e. from all walks of life) aware of the prevailing issues in their country. It is imperative that health promotion targets both smokers and non-smokers equally because non-smokers too may convert to smoking.

5.1.7 Attitudes of students towards smoking

The majority of students responded negatively towards smoking. Respondents reported a negative attitude or neutral or don't know as a negative answer. There is a strong association between the attitude towards smoking and the smoking status. Smokers were more likely to have an opinion on smoking attitude than non-smokers. This is acceptable because smokers have an experience. Smokers showed more positive and more negative attitudes than non-smokers. Non-smokers were more likely to be

neutral or didn't know or did not respond. This is an indication that non-smokers did not have anything to say about how they view smoking.

Few students showed a positive attitude to tobacco legislation. Over ninety percent of the students in centre 4 (Mamelodi) did not know or were neutral or negative towards the legislation. There is an urgent need to tobacco control education in young people especially in Mamelodi.

5.1.8 Perception of peer influence on smoking

The majority of the participants indicated that smoking status of the family members does not influence their smoking habit. There was slight evidence that smoking status of friends influences their smoking practice. It is worth noting that smokers were more likely to agree that smoking status of friends influence their smoking practice than non-smokers. Other studies such as the one done in Jerusalem reported that peer group pressure was the strongest stimulus of smoking in children (Meijer et al, 1996).

The responses given by the participants on the their opinion about whether or not they considered smoking as part of adulthood showed that some of the students did not support the idea. The fact that very few participants responded to this question indicates that young people are not certain about expressing their views on whether or not smoking is part of adulthood.

Wanting or not wanting to smoke does not depend on age, but comes from the choices an individual makes whether young or old. Rational thinking of mankind enables him/her to make choices that are valuable whether young or old. According to Goldstein (1996), there was a discrepancy between adult and school smoking rates in the findings of a study in Johannesburg. This differences among adults and school children might be due to some influence that acts on men and women when they leave school. The type of influence not age determines the smoking behaviour of an individual.

5.2 RESULTS ON SMOKING PRACTICES

The questionnaire was used to determine the prevalence of smoking, to find predictors of smoking and suggestions on the prevention of smoking.

5.2.1 Prevalence of smoking

More than half of students were likely to be non-smokers. Most worrisome was that the rate of smokers in this study exceeded the national rates (19.6%) (Guthrie et al, 2001). Even though the sample size of the Coloured students (n=14/402) was very small, the prevalence of smoking was also the highest as in the national results. African students were less likely to be current smokers than students in other groups. There was a strong association between smoking practice and race. There was strong evidence that sex influences smoking practice. Overall males were more likely to be current smokers than females. This corresponded with the international results because in 1993, 51% of males and 13% of females were smokers (Research Release, 2001).

Female Coloured students had a higher smoking prevalence than Coloured males. These findings corresponded with the national findings in South Africa: smoking prevalence of Coloured females and males was 59% versus 58% (Reddy et al, 1996). The high proportion of Coloured and White girls who are smoking poses a risk to their health, as well as their future maternal life and children's health. Young females need to be given information about how smoking damages their health and the health of the unborn babies.

Students in the Eastern suburb centre were more likely to smoke than students in the other centres. This social characteristic was also identified in the South African study when it was discovered that smoking prevalence is significantly higher in urban areas than in small settlements and rural areas (Research Release, 2001). Furthermore, an analysis of sex and African students by centre confirmed that there was a centre effect on smoking practice of students. Female African students in centre 3 (eastern suburb) were more likely to be current smokers than female African students in

Laudium with centre 4 (Mamelodi) having no smoking female African students. A cause for concern is that the smoking prevalence of African students in centre 3, shows similar results between males and females unlike in Laudium and Mamelodi.

5.2.2 Environmental exposure to smoking

Participants reported that they had parents or brother or sister who were smokers. This is an indication that young people live in an environment contaminated by smoking. Living in an environment of smoking, place young people at a risk of adopting the habit of smoking. The findings in this study showed that there was evidence of association between smoking status and living with a smoking mother, father and sister. Out of these three relationships, having a smoking mother had the strongest association. Again among smokers and non-smokers, smokers reported to be having smoking friends than non-smokers. According to Marks et al (2001), the current smoking habits of women in Cape Town South Africa were related to the fact that they had bought tobacco products as children. The Global Youth Tobacco Survey reported that in South Africa and Venezuela, 40% of students were exposed to other people who smoke (Warren et. al, 2000).

5.2.3 Participation in Sports

There was no statistical association shown between participation in sports and smoking. This differs from findings in the USA. Results of a study conducted during a school year and summer holidays in the USA, revealed that none of the participants in sports camp smoked cigarettes (Sieminska et al, 2000).

5.2.4 Smoking and influencing factors

Of all the influences, peer pressure was the most prominent. This is supported by the findings in this study about smokers who said that they had friends who smoke. These results were comparable to those from Israel that said peer pressure was the most important risk factor for smoking in children (Meijer, 1999). Bawazeer et al (1999) also supported these findings by saying that friends appeared to influence the first cigarette experience. Consistency of results was also noted when the report stated that smoking was associated with close and best friend's use of cigarettes (McDermott, Sarvella, Hoalt, Bajrachrya, Marty & Emery, 1992). Often students develop a tendency of wanting to belong by fitting into new friends' behaviours (Sieminska et al, 2000). Students feel that they are "cool" when they smoke and this might bring a feeling of moving with trends or belonging to certain fashionable clans.

Media was seen as also influencing smoking among youth in different ways: advertisements and movies. Media is a very powerful means of transmitting information. Therefore banning advertisement of tobacco products would contribute in controlling tobacco use in South Africa. Consistency of these results was noted when students reported that cigarette advertising significantly influenced their classmates or themselves (Sun, Anderson, Shah & Julliard, 1998).

Students showed that the other reason to smoke was to attain certain status. It is reported that smoking students wanted to appear older than they were therefore imitating adult behaviour because they believed they were mature Media also contributes to being status conscious because children have a tendency of associating themselves with the celebrities in the movies, sports etc. Reviews indicated that students cited reasons for smoking as being to imitate others' behaviour (Zhu, Liu, Shelton, Liu & Giovino, 1996). Adopting behaviour is a dynamic process that involves making decisions before taking the habit. Therefore health promotion should target changing the mind - set of young people regarding the use of cigarettes.

5.3 RECOMMENDATIONS ON PREVENTION OF SMOKING

Young people need to have control over their health. In this regard, it is necessary to target health promotion as a strategy to prevent smoking. Through the process of health promotion, young people will be enabled to increase control over and improve their health. The following methods should continue being employed in promoting health of the children regarding smoking.

5.3.1 Political will

The support of the National Department of Health and the Cancer Association of South Africa has helped South Africa to implement a smoke free work place. Tobacco control in South Africa requires government commitment and support of key decision makers. The existing directorate should commit itself to committing resources to tobacco control including appointment of district coordinators. Currently a task team comprising of members from the National Department of Health in collaboration with the Education Department and the Welfare Department had drafted the national guidelines for health promoting school sites in South Africa (National Guidelines for the Development of Health Promoting Schools Sites in South Africa, 2000).

These guidelines should continue to be implemented so that this Directorate should also continue to monitor and evaluate the progress of smoking prevention and control in all age groups, work places and public institutions such as courts. In California, local health departments, community based organisations and other groups are said to have produced a high volume of diverse tobacco control activities throughout the state (Public Health Reports, 1996).

5.3.2 School policy development and enforcement

The reports from parents' meetings in the schools have indicated that most schools have a smoking policy in place (personal communication, 2001). Therefore all schools in South Africa should be encouraged to have and implement this policy. Development and review of school policies in collaboration with students, parents, school staff, health professionals and school boards. It is easy to enforce this kind of policy as it is developed collaboratively. Elements of the policy should be clearly stated as follows:

- Prohibiting everybody from using tobacco in school premises.
- Prohibit tobacco advertising in the form of slogans on T-shirts, caps, signs etc.
- All students should receive instructions on avoiding tobacco use.
- Provide information on accessing tobacco cessation programs.
- Help students who violate smoking policies to quit smoking

5.3.3 Development of curriculum

Curriculum development is the process of planning, designing, implementing and evaluating a functional curriculum (Fraser et al, 1991). The present school curriculum in South Africa needs to be revisited so as to incorporate smoking prevention and control. Presently learners are given life skills on smoking and drug use at primary level throughout grade 12 as an informal lecture in the form of seminars and workshops. The National Department of Education in collaboration with the Welfare and Health Departments should continue revisiting the school curriculum regarding smoking prevention and control, just as they did to incorporate HIV /AIDS within the scope of formal learning (Grade seven curriculum, 2002). This will help the child understand fully the implications of smoking at a very young age and continue learning as development takes place. Continuous reinforcement of information will ensure

that successes in preventing tobacco use do not dissipate (C D C Guidelines, 2001).

According to W H O (1999), in Singapore anti - smoking campaigns are directed towards young children. The teachers implement school based tobacco control programs and concentrate on reaching students in class. The teachers ensure that parents are also involved in tobacco control. Other different strategies such as peer assisted learning by groups called smoke busters and sport activities are used to curb the problem of smoking.

Now is the time for South Africans to think globally and act locally as far as smoking cessation among young people is concerned. Smoking cessation programs should target all young people and focus on preventing uptake. It is imperative that we make young people aware that although many adults smoke the majority have tried and are still trying to quit smoking.

The United States of America's school children are now exposed to anti-smoking education in the lower grades whereas formerly it was in high schools only (Neeman and Neeman, 1975). This is a call for South Africa to have a paradigm shift by incorporating anti smoking programs within the entire education curriculum.

5.3.4 Creating a safe environment for children

The responders in this study showed that the environment they live in is conducive to smoking. Peer pressure was reported to be the most important leading cause of smoking among young people. Most children fall into a trap of smoking because they lack emotional intelligence. Children need to be encouraged to have emotional and behavioural skills so that they are able to stand on their own and resist pressure of any kind.

In spite of the Tobacco Products Control Amendment Act of 2000, children still have access to buying cigarettes without questioning their age. One of the

issues addressed by this Act is that it prohibits the sale or supply of tobacco to any child under the age of 16 years. However this action seem to be insufficient in controlling the intake of cigarettes by young people. Children have the right to a tobacco free environment. According to W H O (2001) countries should abide by the terms of the Convention on rights of the children by taking necessary steps in regulating tobacco sale.

Applying high excise duty on tobacco increases the cost of cigarettes and therefore young people will find cigarettes difficult to access. The Californian experience with high excise duties, have proved that per capita purchasing of cigarettes continued to decline at a rate greater than in the rest of the United States when wholesale tobacco tax revenues were analysed (Public Health Reports, 1996).

Children should be encouraged to grow up in a tobacco – free environment. Health care professionals in particular should act as community leaders and role models to encourage children to be in safe environments at all times. The South African National Health Department should continue to strive to save lives by reducing the tobacco related death toll and encourage public health personnel to work hard to stop people from smoking (Lore, 1999).

5.3.5 Appropriate training and support

Human resource development is necessary to enhance the technical capabilities of teachers and health care providers in preventing initiation of smoking among young people. In the state and local public health agencies, anti smoking programs should continue to focus on developing knowledge and skills of health department personnel to implement intervention programs in smoking cessation (Meissner, Berger and Marconi, 1992). Currently few health care professionals are trained in the treatment of tobacco dependence. Therefore it is imperative that doctors, nurses, dentists and other health care workers be given both basic and in - service training so that they are capable of providing health advice for prevention and control tobacco epidemic (W H O, 1997).

5.3.6 Inter - sectoral collaboration

One department alone cannot solve the problem of tobacco use among young people. However the National Department of Health needs to pursue a partnership with the Education and Welfare Departments in smoking prevention and control. The purpose of this collaboration should continue to address the impact that smoking has on the lives of the young people in the coming years.

5.3.7 Community involvement and participation

The family needs to be involved in smoking control programs. Schools should prompt discussions on smoking at home by giving children tasks based on smoking once this has formed part of the curriculum at primary level. Peer groups should be encouraged to participate in smoking cessation programs and in anti - smoking campaigns. Anti smoking lobbies are reported to have been successful in other countries such as Singapore (W H O, 1999). It is important to have the communities involved in anti smoking campaigns. This should continue being part of a national strategy.

5.3.8 Health instructions

Most students who smoked were aware of the dangers of smoking but unaware of the actual physiological changes that are caused by cigarettes in humans. Young people need to be educated about both the short and long - term consequences cigarettes bring to smokers and passive smokers. According to the C D C Guidelines (2001), the following should be outlined to the students:

- Decrease social acceptability of tobacco use by showing children that most young people do not smoke.
- Help children understand why young people start to use tobacco.
- Identification of more positive activities to meet their goals.

- Help children develop self - control measures and assertiveness.

Tobacco control programmes that are effective should not concentrate on instilling fear but rather empowering and rehabilitating the smoking children. The health promotion programmes should start with training of the teachers in the schools. This training should focus on acquiring knowledge on the psychosocial determinants of smoking. It is worth- noting that involvement of teachers in health promotion programmes will enable them to address the issues of smoking such as the effect of nicotine in the body as well as the physiological changes that take place in a smoking person. The health education should be based on psychosocial determinants of smoking such as: race, residential area and sex in particular urban areas. Teachers should be encouraged to target the more at risk youth Coloureds and White students. More focus should be directed on female students as they carry the risk of endangering their health and the health of the unborn baby if they are pregnant. The worrying issue is that many students have a positive attitude towards smoking and it is a cause for concern. Therefore the main focus should be on changing the attitudes of young people towards smoking. It is imperative that teachers should understand how behaviour change takes place in a human- being. The needs of young people to change the smoking behaviour may be adequately met if they are assisted to make decisions that will benefit them. It is necessary to help young people to identify their values in life (using money to buy nutritious lunch rather than cigarettes) enable them to make best choices. The tobacco control legislation should be included as part of learning content to make students aware of the important aspects such as the rights of smokers and non-smokers.

6. CONCLUSION

This study has evaluated knowledge, attitudes and practices of students in matric regarding cigarette smoking. The results of this study will serve as a baseline data for interventions that need to be employed in controlling tobacco use among young people in the city of Tshwane, Gauteng Province.

According to this study the smoking rate among young people was still high and access to tobacco is easy despite provisions in the Tobacco Product Control Amendment Act of, 2001. There was an indication from the results that some of the students were not aware of this Act nor the implementation of the control measures.

Peer pressure was spelled out as the leading source of initiation of smoking among young people both in this study and the others. Health promotion measures should be undertaken to aggressively reduce the smoking prevalence among young people in particular. Children need to be empowered regarding making informed decisions around smoking. Different methods such as lobbies and pressure groups at a political level as well as counselling at local level should be used to reduce the national smoking prevalence. There is an important opportunity for the National Education Department to incorporate smoking and tobacco control in the curriculum from grade one through to the twelfth grade. Also, the National Health Promotion Sub-Directorate needs to be strengthened and supported so that it is able to coordinate smoking prevention and control programs actively in the provinces and districts. There is a need to explore further the socio - environmental factors that influence the high smoking rate in the schools that are situated in the urban areas throughout the country. Understanding how behaviour change takes place would help most teachers to improve the smoking status of the young people.

REFERENCES

Abul, B. S. & Lisk, R. D. (1995). Tobacco and cannabis smoking in secondary school pupils in Bo, Sierra Leone. West Africa Journal of Medicine, 14 (3) p 157 –60

Alexander, C. S., Allen, P., Crawford, M. A. & McCormick, L. K. (1999). Taking the first puff: cigarette smoking experiences among ethnically diverse adolescents. Ethnographical Health, 4 (4) p 245 -57.

al - Faris, E. A. (1995). Smoking habits of secondary school boys in rural Riyadh. Public Health, 109 (1) p 47 - 55.

Anyo, F. (2000). Lecture presentation, University of the Witwatersrand.

Augarde, A. J., Hope, C. & Butterworth, J.(1993). The Oxford Primary School Dictionary, Great Britain.

Barry, M. (1991). The influence of the U. S. Tobacco Industry on health, economy and environment of developing countries. The New England Journal of Medicine, 324 (130 p 917 - 20.

Baska, t., Straka, S. & Mad'ar, R. Smoking habits in University students in Slovakia. Central European Journal of Public Health, 8 (4) p 245 -8.

Bawazeer, A. A., Hattab, A. S. & Morales, E. (1999). First cigarette smoking experience among secondary school students in Aden, Republic of Yemen. East Mediterranean Health Journal, 5 (3).

Bener, A. & al - Ketbi, L. M. (1999). Cigarette smoking among high school boys in developing countries. Journal of Social Health, 119 (3) p 166 -69.

Boccolli, E., Fedrici, A., Melani, A. S. & De Paola, E. (1996). Results of questionnaires about nurse students smoking habits and knowledge in Italian teaching school of nursing. European Journal of Epidemiology, 12 (1) p 1 -3.

Brynin, M. (1999). Smoking behavior: predisposition or adaptation. Journal of Adolescents, 22 (5) p 635 -46.

Burns, N. & Grove, S. K. (1993). The Practice of Nursing Research: Conduct. Critique and Utilization, Philadelphia: p 172.

Casey, F. S., Haughey, B. P., Dittmar, S. S., O'Shea, R. M. & Brasure, J. (1989). Smoking practices among nursing students : a comparison of two studies. Journal of Nursing Education, 28 (9) p 397 -406.

Centre for Chronic Disease Control. < > " C D C's Guidelines for school and community health programs: Preventing tobacco use and addiction". 04 May 2000. http: www. cdc.gov/nccdphp/dash/ptuaaag.htm. (20 September 2001).

DeBernardo, R. L., Aldinger, C. E., Dawood, O. R., Hanson, R. E., Lee, S. J. & Rinaldi, S. R. (1999). An E - mail assessment of undergraduate's attitudes towards smoking. Journal of American College of Health, 48 (2) p 61 -6.

de Haan, M. (1994). The Health of South Africa, Jutas: Cape Town.

Department of Health & Cancer Association of South Africa. (2000). A guide on how to create a smoke free workplace, Pretoria.

Department of Health, (1998). Tobacco Action Group in South Africa, Pretoria.

Donato, F., Assanelli, D. Chiesa, R., Poeta, M. L., Tomasoni, V. & Turla, C. (1997).Cigarette smoking and sports participation in adolescents : a cross sectional survey among high school students in Italy. Substance Use Misuse, 32 (11) p 1555 - 72.

Egnal, D. (2001). World no – tobacco day: Let's clear the air. Nursing Update: The magazine for the caring profession, 25 (4) p 34 – 7.

Elder, J. P., Edwards, C. C., Conway, T. L., Kenny, E., Johnson, C. A. & Bennett, E. D. (1996). Independent evaluation of the California tobacco education program. Public Health Reports, 111 p 353 – 8.

Emmanuel, S. C., Ho, C. K. & Chen, A. J. (1991). Cigarette smoking among school children in Singapore : Part 111 --- knowledge and attitudes towards smoking. Singapore Medical Journal, 32 (4) p 233 -7.

Engel, J. (1996). The complete South African Health Guide, Juta: Western Cape.

Epi. Info version 6. 1995. The Division of Surveillance and Epidemiology, Centres for Disease Control and Prevention, Atlanta.

Foulds, J. & Godfrey, C. (1995). Counting the cost of children's smoking. British Medical Journal, 311 p 1152 -54.

Fraser, W. J., Loubser, C. P. & Van Rooy, M. P. (1991). Didactics for the undergraduate student, Butterworth.

Gauteng Education Department (2001). Personal communication.

Gilbert, L., Selikow, T. A. & Walker, L. (1998). Society Health and Disease : An Introductory Reader for Health Professionals, Pretoria.

Goldstein,S.J. (1996). The use of tobacco in Johannesburg high school youth M.Med. Thesis, University of the Witwatersrand.

Guthrie, T., Shung - King, M., Steyn, K. & Mathambo, V. (2000). Children and Tobacco in Southern Africa : A literature review of health effects, youth smoking and tobacco control measures. Child Health Unit & Medical Research Council, p 45 - 55.

Haidinger, G., Waldhoer, T. & Vutuc, C. (1998). The prevalence of smoking in Austria. Prev Medicine, 27 (1) p 50 - 5.

Hann, N., Asghar, A., Owen, W. & Asal, N. (1995). Smoking : high hazards in high school. Journal of Oklahoma State Medical Association, 88 (6) p 247 -

Herlits, C., & Westholm, B. M. (1996). Smoking and associated factors among young Swedish females. Scandinavian Journal of Primary Health Care, 14 (4) p 209 - 15.

Hill, D., White, V. & Segan, C. (1995). Prevalence of cigarette smoking among Australian secondary school students in 1993. Australian Journal of Public Health, 19 (5) p 445 - 9.

Jarvis, M. J. < http:// www. find articles. com / m 0999/ 7257321/ 64 980327/pl article. jhtml. > "Children's exposure to passive smoking in England since the 1980's: Cotinine evidence from population survey". 5 August 2000. < British Medical Journal >(18 May 2001).

Jones, A. M. & Kirigia, J. M. (1999). Health knowledge and smoking among South African women. Health Economics, 8 (2) p 165 - 9.

Keiko, M. < siwyg : //45/http://.Seatle times.N... lthscience /134285521 : smoke 170. > " A burning question : why do teens light when they know it is dangerous"? 25 April 2001. < The Seatle Times Company > (24 May 2001).

Laforge, R. G., Velicer, W. F., Levesque, D. A., Fara,, J. L., Hill, D. J., Schofield, P. E., Fan, D., De Vries, H., Shisana, W. O. & Conner, M. (1998). Measuring support for tobacco control policy in selected areas of six countries. Tobacco Control, 7 (3) p 241 - 6.

Lam, T. H., Chung, S. F., Betson, C. L., Wong, C. M. & Hedley, A. J. (1998). Tobacco advertisements : one of the strongest risk factors for smoking in Hong Kong students. American Journal Review of Medicine, 4 (3) p 217 - 23.

Lamkin, L. P. & Houston, T. P. (1998). Nicotine dependency and adolescents: preventing and treating. Primary Care, 25 (1) p 123 - 25.

Lee, D. J., Trapido, E., Weatherby, N. & Rodriguez, R. (2001). Correlates of participation and willingness to participate in activities among 4th – 7th graders. Journal of Community Health, 26 (6) p 447 – 57.

Leonardo, L. (1996). Cigarette smoking and perceptions about smoking and health in Chad. East Africa Medical Journal, 73 (8) p 509 - 12.

Lore, W. (1999). Control of tobacco use: What the world experts recommend. Health Line, 3 (2) p 23 – 4.

Marks,A.S., Steyn, K.S. & Ratheb, E. < > "Tobacco use by Black women in Cape Town".01 March 2001.< Policy brief > (27 January 2003).

Mavundla, T. R. & Uys, L.R. (1997). The attitudes of nurses towards mentally ill people in a general hospital setting in Durban. Curationis, 20(2), p3-7.

MacKenna, J., Gutierres, K. & McCall, K. (2000). Strategies for an effective youth counter marketing program: Recommendation from commercial marketing experts. Journal of Public Health Management Practice, 6 (3) p 7 – 13.

Medical Research Council & Department of Health (1998). South African Demographic and Health Survey.).

Meijer, B., Braski, D., Knol, K. & Kerem, E. (1996). Cigarette smoking habits among school - children. Chest, 32 (4) p 233 – 7.

Meyer – Weitz, A. Reddy, P. & Levin, J. (2001). The impact of South African first tobacco control legislation on adults' smoking status: February 1995 to November 1998. Unpublished manuscript. Medical Rseach Council of South Africa.

Morbidity and Mortality Weekly Report. < http: > "Guidelines for school health programs to prevent tobacco use and addiction". 25 February 1994. < Recommendations and Reports> (20 September 2001).

Morbidity and Mortality Weekly Report (1999). Cigarette smoking among high school students - - 11 states. M M W R, 48(31) p 686 – 92.

Morello, P., Duggan, A., Adger, H., Anthony, J. C. & Joffe, A. (2001). Tobacco use among high school students in Buenos Aires, Argentina. American Journal of Public Health, 91 (2) p 219 – 24.

National Department of Health, (2000). National Guidelines for the Development of Health Promoting School site in South Africa. Pretoria.

Naidoo, J. & Wills, J. (1997). Health Promotion: Foundations for Practice, London: p 178 – 199.

Neeman, R. L. & Neeman, M. (1997). Complexities of smoking education. Journal of School Health, 45 (1) p 17 – 23.

Nissenen, A., Tuomilehto, J. & Paska, P.(1988). From pilot project to national implementation: Experiences from North Karelia project. Scandinavian Journal of Primary Health Care Supplementary, 1: p 49 – 56.

Ogawa, H., Tominga, S., Gellert,G. & Aoki, K. (1988). Smoking among high school students in Nagoya, Japan. International Journal of Epidemiology, 17 (4) p 904 – 11.

Osaki, Y. & Minowa, M. (1996). Cigarette smoking among junior and senior high school students in Japan. Journal of Adolescent Health, 18 (1) p 59 – 65.

OTTAWA Charter < http: //hstorg.za/sahr/99chap21> " Health Promotion" 1999. (22 February 2000).

Pate, R. R., Trost, S. G., Levin, S. & Dowda, M. (2000). Sports participation and health related behaviour among U. S. youth. Archives of Paediatric Adolescent Medicine, 154 (9) p 904 11.

Perez – Stable, E < http: // cc. ucsf. edu / news / 012501. html> "Paeditrician don't counsel parents to kick smoking habits". 25 January 2001. < Daybreak, UCSF New Service > (25 / May 2001).

Prout, S. & Benatar, S. R. (1983). Smoking in White high school children in Cape Town. South African Medical Journal, 63 (13) p 483 – 6.

Padget, D. I., Selwyn, B. J. & Kelder, S. H. (1998). Ecuadorian adolescents and cigarettes smoking: a cross sectional survey. Review of Panama Saluda Publican, 4 (2) p 87 – 93.

Pritchard, D., Sitas, F. & Viljoen, E. (1999). Tobacco consumption among Swaziland high school students and their parents and teachers. South African Medical Journal, 89 (5) p 558 – 60.

Prochaska, L. K. (1997). Sending up smoking signal. Michigan Health Hospital, 33 (5) p 42.

Reddy, P., Meyer-Weitz, A. & Yach, D. (1996). Smoking status, Knowledge of health effects and attitudes towards tobacco control in South Africa. South African Medical Journal, 86(11) p 1389-1393.

Reddy, P., Meyer- Weitz, A., Abedian, I. Steyn, K. & Swart, D. < http://www.mrc.ac.za/ 3policy 1998> "Implementable strategies to strengthen comprehensive tobacco control in South Africa: Towards an optimal policy intervention mix". 02 June 1998. <Policy brief> (2 January 2003).

Research Release No 3 (2001) Recent trends in smoking prevalence in South Africa: Some evidence from AMPS data. Economics of Tobacco Control Project. University of Cape Town.

Shamsuddin, K. & Harris, M. A. (2000). Family influence on current smoking habits among secondary school children in Kota Bharu, Kelantan. Singapore Medical Journal, 41 (4) p 167 – 71.

Sieminska, A.Janssem, E., Konopa, k. Damps, I. & Slominska, J. M. (2000). The prevalence of cigarette smoking among school pupils staying at summer camps. International Journal of Tuberculosis and Lung Diseases, 4 (11) p 1009 15.

Smith, M. & Umenai, T. < http// . > " Knowledge attitidu and practice of smoking among university students of allied health sciences in Japan". 2000 < Asia Pacific Journal of Medicine> 02 February 2001.

Stata corp. (1999). Stata Statistical Software: Release 6.0. College Station, Tx: Stata Corporation.

Stroebe, W. & Stroebe, M. (1995). Social psychology and Health. Britain.

Sun, D., Anderson, M., Shah, A. & Julliard, K. (1998). Early adolescents' perceptions of cigarette smoking: a cross sectional survey in a junior high school. Adolescence 1998 Winter, 33 (132) p 805 –10.

Sun, W. Y. & Ling, T. (1997). Smoking behaviour among adolescents in the city, suburbs and rural areas of Shanghai. American Journal of Health Promotion, 11 (5) p 331 – 63.

Swart, D. (2001) "Launching South Africa's first youth tobacco survey". September 2001. <MRC News> (05 February 2003).

Tan, A. S. L., Arulanandam, S., Chng, C. Y. & Vaithinathan, R. (2000). Overview of legislation and tobacco control in Singapore. The International Journal of Tuberculosis and Lung Disease, 11 (4) p 1002 – 8.

Tanimowo, M. O. (1999). Knowledge, attitudes and practices regarding Tuberculosis among senior secondary school students. East Africa Medical Journal, 76 (1) p 47 –

Tapia – Conyer, R., Cravioto, P., de la Rosa, B., Galvan, F., Garcia – de laTorre,G.& Kuri, P. (1997). Cigarette smoking; knowledge and attitudes among Mexican physicians. Saluda Publican of Mexico, 39 (6) p 507 12.

Tobacco Products Control Amendment Act No. 12 (2000). Government Gazette No 21610 5, Pretoria.

Warren, C. W., Riley, L., Asma, S., Eriksen, M. P., Blanton, C., Loo, C., Batchelor, S. & Yach, D. (2000). Tobacco use by youth: A surveillance report from the global youth tobacco survey project. Bulletin of the World Heath Organisation, 78 (7) p 868 – 76.

Watson, J. E. (1979). Medical - Surgical Nursing and Related Physiology, Philadelphia.

World Health Organisation (`1995). Acceptance speech from president Nelson Mandela on receiving the tobacco and health commemorative medal and certificate. Tobacco Alert.

World Health Organisation "Paediatricians enlisted in fight against childhood killers". 10 August 1998. (25 May 2001).

World Health Organisation Report (1999). Policy and program interventions: Getting the right mix. International Consultation on Tobacco and Youth in Singapore, 28 (30) p 13 – 7.

World Health Organisation < http:// www.who.int/.inf > "One in five school children smoke in developing countries, new survey shows". 14 August 2000. <Press Release 2000> (28 May 2001).

World Health Organisation < http:// .int/inf > "Tobacco poses a major obstacle to children's rights – Report". 4 May 2001. <Press Release 2001 > (24 May 2001).

Zhu, B.P., Liu, M., Shelton,D., Liu, S. Giovino, G.A. (1996). Cigarette smoking and its risk factors among elementary school students in Beijing. American Journal of Public Health, 86(3) p 368-75.

APPENDIX: A

A STUDY OF THE KNOWLEDGE, ATTITUDES AND PRACTICES OF STUDENTS IN MATRIC REGARDS SMOKING.

SECTION A: GENERAL INFORMATION

INSTRUCTION:

Kindly mark X in the appropriate box where applicable

1.Are you a male or female?

Male	
Female	

2.Do you live in the following?

Rural village	
City	
Township	
Informal settlement	

3.Indicate your race group.

Black	
White	
Indian	
Coloured	

4.Indicate your religion .

Catholic	
Hindu	
Islamic	
Protestant e.g Methodist Lutheran, Anglican	
Traditional e.g Z.C.C Apostolic	
Other specify	

5. What is your age in years ? .....

6.Indicate the marital status of your parent/s.

Married	
Single	
Divorced	

7.Indicate employment status of your parent(s).

	Father	Mother
Employed full time		
Employed part time		
Unemployed		
Self employed		

SECTION B: KNOWLEDGE AND ATTITUDE TO SMOKING

INSTRUCTION:

Mark with an X in the appropriate box(es) and motivate your answer where applicable.

1.Have you ever heard about the dangers of smoking?

Yes	
No	
I don't know	

2.If yes, where did you get information on the dangers of smoking?

.....
.....
.....

3.State three or more dangers of smoking.

.....
.....
.....
.....

4.Does smoking cause harm to the health of non-smokers (passive smokers).

Yes	
No	
I don't know	

Please explain:

.....
.....
.....

5.Can smoking have a negative impact on the economy of the country?

Yes	
No	
I don't know	

Please explain:

.....
.....
.....

6.What is your understanding of the Tobacco Products Control Amendment Act, 1999 which was implemented in January 2001 ?

.....
.....
.....

7. What word / phrase best summarises your attitude towards smoking?

.....
.....
.....

SECTION C : SMOKING PRACTICES

INSTRUCTION:

Mark X the appropriate box(es) and motivate your answers where applicable.

1.Indicate your smoking status below:

Smoker	
Non smoker	
Ex smoker	
Other specify	

2.Indicate number of cigarettes you smoke per day if you do smoke

More than 2 per day	
2 per day	
One per day	
Never smoked	

3.What is the smoking status of your parents?

	Father	Mother
Smokers		
Non-smokers		
Ex smokers		
Other specify		

Specify.....

.....

4.Do any of your brothers and sisters smoke?

	Yes	No
Brothers		
Sisters		

5.Do you perceive the smoking status of parents, sisters, brothers as influencing you towards smoking or not?

Yes	
No	
I don't know	

If yes to any who influenced you the most?----------

6.Do you take part in the school or community sporting activities?

Yes	
No	

8.Do you have any friends who smoke?

Yes	
No	
I don't know	

9.Do your friends influence smoking habits?

Yes	
No	
I don't know	

Please explain:

.....
.....

10.Would you consider smoking as part of adult behaviour?

Yes	
No	
I don't know	

Please explain:

.....
.....

11.What in your opinion influences the youth to start smoking?

Please explain:

.....
.....

12. What in your opinion would assist the youth and high school students in particular not to smoke?

.....
.....
.....
.....

APPENDIX B

GAUTENG PROVINCIAL GOVERNMENT

OFFICE OF THE SENIOR MANAGER
STRATEGIC POLIC DEVELOPMENT

Particulars of researcher:
Ms M D Mokonoto
P.O. Box 911-1811
Rosslyn
0200

24 May 2001

Dear Ms M D Mokonoto

Request to conduct a research study

Topic: "KNOWLEDGE, ATTITUDE AND PRACTICES OF HIGH SCHOOL STUDENTS AS REGARDS SMOKING"

Approval is hereby granted that you may approach the GDE schools in connection with your research study.

Schools:

Permission is subject to the following conditions, and may be withdrawn if these conditions are not met:

1. The District Directors concerned are to be informed that you have received permission from the Gauteng Department of Education to approach school principals to request access to schools for research purposes. The District Directors must be approached for permission to involve District Support Staff in your project.
2. Please show this letter to the school principal and the chairperson of the School Governing Body (SGB) as proof that you have received the Department's consent to carry out the research.
3. A letter/document which sets out a brief summary of your intended research should please be made available to the principals of the schools concerned.

Tel: (011) 355-0495 Fax: (011) 355-0512
E-mail: sallyr@gpg.gov.za Web: www.education.gpg.gov.za
P.O Box 7710 Johannesburg 2000.
Room 910, 111 Commissioner Street Johannesburg, 2001

4. Please obtain the goodwill and co-operation of the principal, chairperson of the SGB, teachers and learners involved. Persons who offer their co-operation will receive no special benefit from the Department, while those who prefer not to participate will not be penalised in any way.
5. You must conduct your research after school hours, and the normal school programme should be interrupted as little as possible. The principal must be consulted as to the times when you may carry out your research.
6. In line with international practice on research, the department recommends that the maximum interview time be 35 minutes per participant.
7. You may commence your research from the third week of **February**, as generally permission is not granted to conduct research in GDE schools during the month of **January** and the **last term** of the year.
8. It is the researcher's responsibility to contact the parents of the learners to obtain permission for their children to take part in your study.
9. You are responsible for supplying your own research resources, such as stationery, photocopies, transport, faxes and telephone costs.
10. The names of the schools, principals, teachers and learners may not appear in your research report without their consent. Parents as partners in education should be handled in an equally sensitive manner
11. Please supply the Department via the Strategic Policy Development Directorate with a bound copy of your report. You may also be requested to give a short presentation on your findings.
12. Please supply the Director in whose districts the schools are located with a brief summary of your findings.

The Department wishes you well with this important project and looks forward to hearing from you in due course.

Regards

GAUTENG DEPT OF EDUCATION
HEAD OFFICE
24 JAN 2001
PRIVATE BAG 7710
JOHANNESBURG 2000

Sally Rowney (Senior Manager)
Strategic Policy Developments and Research Coordination

Ms Maggie D Mokonoto
Researcher

05/01/01
Date

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

COMMITTEE FOR RESEARCH ON HUMAN SUBJECTS (MEDICAL)
Ref: R14/49 Mokonto

CLEARANCE CERTIFICATE PROTOCOL NUMBER M01-05-48

PROJECT	A Study of The Knowledge, Attitude And Practices of High School Students As Regards Smoking
INVESTIGATORS	Ms MD Mokonto
DEPARTMENT	School of Public Health, SG Lourens Nursing College
DATE CONSIDERED	01-05-25

DECISION OF THE COMMITTEE *

Approved unconditionally

DATE 01-08-24 CHAIRMAN.....(Professor P E Cleaton-Jones)

* Guidelines for written "informed consent" attached where applicable.

c c Supervisor: Dr S Naidoo
Dept of School of Public Health, Wits Medical School

Works2\lair\C015\HumEth97.wdb\M 01-05-48

==========

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and ONE COPY returned to the Secretary at Room 10001, 10th Floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Mokonto 91 17/09/01

Faculty of Health Sciences

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

7 York Road PARKTOWN Johannesburg 2193 Telegrams WITSMED Telex 4-24655.SA
FAX 643-4318 TELEPHONE 717-2075/2076
E-MAIL jmainwa@chiron.wits.ac.za

MS MD MOKONOTO
P O BOX 9111811
ROSSLYN
0200

APPLICATION NUMBER 9909952M
STATUS (DEG 125) (MM815) PZZ

2001-06-26

Dear Ms Mokon

Approval of protocol entitled A study on knowledge, attitude and practices of high school students as regards smoking

I should like to advise you that the protocol and title that you have submitted for the degree of Master Of Public Health (Full-Time) have been approved by the Postgraduate Committee at its recent meeting. Please remember that any amendment to this title has to be endorsed by your Head of Department and formally approved by the Postgraduate Committee.

Dr S Naidoo has/have been appointed as your supervisor/s. Please maintain regular contact with your supervisor who must be kept advised of your progress.

Please note that approval by the Postgraduate Committee is always given subject to permission from the relevant Ethics Committee, and a copy of your clearance certificate should be lodged with the Faculty Office as soon as possible, if this has not already been done.

Yours sincerely

JO Mainwaring (Mrs)
Faculty Officer
Faculty of Health Sciences

Telephone 717-2075/2076

Copies - Head of Department_____Supervisor/s

Plan your career and first-year curriculum online - explore our website: www.wits.ac.za/ec2

The University seeks to serve South Africa by furthering access to equal opportunity while striving for excellence in teaching, learning and research

P.O.Box 911-1811
Rossylyn
0200
28H March 2001

The Principal

Pretoria

RE: PERMISSION TO CONDUCT RESEARCH PROJECT

Sir /Madam

I am a student at the University of the Witwatersrand studying Master of Public Health and I need to complete a research project regarding smoking attitudes, knowledge and practices of high school students.

Kindly assist me in allowing time to access your matriculation students. As soon as the research protocol is approved by both Ethics and research committee, I will forward a detailed copy to your office.

For more information you are welcomed to contact the Head of Department of school of Public Health , Professor William Pick at 011 717-2543 / 2051 or Ann de Jager 011 717-2087.

Your school has been selected to take part in the research project. Data will be recorded anonymously, collectively and strict confidentiality will be ensured at all stages of the research.

I shall greatly appreciate if I am given consent to conduct this research at your school.

Your's faithfully

Maggie D. Mokonoto

(Nurse Educator at S.G. Lourens Nursing College, Pretoria)

CONSENT FORM TO PARENTS/GUARDIANS

A STUDY OF KNOWLEDGE, ATTITUDE AND PRACTICES OF STUDENTS IN MATRIC REGARDING SMOKING

Dear parent/ guardian

My name is Maggie Mokonoto, I would like your permission to involve your child,(or if you are a guardian the child placed in your care) in an important study that I am responsible for.

This research study is for a higher degree in Master of Public Health at the University of the Witwatersrand. The study involves researching the attitudes, knowledge and practices of high school students as regards smoking. It is hoped that the information that I obtain from the study will be used to develop smoking prevention programmes that are suitable for high school students.

Your chid ward is not required to participate in the study and there will be no negative consequences for him/her if he/she chooses not to do so. You and/or child may also choose to withdraw permission to participate at anytime during the study. Whilst the schools may benefit from this understanding of our youth's smoking behaviour, there is no direct benefit for you and your child/ children in this study as individuals. Anonymity and strict confidentiality will be ensured. Your child's responses will be confidential and name of a child and school will not appear anywhere on the questionnaires.

The study will commence as soon as the University of the Witwatersrand Ethics Committee approves the research.

If you are willing to give consent for your child/ward to participate, please sign in the space below.

Your's sincerely

Maggie D. Mokonoto (Nurse Educator at the S.G. Lourens Nursing college)

Parent's signature:.....

Date:...../...../...2001...

CONSENT FORM TO STUDENTS

A STUDY OF KNOWLEDGE, ATTITUDE AND PRACTICES OF STUDENTS IN MATRIC REGARDING SMOKING

Dear student/ learner

My name is Maggie Mokonoto a student at the university of the Witwatersrand studying a higher degree in Master of Public Health. As part of my degree, I need your assistance and permission to successfully complete a research project as part of a research study.

The aim of the study is to investigate knowledge, attitudes and practices of students in matric regarding smoking.

A questionnaire will be given to you if you agree to participate in the study and you will be required to give opinion on a whole range of issues regarding smoking. The questionnaire should not take longer than an hour to complete. You are not required to put your name anywhere on the questionnaire and your answers will be collated with those of other students and will not be linked to you in any way. Your answers will be treated as confidential. Only the researcher, myself will have access to your answers. I have permission from the school authorities and your parents or guardians for you to participate. If you agree to participate in the study please answer the questions as honestly as you can.

You are not compelled to participate and if you do not take part there will be no negative consequences for you. Also you may choose not to go on with the study at any time. However, if you do take part, it will assist me in my research and the data collected may benefit all young South Africans. No teacher, principal or parent or parent association member will be present when you fill in the answers.

I would be grateful to hear your opinions on smoking. An envelope will be available for you to put your questionnaire in after completion. I need your signed permission to include you in the study. Please sign your consent at the bottom of this page if you agree to participate.

Your's sincerely

Maggie D. Mokonoto (Nurse Educator at the S.G. Lourens Nursing College).

Student's signature:.....

Date:...../...../...2001.....