

**CANNABIS USE : SOCIAL RISK FACTORS AND
KNOWLEDGE OF HEALTH RISKS IN A SAMPLE OF
ADOLESCENTS**

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ABSTRACT

A study was conducted at a Durban high school which has a mixture of socioeconomic classes and races. All grade 10 pupils present on the day of the study were asked to complete a questionnaire under examination-like conditions. The aim was to determine the prevalence of dagga smoking as well as the pupils' knowledge of the effects and health risks of dagga smoking and the prevalence of associated features such as alcohol use, cigarette smoking and sexual activity.

Dagga smoking was found to occur commonly (22.9%) and to be mainly a white male group activity. There was a strong association with cigarette smoking and alcohol abuse and a general lack of knowledge concerning the adverse health effects of dagga smoking. Peer pressure and relief of stress were cited as the commonest reasons for dagga smoking. More information and life skills training is required for this group of students as well as further research into substance abuse related topics in general.

CHAPTER ONE

1.1 INTRODUCTION

Cannabis Sativa is the most widely abused and trafficked illicit substance in the world. This plant is cultivated in almost every country and occurs naturally in vast tracts of land in remote areas.¹

Descriptions of its use date back to at least 2700BC.² Its use in South Africa was noted by Jan Van Riebeeck in 1652 and for some time it had been used as payment for the labour of Bushmen and slaves.³ In traditional Zulu culture its use was restricted mainly to elderly men who smoked it about once a week or fortnight whilst reminiscing about old times.⁴ This smoking resulted in excess saliva production and a custom of spitting in the sand to create intricate patterns.⁵

In South Africa cannabis sativa is indigenous mainly to the provinces of KwaZulu-Natal and Mpumalanga.⁶

In South Africa it is known by various colloquial names such as dagga, zol, pot, grass etc. Dagga is made from the upper leaves, tops and stems of the plant which are cut dried and smoked as a cigarette (joint) or in a broken bottle neck often mixed with Methaqualone (Mandrax), the latter practice apparently peculiar to South Africa.^{7,8,10} Dagga is alternatively known as Marijuana in other parts of the world. For the purposes of this study Marijuana will also be referred to as Dagga.

Hashish is the dried resinous exudate from the tops and undersides of the cannabis sativa leaves.

This is commonly ingested mixed in foodstuffs such as biscuits. Hashish oil is produced by a process of repeated extraction of plant materials to yield a dark viscous fluid very high in the content of psychoactive ingredients.^{7,10} It is easy for smugglers to conceal and is used by spreading it onto the tip of an ordinary cigarette or onto the paper used for self rolled cigarettes.

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The psychoactive effects of cannabis sativa is mainly due to its content of the chemical Delta-9-tetrahydrocannabinol (THC). The THC content of Dagga is variable depending on the age and sex of the particular plant, whether naturally occurring or cultivated, and in which area the plant occurs. There is evidence to suggest that plants from the district of Durban in KwaZulu-Natal are highest in their THC content and that the THC content of dagga has increased dramatically in recent years to as much as 10 -15%.^{6,7,10}

Hashish oil has a THC content of 60%.⁷

The DSM IV classifies cannabis related disorders into 2 categories:

Cannabis use disorders which relates to substance dependence issues, and cannabis-induced disorders which relates to substance intoxication issues.¹⁰

Intoxication begins within minutes of inhaling the drug, blood levels peaking at about 20 minutes, and lasts for 3 to 4 hours although the effects are sometimes prolonged over several days as the

drug is slowly released from the fat where it gets stored. The half life of the drug is 50 hours so traces can be detected in the urine of chronic users for up to 2 weeks or more.² The effects vary according to the dose and frequency of administration as well as from individual to individual but typically begins with euphoria followed by inappropriate emotions (sense of grandiosity), sedation, impaired short term memory, motor performance and judgement as well as distorted sensory perceptions (in particular a sensation that time is passing slowly). Acute anxiety, dysphoria, social withdrawal and paranoid ideation may occur.^{2,10,11}

Chronic abuse of Cannabis Sativa is likely to lead to the so called Amotivational Syndrome which is of particular concern to educators. These abusers show a loss of interest in activities they used to enjoy, poorer school performance, significantly increased absenteeism and apathy towards completing their education, finding employment and accepting responsibility.¹²

Kandel, D.B., Davies, M.,Karus, D., Yamaguchi, K., (1986),¹³ in a study entitled "The consequences in young adulthood of adolescents drug involvement" found that the use of Dagga, especially heavy use, correlated with marital and work instability, delinquency, depression and psychiatric hospital admissions.

The adverse health effects of acute and chronic dagga use will be discussed later.

1.2 OBJECTIVES

Preamble:

The principal of the school enrolled for this study was concerned about the perceived high incidence of dagga smoking in his school and was concerned about the adverse effects on the students.

A preliminary survey of 16 to 17 year olds conducted by a group of students and involving several schools as well as surveys conducted by youth and substance abuse organisations showed the incidence of dagga smoking to be in the region of 22 to 30% (Statistics from SANCA and Youth for Christ).

It was decided to do further research into dagga-related issues concentrating on Grade 10 which corresponds to the third year of high school and an average age of 16 years.

The objectives of the study were:

- i. To determine the extent of those social and attitude risk factors known to be associated with illicit drug usage.
- ii. To determine to which extent if any these factors are relevant to this local population.
- iii. To determine the knowledge of the pupils about the adverse health risks of dagga smoking.
- iv. To determine the demographic features of the at risk groups.
22. To ascertain their opinion as to the reason why dagga use is so prevalent among their peer group.
- vi. To assess the availability of dagga to them.
- vii. Their opinion as to the extent of dagga smoking amongst their peers as well as their personal intent which has been demonstrated to be an independent risk factor.
- viii. To determine their opinion as to whether dagga smoking should continue to be a criminal offence.
- ix. To assess whether there is a variance of opinion amongst users and nonusers.
24. To get an idea of to whom they would turn for help if they realized they had a problem with substance abuse.
- xi. To confirm whether dagga users are also more likely to be users of alcohol, smokers of cigarettes and involved in sexual activity, as illustrated by numerous other studies.

1.3 HYPOTHESES

It was hypothesized that:

- (i) That the prevalence of dagga smoking will be significantly high (approximately 22%).
- (ii) That there is a dearth of knowledge concerning the adverse health effects of dagga smoking.
- (iii) That there would be a strong association between those who are sexually active, using alcohol, smoking cigarettes and dagga users.
- (iv) That dagga smokers are more likely to want to see the use of this illicit drug legalized.
- (v) Finally that dagga is easily available and affordable to this group of students.

CHAPTER TWO

LITERATURE SURVEY

2.1 INCIDENCE

The United States has collected data for many years to monitor the nature, extent and public health consequences of illicit drug abuse. Two national surveys accomplish this - The National Household Survey which has been repeated every 2-3 years since its inception in 1972, and the High School Senior Survey conducted annually since 1975. These surveys together with drug reports from hospital emergency services and statistics of drug related deaths provide a broad perspective on drug abuse trends and their public health consequences.¹⁴

In the early 1960's less than 5% of the American population had any experience of illicit drugs whilst in 1991 an estimated 37,1% had done so.¹⁴

Dagga is the most commonly abused illicit substance in the United States. According to the National Household Survey an estimated 67,6 million had some experience of it by May 1991.

An estimated 9,7 million are current users.¹⁴ The use of Marijuana peaked in 1979, when 60,4% of high school students reported using it, and subsequently declined.^{15,16} Current use in this population is 28%.¹⁷

A study conducted amongst 15 and 16 year olds in the United Kingdom demonstrated that 43% of boys and 38% of girls had tried cannabis. ¹⁸

In Australia 4,2% of 12 year olds reported using marijuana, whilst this rose to 26,5% in 15 year olds and 26,7% in 16 year olds. ¹²

South African Statistics are difficult to obtain. The available evidence suggests that dagga is the most popular illicit drug used in South Africa as well. In a study done by Du Toit in 1978 amongst high school students in Durban he ascertained that 14% of white as against 19% of Indian, 12% of Coloured and 17% of Black pupils had used dagga at least once. ¹ In a study conducted in 1983 by S.M. Levin ¹⁹ at the University of the Witwatersrand Medical School the overall percentage of students in the first three classes reporting having tried dagga was 27%. 13,1% were current users.

The South African Narcotics Bureau (SANAB) of the South African Police estimated in 1995 that 22 734 hectares in South Africa were under dagga cultivation. This would release an estimated dry weight of dagga of 110 524 080 kg with a street value of over R35 billion.

2.2 LEGAL ASPECTS:

The first scientific investigation conducted in South Africa on dagga is a dissertation by Charles George Boorhill for his degree Doctor of Medicine. It was entitled "The smoking of dagga

(Indian Hemp) by the native races of South Africa and the resultant evils" and submitted to the University of Edinburgh in 1913. It contains a clear warning of the dangers of dagga use. This research was probably a contributory factor in the decision by the League of Nations to include Cannabis Sativa on the list of habit forming drugs in 1928. In the same year South Africa passed the first act to regulate and prohibit dagga.³

In terms of the Abuse and Dependence Producing substances and Rehabilitation Centres Act no 410 of 1977, the use of dagga is a criminal offence and the police have the right to question anyone within a reasonable distance of any dagga they may find.⁴ The debate around the legal status of dagga has been raging for many years both locally and abroad. It is likely that the possession of so called 'soft drugs' will be decriminalised in South Africa as the government considers a new 'Drug Masterplan' for the country. In this way it is envisaged that more control could be exercised over it's distribution, it could become an additional source of revenue and valuable police and courtroom time could be spent on more serious offences. Furthermore young people would be protected from the stigma of a criminal record and prisons may be less overcrowded. In 1994 for example 3169 arrests were made for the possession of dagga and 7896 for dealing in dagga (Figures from SANAB).

In an Australian study 29,6% of girls and 37,4% of boys felt that the use of marijuana should no longer be a criminal offence. Those who do not see its use as being "dangerous" are more likely to be in favour of decriminalisation.¹²

2.3 SOCIAL RISK FACTORS

2.3.1 Home Circumstances:

Marijuana use has been found to be strongly associated with maladaptive difficulties seen in long term family problems.

According to a study done in Australia users of illicit drugs are twice as likely to come from broken homes. There is a significantly higher prevalence amongst those whose mothers work full time, are exposed to family violence and who feel unloved by their parents and unable to speak freely to them about issues such as drug abuse.¹²

They are less likely than non-users of illicit drugs to report that they are close to their parents and their parents are less likely to set rules and standards for their children. Their parents are more likely to be smokers, users of alcohol and tranquilizers. It is postulated by researchers in the field that children learn by example to 'self medicate' with drugs to relieve their stress.¹⁷

2.3.2 Educational Aspects:

In the educational arena, drug users are unlikely to be high achievers. They frequently report lower school performance, less interest in academic matters, spend less time on homework and are absent from school more frequently.^{12,17,18} Rob, M., Reynolds, I., Finlayson, P., (1990), report in their study that the prevalence of marijuana use was twice as high among average

achievers as among high achievers even after controlling for level of parental education. It is likely that marijuana use has adverse effects on learning, memory and cognition.²⁰

2.3.3 Peer Pressure:

Drug users are said to be much more peer orientated participating more in peer related activities such as going to hotels and clubs.¹⁷ In the initiation of marijuana use, friend's use of marijuana has the strongest positive influence.²⁵

2.3.4 Associated Social Risks:

One area of particular concern in dagga usage is its strong association with alcohol abuse, cigarette smoking and sexual activity.^{12,21,22} Dagga smoking seldom occurs without prior experimentation with legal substances such as cigarette smoking and alcohol use and the health risks are greatly increased by simultaneous abuse.² Dagga smokers are more likely to have experienced sexual intercourse and less likely to practice 'safe sex' (i.e. use condoms) thus putting themselves at increased risk of unwanted pregnancies and sexually transmitted diseases including AIDS.^{21,23,24}

2.3.5 Progression of Substance Abuse:

Another area of concern is the "Gateway" effect of dagga use as described by Kandel, D.B., Logan, J.A., in 1975, and reaffirmed in 1996.^{17, 25} Almost all users of illicit substances give a history of marijuana use. Marijuana is considered a major risk factor for progression to other harder drugs and the younger the age of onset of use the higher the risk for continued use and progression.^{25,26} In men in particular there is a strong interaction between age of onset of marijuana use or former use of marijuana on the rate of initiation to other illicit drugs and men who initiate the use of marijuana at an early age, especially under the age of 16, are even more likely to initiate other drugs than is expected from the longer period of risk. It appears that marijuana use is a necessary condition for the progression onto other drugs.²⁵ Preventative efforts targeted towards reducing involvement in marijuana use would be the most successful in respect to lowering the progression to higher stages of drug involvement.²⁵ For example 94,4% of cocaine users had also used marijuana.¹⁷

2.4 HEALTH RISKS

2.4.1 Therapeutic Effects

The therapeutic effects of Tetrahydrocannabinol (THC) has been recognised in many countries. It has been listed in Chinese herbal catalogues for thousands of years as an aid to digestion. Thirty marijuana containing preparations were in fact listed in the United States Pharmacopoeia

as recently as 1937. A prescription drug containing THC was approved by the food and drug administration of the United States for use as an anti-nausea agent in 1985 and it has recently become available in South Africa. It has a Schedule 7 registration for use in AIDS associated anorexia and weight loss, as well as nausea and vomiting associated with chemotherapy and resistant to conventional anti-emetics.

Cannabis may also have an anti epileptic effect, a bacteriostatic effect on local application, bronchodilatory effects and cause a reduction in intraocular pressures.⁵ Its' usefulness in asthma, anxiety and eating disorders is mainly anecdotal. It may reduce spasticity associated with neurological disorders such as multiple sclerosis, Parkinson's disease and paraplegia but again this needs further investigation. It's adverse effects and risk of dependance probably outweigh it's possible therapeutic usefulness.²⁷

2.4.2 Adverse Health Risks

a) Acute Intoxication:

Acute intoxication causes a high feeling with euphoria, inappropriate laughter, grandiosity, lethargy, impairment in short term memory, and distorted sensory perceptions. Impairments in reaction time, judgement, use of peripheral vision as well as impaired motor performance are obvious while driving a car or airplane on a simulator.¹¹

This impairment of motor coordination is especially dangerous when driving particularly when dagga is used with alcohol. Fatal accidents have been shown to occur more often in patients testing positive for cannabinoids than in the general population. ¹¹

Acute intoxication may also be associated with a psychosis with delusions or hallucinations; acute anxiety or delirium. ¹⁰

Physical signs are conjunctival injection, an increase in appetite which may lead to weight gain, a dry mouth and tachycardia which may be a potentially significant problem for individuals with pre-existing heart disease. ^{8,10}

b) Chronic use:

Dagga is a potent irritant to respiratory tissues containing at least 4 times the irritants and carcinogens found in cigarette smoke. Dagga smokers are prone to chronic cough, nasopharyngitis, sinusitis, chronic obstructive pulmonary disease and lung cancer, and possibly cancer of the mouth, pharynx and oesophagus as well as leukemia. ²

Its use in pregnancy increases the incidence of spontaneous abortion, low birth weight and birth defects. In the male it reduces testosterone levels affecting sperm development and sex drive. ^{11,28}

It has a negative effect on the immune system in particular cell mediated immunity and one would be tempted to speculate that it's use may make one more vulnerable to infection with the HIV virus or negatively influence the course of AIDS. ^{2,11}

Long term heavy users are likely to develop cognitive difficulties. Verbal expression and mathematical skills are particularly at risk. This means decreased educational attainment. ²⁰ They are more likely to fail to graduate from high school, have police records, drink heavily and report violent behaviour in young adulthood. ^{11,13}

Drug dependence is another long term risk factor. This means compulsive use, tolerance to the drug's effects and possible withdrawal symptoms on cessation of usage. The time spent acquiring and using the drug may impact significantly on family, work and recreational activities. ¹⁰

c) Public Health Risk:

Hall, W. (1995) ²⁹ summarises the public health significance of cannabis use in Australia in approximate order of importance as adverse psychological effects, motor vehicle accidents, dependence, respiratory disease, psychosis in vulnerable individuals, low birth weight babies and perhaps subtle cognitive impairment.

A 15 year follow-up on more than 45 000 Swedish military conscripts documented a six fold increase in the rate of schizophrenia in men who had ingested marijuana on more than 50 occasions. ²

CHAPTER THREE

SUBJECTS AND METHODS

1. RATIONALE

The researcher was particularly interested in adolescent health, an area particularly neglected and poorly researched in South Africa. On discussion with the principal of a local high school he perceived a major problem to be that of dagga smoking and he was particularly concerned about its possible detrimental role in the education of his pupils. Discussion with the school counsellor confirmed his concern and she felt that adverse home circumstances were probably a major contributory factor in the incidence of substance abuse. Hence this study was born to look at the incidence of dagga smoking at the school, the prevalence of adverse social circumstances as well as the student's knowledge of the adverse health risks associated with dagga use. The information gleaned would be used to assist in identifying areas of ignorance and the need for and form of interventional life skills training and the type of information of most use that needs to be imparted to the students.

The objectives and aims were discussed previously.

2. METHODS

2.1 Introduction - The School

It is a high school where English is the medium of instruction; it is multicultural, and all races and both sexes are represented.

The school is situated in a low to middle class previously white only suburb and mainly attracted pupils from white lower class. Many of these children are problem children coming from problematic home situations.

Since the changes in South African education with the change in government, the school has progressively attracted more children from other racial groups particularly in the lower grades.

The racial mix is now predominantly black in the lower grades. A substantial number of these children commute from local townships as transport is easily available. The black children are more likely to come from middle class families.

It was decided to study all pupils in grade 10 corresponding to the 3rd year in high school. It was felt that by this stage the initiation into dagga usage would have occurred and we would not miss those intending to end their schooling prematurely.

2.2 Consent

Written permission for the study was obtained from the school principal and the chairman of the governing body as the official representative of the parent body.

2.3 The Subjects

All students in grade 10 were included in the study. There was a potential total number of 126 of whom 18 were absent on the day of the study leaving a total of 108 to participate. One questionnaire was spoiled and excluded so $N = 107$. The average age of the pupils was 16.45 years on their next birthday. The youngest 14 and oldest 18 years old next birthday. Forty three were female (40.6%) and sixty three male (59.4%) (1 answer was missing). Sixty were Black (57.1%), eight Indian (7.6%), eleven Mixed Race/Coloured (10.5%) and twenty six Whites (24.8%). (2 answers were missing).

2.4 The Questionnaire

A questionnaire was designed by the researcher and structured in such a way as to procure the following information:

Demographic details - age, sex, race, area where they live.

Numbers of those who have used dagga on more than one occasion, number of those who drink and smoke regularly and those who have had sexual intercourse.

Home circumstances.

Attitude to schooling.

Knowledge of health risk factors of dagga use.

The influence of peers.

Accessibility and affordability of dagga.

Risk for continuing abuse of dagga (intent).

Opinion regarding legalisation of dagga usage.

To whom they would turn for help in the event of substance dependence.

An open ended question was included to assess their opinion as to why people smoke dagga.

The questionnaire consisted of structured questions with closed response alternatives as well as an open ended question mentioned above.

Some of the closed response questions were graded on a scale from 0 - 4 with 0 correlating with strong disagreement with the statement presented and 4 with strong agreement.

All questions were presented in English and Zulu, the local black language.

2.5 Administration

The questionnaire was administered simultaneously to all four grade 10 classes by their teacher who had written instructions to ensure that there was no discussion amongst the pupils and to reassure them on the anonymity of their response. The students were not identifiable in any way. Completed questionnaires were placed in a blank envelope, sealed and returned to the researcher. Not all the students answered all the questions so there is slight variability in the sample sizes of the results presented. A few different measures of the same variable were included to check validity. Self report questionnaires that are designed to measure feelings, opinions and attitudes are assumed to have face validity because objective measures are not possible. Anonymity has been shown to improve validity. Other researchers have demonstrated that in general the use of questionnaires in adolescents do deliver valid results.³⁰ Obviously the results of one particular study such as this one are applicable to the local situation and cannot necessarily be extrapolated to all adolescents.

CHAPTER FOUR

DATA PRESENTATION

Total number of pupils in grade 10	=	126
Absent on day of study	=	18
Spoilt papers	=	1
Total sample size	n =	107

DEMOGRAPHIC DATA

TABLE 1

Sex	Male	59.4%	(63)
	Female	40.6%	(43)
Race	Black	57.1%	(60)
	White	24.8%	(26)
	Indian	7.6%	(8)
	Mixed Race	10.5%	(11)
	Unknown		(2)

Number of non dagga smokers	81 (77.1%)
Number of dagga smokers	24 (22.9%) (smoked dagga more than once)
Unanswered	2

Comparison done between dagga smokers and non dagga smokers.

Chi square test for categorical data, Ttest for continuous data.

P < 0.05 taken as statistically significant

COMPARATIVE DATA

TABLE TWO

Statistically significant differences between nonsmokers of dagga and smokers. P < 0.05

Total Number	Non Smokers n = 81		Smokers n = 24		P value
	%	No.	%	No.	
Male Sex	50.00%	(40)	91.67%	(22)	P = 0.001
Female Sex	50.00%	(40)	8.33%	(2)	
Black race	65.82%	(52)	25.00%	(6)	P = 0.001
White race	15.19%	(12)	58.33%	(14)	
Indian	6.33%	(5)	12.59%	(3)	
Mixed race	12.66%	(10)	4.17%	(1)	
Failed a class at school	30.86%	(25)	58.33%	(14)	P = 0.014
Ever bunked school	38.27%	(31)	70.83%	(17)	P = 0.005
Friends smoke dagga	35.00%	(28)	100.00%	(23)	P = 0.001
Have more than one alcoholic drink / week	14.81%	(12)	58.33%	(14)	P = 0.001
Smoke more than one cigarette / day	2.40%	(2)	50.00%	(12)	P = 0.001

TABLE THREE

Statistically significant differences of opinion between smokers of dagga and nonsmokers. Ttest procedure. $P < 0.05$. Frequencies presented.

	Non-smokers (n=81)		Smokers (n=24)		P value
	Mean	Std. Dev.	Mean	Std.Dev.	
Dagga easily accessible	1.810	1.609	3.173	1.302	P=0.0003
Dagga affordable	1.650	1.559	3.000	1.351	P=0.0002
Will accept dagga from a friend	0.763	1.231	1.833	1.551	P=0.0008
Intend to smoke this month	0.556	1.117	1.818	1.708	P=0.0001
Smoking helps to forget problems	0.911	1.242	1.652	1.465	P=0.0175
Smoking relaxes one	1.050	1.269	2.458	1.473	P=0.0000
Dagga smoking cures asthma	1.519	1.456	2.250	1.224	P=0.0285
Smoking dagga makes one happy and relaxed	1.215	1.194	2.304	1.579	P=0.0006
Dagga is not dangerous	0.912	1.138	1.791	1.350	P=0.0006
It is easy to stop smoking dagga	1.481	1.328	2.208	1.531	P=0.0256
Cigarettes are worse than dagga	1.858	1.364	2.666	1.434	P=0.0139
Dagga smoking should be legalised	1.150	1.493	2.625	1.689	P=0.0001
Religion not important	0.950	1.261	1.695	1.550	P=0.0197
Most of my friends smoke dagga	1.025	1.302	2.565	1.160	P=0.0000

SUBJECTIVE DATA

TABLE FOUR

Opinions as to why people smoke dagga. This represents the opinions of the total sample not differentiating between smokers and non smokers of dagga.

	Frequency	Percentage
Helps you to forget your problems	52	48.1
Peer pressure	46	42.6
To relax	29	26.9
Addicted	10	9.3
For the high	10	9.3
Improve self confidence	10	9.3
Improves intellect	9	8.3
Causes weight loss	7	6.5
Cures diseases	7	6.5
Accessible and affordable	6	5.6
To be rebellious	5	4.6
Like the smell / taste	5	4.6
Don't know	5	4.6
Curiosity	2	1.9
Relatively safe	2	1.9
Too much spending money	2	1.9
For religious reasons	1	0.9

Note: Total does not add up to 100% as many students gave several different reasons

Only one difference in opinion between smoker and non smokers was statistically significant and that was that smokers more often answered that it was for the effects of the drug – “to get high” “to feel goofed”.

TABLE FIVE

Knowledge of health risks and effects associated with dagga smoking. Percentages of total sample that agreed or strongly agreed with statement presented not differentiating between smokers and non smokers of dagga.

	Percentage	Frequency
Smoking dagga helps you to forget your problems	12.5%	13
Smoking dagga makes you feel more relaxed	21.9%	23
Dagga smoking does not damage your lungs	14.1%	15
Smoking dagga can cure asthma	29.2%	30 *
Smoking dagga makes you feel happy and relaxed	8.3%	19
It is not dangerous to smoke dagga	11.3%	12
Dagga does not affect your mind	7.6%	8
Dagga smoking is not addictive	19.8%	21 *
It is easy to stop anytime you want	24.8%	26 *
It is worse to smoke cigarettes	37.5%	39 *
Dagga smoking can cure cancer	13.4%	14

* Statistically significant differences between smokers and non smokers. $P < .05$

TABLE SIX

To whom would they turn for help if they had a drug abuse problem. Answers represent that of total sample not differentiating between smokers and non smokers of dagga.

	Frequency	Percentage %
Best friend	30	27.8%
Mother	29	26.9%
Childline	12	11.1%
No one	9	8.3%
Sibling	8	7.4%
Father	7	6.5%
Clinic nurse	7	6.5%
Other relative	6	5.6%
Teacher	5	4.6%
Doctor	5	4.65%
Pastor	4	3.75%
Chemist	2	1.9%
Neighbour	1	0.9%
School principal	0	0.0%

Note: totals do not add up to 100% as several students gave more than one answer.

There were no significant differences between to whom non smokers and smokers would turn to for help with a substance abuse problem.

CHAPTER FIVE

DISCUSSION

This study was conducted at a school where the incidence of dagga smoking was suspected to be high. All students in grade 10 apart from those absent on the day on which the questionnaire was completed, participated in the study. (n = 107). The prevalence of dagga smoking (have smoked dagga more than once) was 22.9%. This is still somewhat less than figures documented elsewhere in the world but shows a rising trend in South Africa. The actual prevalence may be greater than this as 18 students were absent on the day of the study and drug abuse is known to be associated with school absenteeism. ^{12, 17, 18.}

In this sample dagga smoking is largely a male practice (91.67% male vs 8.33% female). Figures from Britains show an almost equal sexual distribution. ¹⁸

Whites were more commonly smokers compared to other groups. This predominance of white male smokers may be because a number of the boys are known to come from problem backgrounds. 58.33% of smokers were white, 25% blacks and the rest from other racial groups.

Interestingly enough, social and domestic factors such as coming from a home where the mother works full day or the parents do not live together, shown to be so important elsewhere, ¹² did not

feature significantly in this study group. Perhaps this family background is more common in South Africa.

In this sample for example, only 59.4% reported that their parents were living together and 61.2% had mothers who worked full day.

Attitudes towards schooling and self perceived poor school performance were also not related significantly to dagga usage. 38.3% reported hating school and 28.6% that they performed poorly at school. However, smokers were more likely to have failed a class (58.33% vs 30.68%) or bunked school (70.83% vs 38.27%). This is a general trend of drug abusing young people who have been consistently shown to be more involved in delinquent acts and less likely to complete their formal education.¹³

Perhaps the most significant factor to emerge in this study as in most other related studies is the role of peer pressure.¹⁷ All the dagga smokers (100%) said that they had friends who smoked compared to only 35% of non smokers having such friends.

The students also mentioned peer pressure as one of the main reasons as to why young people smoke dagga.

Other issues in the dagga abuse scenario is its association with cigarette smoking, alcohol use and sexual intercourse.^{12, 21, 22} The former 2 factors were also found to be relevant in this sample. (Adolescents have been shown to participate in an array of risk taking behaviours³¹).

However there was no difference between smokers and non smokers when it came to the issue of sexual activity. 45.7% of the total sample reported being sexually active.

Whereas 50% of dagga smokers also smoked cigarettes, only 2.4% of non-dagga smokers smoked cigarettes. And 58.33% of dagga smokers drank more than one alcoholic beverage per week whereas only 14.81% of non smokers did so.

Not surprisingly the majority felt that their parents would strongly disapprove of dagga smoking. Again no statistical difference was noted between parents of smokers and those of non smokers.

When asked whether dagga smoking should be legalised, 32% agreed or strongly agreed with the statement. Dagga smokers, as would be expected agreed to a much greater extent.

($p = 0.0001$).

One of the objectives of the study was to look at the “samples” knowledge of the effects of dagga smoking and in particular their knowledge of the adverse health risks previously discussed.^{2, 11}

The results were quite interesting in that 29.2% felt that smoking dagga could cure asthma, and about one fifth felt that it had no addictive potential (see table 3).

One very important factor to emerge is the fact that 37.5% felt that it less harmful to smoke cigarettes than dagga and in fact more were smoking dagga than cigarettes (22.9% vs 13.1%).

These adolescents are better informed of the hazards of cigarette smoking than dagga abuse.

The answers to the question as to why young people smoked dagga are shown in table 5 page 25.

Peer pressure has been mentioned and the other major reason given was to relax and forget your problems. One gets the impression that these adolescents face tremendous internal and external stressors and drug abuse is seen as a way of escape. Perhaps quoting a few comments verbatim may be of interest:

“Some want to be accepted by friends and end up doing stupid things. They really need help, but they are scared to come out into the open. Something has to be done.”

“People smoke dagga because of the problems they have in life.”

“I smoked dagga because I wanted to be slim (thin).”

“They smoke because of problems at home.”

“If writing....an exam Start smoking dagga because it helps you remember all you had studied the day before.”

“I know someone who said it made him do very well in mathematics....”

“To ease up on their problems....to ease stress...”

“It is easy to get and cheap.”

“It tastes better than cigarettes.”

“My granny told me dagga is an old herb she used for chest pains.”

“So they could be cool and their troubles could go away.”

“ ’Cos it makes you feel good.”

“...girls like guys who smoke dagga.”

“...to make them brave for acts of murder.”

“to relieve pressures of life.”

“...a safe way to go on a trip.”

“Dagga is a drug that eases the mind and soothes the soul...”

“It gives you confidence, makes you smile, puts you on a vibe, away from lifes worries and crimes.”

“To be part of a group and act like heavy ou’s.”

In the last section we asked the question “If you had a problem that you could not sort out on your own (such as trying to stop smoking, drinking or using drugs) who would you turn to for help and advice?” Not surprisingly most mentioned their best friend or mother (Table 6, Page 26).

Sadly, very few would seek help from the medical or teaching fraternities. If procedures were in place to ensure and re-assure students of confidentiality of information disclosed to teachers or the medical profession, one would expect that more students might discuss problem issues with them.

Doctors and teachers need to be equipped to deal with such issues in a sensitive manner and to know what resources in the community are available to them, as well as to be aware of the “warning signals” of substance abuse. Organisations such as SANCA could play a more active role in this area.

11.1% cited Childline, the widely publicised telephone help line for children as a resource to which they would turn for help and advice.

The hypotheses of the study were all proven to be correct except that there was no significant association of dagga smoking with sexual activity and that more dagga smokers saw it as easily available and affordable. (Table 3, Page 23).

This study may be biased in reflecting a large proportion of white boys as being dagga smokers. This result may not necessarily be extrapolated to white boys in general as this school draws white children, especially boys from problem home backgrounds.

Further research needs to be done in a wider range of schools in different suburbs to confirm or refute the data obtained in this study as an accurate reflection of the opinions of South African adolescents in general.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

Drug abuse has been neglected in South Africa until recently when it became apparent that South Africa is a new market country for international drug launderers. Unfortunately if these results are applicable to adolescents in general, our adolescents seem ill informed of the risks of drug taking even of a drug which has been commonly used for centuries such as cannabis. Too many still believe that this drug is not harmful, nonaddictive and in fact of therapeutic use. It was encouraging to note how few adolescents in this sample were smoking and one would like to attribute this to the widespread information available on the adverse health risks of smoking made available by anti smoking lobbies and the government. If drug abuse received the attention that the undesirability of smoking does, this may help reduce the incidence of initiation into its use.

It is felt that in this school in particular an educational drive is desirable and necessary as dagga smoking (and perhaps one might assume the use of other drugs) is common (22.9%) and there is a lack of knowledge of the adverse health and social effects of dagga use. With more information these adolescents would be empowered to make better informed choices.

Adolescents themselves need information, it is of little use to concentrate efforts on informing teachers, chemists and the like of the hazards of drug abuse as they are unlikely to be approached

for help. Childline however, could make increasing use of their standing in the community by advertising specifically that they are equipped to deal with problems related to substance abuse. The main reason that this group of adolescents give for the use of dagga is to escape from the stressors that encompass them such as problems at home, at school and in society in general, (violence being one mentioned). Perhaps the government needs to look at ways to improve the quality of family life and family values as well as the educational system in which adolescents are placed under such pressure to achieve that they would seriously consider the use of drugs to enhance their performance. These are goals that are difficult to achieve but adolescents can be taught the life skills required to deal with stress in a less self destructive manner. They also need life skills training in boosting self confidence to the extent that they are able to resist peer pressure. These suggestions will be passed onto the school principal of our study school.

Further research needs to be conducted in a broad sample of high schools and not relating to dagga only but other drugs as well, so a combined effort can be made to “nip” drug abuse problems in South Africa in the bud before it becomes unmanageable.

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QUESTIONNAIRE

Help us by answering as truthfully as possible. Mark the correct box with a cross (X)

Sisize ngokuphendula ngokuthumbeka. Phanula n gokufaka u - X ebhokisini.

A. Age next birthday:
Uzokuba neminyaka emingahki:

12	13	14	15	16	17	18
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B. Sex:
Ubulili:

Girl\Intombazane	Boy\Umfana
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C. Race:
Ibala:

BLACK	WHITE	INDIAN	MIXED RACE
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D. Area where you live:
Uhlala kuphi:

UMLAZI	SEAVIEW \ HILLARY	CARRINGTON HEIGHTS
ADDINGTON / BEACHFRONT	GLENWOOD	OTHER

	Yes \ Yebo	No \ Cha
E. 1. Do you real parents live together? Ingabe abazali bakho bahlale ndawonye?		
F. 2. Does your mother work full day? Ingabe umama wakho usebenza usuku lonke?		
G. 3. Have you ever failed a class at school? Likhona yini ibanga owake waliphinda esikoleni?		
H. 4. Have you ever bunked school? Wake walova esikoleni?		
I. 5. Do any of your friends smoke grass? Bakhona yini abangani bakho ababhema insangu?		

- J. 6. Have you ever smoked grass more than once?
Wake wayibhema yini insangu izikhathi ezimbili noma nga phezulu?
- K. 7. Do you drink more than 1 drink of alcohol a week?
Uyabuphuza yini utshwala obegile kobubodwa ngeviki?
- L. 8. Have you ever had sex?
Wake waya yini ocansini?
- M. 9. Do you smoke more than one cigarette a day?
Uya wubhema yini ugwayi ewevile kowodwa ngosuku?

Yes \ Yebo	No \ Cha

The next few questions are graded on a scale from 0 to 4.

Lemibuzo elandelayo inezigaba ezisuku ku 0 kuya ku 4.

0 = Strongly disagree \ Angivumi kakhulu

1 = Disagree \ Angivumi

2 = Uncertain \ Angazikahle

3 = Agree \ Ngiyavuma

4. = Strongly agree \ Ngivuma kakhulu

Please answer according to how you feel as regards the answers to these questions. Remember this is not a test and there are no right or wrong answers. Try to complete all the questions. Cross only one answer.

N. 10. My family is important to me.
Umndeni wami ubalulekile kimi.

0	1	2	3	4

O. 11. I don't look forward to going home.
Angizimisele ngokuya ekhaya.

0	1	2	3	4

P. 12. My parents don't love me a lot.
Abazali bami abangithandi kakhulu.

0	1	2	3	4

Q. 13. I hate school.
Ngiyasi zonda isikole.

0	1	2	3	4

R. 14. I don't do very well at school.
Angiphumeleli kahle esikoleni.

0	1	2	3	4

S. 15. I am often absent from school.
Isikathi esiningi ngisuke ngingekho esikoleni.

0	1	2	3	4

T. 16. My religion is not important to me.
Ukholo lwami alubalulekile kimi.

0	1	2	3	4

U. 17. Most of my friends smoke dagga.
Abangani bami abaningi babhema insangu.

0	1	2	3	4

V. 18. If I wanted to smoke dagga, I would have no difficulty in getting some.
Uma ngifuna ukubhema insangu ngeke ngibe nenkinga ukugithola.

0	1	2	3	4

W. 19. I have enough money to buy dagga if I wanted to?
Nginemali eyanele yokuthenga insangu uma ngifuna.

0	1	2	3	4

X. 20. I would accept a smoke of dagga from my friends
Ngingayibhema insangu uma ngiyinikwa abangani bami.

0	1	2	3	4

Y. 21. I like trying out new things even new drugs.
Ngiya thanda ukuzama izinto ezintsha kanye nezida kamiswazi ngokunjelo.

0	1	2	3	4

Z. 22. My parents would not mind if I tried dagga

Abazali bami bebengeke babe nenkinga uma bengibhema insangu.

0	1	2	3	4

AA. 23 I will probably smoke dagga in the next month.

Ngisengayibhema insangu ngenyanga ezayo.

0	1	2	3	4

AB. 24. Smoking dagga helps you to forget your problems.

Ukubhema insangu kukwenza ukhohlwe yizinkinga zakho

0	1	2	3	4

AC. 25. Dagga smoking makes you feel more relaxed.

Ukubhema insangu kukwenza uzizwe unethezekile.

0	1	2	3	4

AD. 26. Dagga smoking does not damage your lungs.

Ukubhema insangu aku walimazi amaphaphu.

0	1	2	3	4

AE. 27. Smoking dagga can cure asthma.

Ukubhema insangu kuyasilapha isifuba somoya.

0	1	2	3	4

AF. 28. Smoking dagga makes you feel happy and relaxed.

Ukubhema insangu kukwenga uzizwe ujabulile futhi unethezekile.

0	1	2	3	4

AG. 29. It is not dangerous to smoke dagga.

Akunabo ubungozi ukubhema insangu.

0	1	2	3	4

AH.30. Dagga does not affect your mind.

Insangu ayiwathikamezi umqondo.

0	1	2	3	4

AI. 31. Dagga smoking is not addictive.

Ungakwazi ukuhlala ngaphandle kokubhema insangu.

0	1	2	3	4

AJ. 32. It is easy to stop smoking dagga any time you want.

Kulula ukuyeka ukubhema insangu noma ngabe isiphi isikathi ofuna ngaso.

0	1	2	3	4

AK. 33. It is worse to smoke cigarettes.

Kubi kakhulu ukubhema ugwayi.

0	1	2	3	4

AL. 34. Dagga smoking can cure cancer.

Ukubhema insangu kuyawumphu umdlavuza.

0	1	2	3	4

AM. 35. Smoking dagga should be made legal.

Ukubhema insangu kumele kube semthethweni

0	1	2	3	4

Why do you think people smoke dagga?

Ucabanga ukuthiyini eyenza abantu babheme inangu?

If you had a problem that you could not sort out on your own (such as trying to stop smoking, drinking or using drugs) who would you turn to for help and advice?

Uma ubenenkinga ongankwazi ukuyixazulula ngokwakho (ngengokuzama ukuyeka ugwayi, ukuphuza noma izidakamizwa) ungaya kubani ukuthola uncedo kanye nesiluleko?

Please mark one

Khetha ekukodwa

Best friend \ Umngani weqiniso	Mother \ Umama	Father \ Ubaba
Teacher \ Uthisha	Pastor \ Umfundisi	School Principal \ Uthishomkhulu
Childline \ Unceplo iwezingane	Doctor \ Udokotela	Chemist \ Usokhemisi
Relative \ Isihlobo	Neighbour \ Umakhelwane	Brother or sister \ Ubhuti noma Usisi
Clinic nurse \ Umongikazi wasemtholampilo	No-one \ akekho	

GLOSSARY AND DEFINITIONS

CANNABIS:	extracts from the plant cannabis sativa.
MARIJUANA:	the upper leaves, tops and stems of the cannabis sativa plant that are cut, dried and smoked as a rolled cigarette or with a special pipe or bottle made for this purpose.
DAGGA:	The colloquial name for marijuana
ADOLESCENT:	that period between childhood and adulthood of physical, psychological and emotional changes, approximately between the ages of 12 and 18 years.
DAGGA USE / SMOKER:	someone who has smoked dagga on more than one occasion.
CIGARETTE SMOKER:	someone who smokes at least one cigarette a day.
SEXUALLY ACTIVE:	Someone who has experienced intercourse at least once.
CANNABIS USE DISORDER:	problems related to dependence on substances.
CANNABIS INDUCED DISORDERS:	the effects of acute cannabis intoxication.
ADDICTION:	Being physically and / or psychologically dependant on a substance and developing tolerance to it's effects.
AIDS:	Acquired Immunodeficiency Syndrome
HIV:	Human Immunodeficiency Virus
SANCA:	South African National Council Against Alcoholism and Substance Abuse