

Health risk behaviours of high school learners and their perceptions of preventive services offered by general practitioners

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Keywords: health risk behaviours; high school learners; adolescent preventive services; general practitioners

Abstract

Background: Adolescence spans nearly a decade in which young people may initiate health risk behaviours such as unsafe sexual practices and the use of alcohol, tobacco and other drugs (ATOD use). Most adolescent mortality and morbidity, attributable to such health risk behaviours, are preventable. Managing the consequences of health risk behaviours is costly and does not reduce the number of young people making these unhealthy lifestyle choices. The emphasis needs to shift towards the provision of adolescent primary and secondary preventive services. Overseas efforts involve national health risk behaviour screening, the application of national guidelines for primary health care workers in all contexts and continuing evaluation so that appropriate region-specific policies can be instituted. In spite of the completion of the second South African National Health Risk Behaviour Survey and the implementation and evaluation of the National Adolescent-Friendly Clinic Initiative (NAFCI) in government clinics, South Africa still lacks national guidelines for the primary health care worker to administer adolescent preventive services. Furthermore, the NAFCI initiative does not involve the general practitioner (GP) in the private sector. The aim of the research is to provide a profile of adolescent health risk behaviours and describe their GPs' provision of preventive services to address these health risk behaviours.

Methods: This cross-sectional descriptive study was conducted among senior high school learners (grades 10, 11 and 12) from 18 randomly selected secondary public, coeducational schools with an ordinary curriculum in the Johannesburg educational districts, during the first three school terms of 2002. A self-administered research questionnaire was used to ascertain learners' self-reported involvement in health risk behaviours and their interaction with their GP in dealing with these health risk behaviours.

Results: The research questionnaires were completed by 1 139 learners.

1. Learners reported a high prevalence of health risk behaviours: 65% for alcohol use, 57% for sexual activity, 39% for tobacco use and 15% for drug use.
2. The predominant pattern of substance use was the experimental pattern of having tried these substances: 40% for cigarette use, 53% for alcohol use, 54% for injected drug use and 57% for other drug use. The majority of sexually active adolescents were practising unsafe sex: 55% with multiple partners, 52% without condoms and 28% without family planning.
3. Learners reported a high prevalence of coexisting health risk behaviours: 44% for alcohol use and sexual activity, 36% for tobacco and alcohol use and 26% for tobacco use and sexual activity.
4. Risk perception was lower for sexual activity (25% felt in danger and 5% felt affected) than for substance use (an average of 82% felt in danger and 40% felt affected).

Of the 1 139 learners, only 271 learners (24%) had a GP in private practice.

1. The adolescent-GP interaction was favourable for preventive service delivery: 70% of learners had medical aid cover, 41% had been seeing their GP for more than five years, 92% had a 'family' doctor, 80% had visited their GP in the past six months and 60% had consulted their GP on their own at least once.
2. Primary preventive service delivery to those not involved in health risk behaviours was poor: 28% for sexual activity, 24% for drug use, 23% for alcohol use and 19% for tobacco use.
3. Uncovering of health risk behaviours occurred to varying degrees: 40% for sexual activity, 18% for alcohol use, 18% for tobacco use and 11% for drug use.
4. Secondary preventive service delivery to those involved in health risk behaviours was better: averages of 89% for sexual activity, 84% for drug use, 54% for tobacco use and 38% for alcohol use.

Statistically significant learner and GP demographics highlighted the complex dynamics involved in this interaction.

Conclusions: The study showed that adolescents from economically disadvantaged backgrounds have a high prevalence of health risk behaviours but utilise the GP resource to a limited degree. Despite the interaction between adolescent and GP being conducive to the receipt of primary and secondary preventive services, this is not optimal.

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SA Fam Pract 2009;51(3):216-223

Introduction

Adolescence spans nearly a decade in which young people may initiate health risk behaviours such as unsafe sexual practices and the use of alcohol, tobacco and other drugs (ATOD use).¹ Most of the resultant morbidity and mortality are preventable. Intervening when complications have occurred is costly and does not reduce the number of young people making unhealthy lifestyle choices. The emphasis of adolescent health care needs to shift towards improved preventive service delivery. Primary prevention targets young people who have not initiated health risk behaviours and thus require a service that provides relevant information and education to maintain abstinence. Secondary prevention targets young people who have already initiated health risk behaviours and now require a service that will provide not only the means to effect behaviour change but also the means to minimise the complications of such health risk behaviours.

In South Africa, most of the initiatives are either school based or have been implemented in the government hospitals and clinics.² General practitioners (GPs) in private practice have the potential to complement and reinforce efforts in the other sectors. General practice is community based with general access for all adolescents (even those not attending school), more flexible access hours and a greater potential to provide a comprehensive preventive service. General practice can provide an opportunity for one-to-one counselling with the adolescent's preferred provider and for physical examinations by a doctor and has the potential to provide the optimal conditions for privacy and confidentiality.³ Furthermore, general practice can serve as a referral point to obtain free or low-cost services provided by the state hospitals and clinics.

The extent to which adolescents use the general practice resource depends on its acceptability in terms of content (the services offered) and delivery (provider, site and system characteristics).⁴ Behaviour change is only possible if the GP uncovers the health risk behaviour and responds in an appropriate way by screening for co-morbidity, providing relevant information and education, immunising at-risk individuals and providing the means to effect behaviour change. Another prerequisite for behaviour change in adolescents is their risk perception.⁵

There is a high prevalence of health risk behaviours overseas and in South Africa. In the United States of America, the Centres for Disease Control's (CDC's) two-yearly Youth Risk Behaviour Survey between 1991 and 2001 showed a statistically significant decrease in health risk behaviours (smoking from 70% to 64%, alcohol use from 81% to 78% and sexual activity from 54% to 46%).⁶ Cannabis use increased from 31% to 42%. In South Africa, three-yearly national surveying of adolescent health risk behaviours was started in 2002.⁷ The only 10-year comparison available is the 1992 Cape Peninsula study⁸ (a regional study) and the Western Cape figures in the 2002 South African National Youth Risk Behaviour Survey. These figures show deterioration with tobacco use increasing from 41% to 51%, alcohol use from 53% to 64%, cannabis use from 7.5% to 19% and sexual activity from 17% to 38%. The CDC's surveys provided data for each state, which were used to tailor interventions to deal with specific problem areas within each state. South African surveys have the potential to serve the same function in time.

It is important that the preventive services be 'adolescent friendly'. An American study⁴ showed that young people are aware of the factors contributing to their decisions to seek care. It highlighted that provider characteristics are of greater importance than site or system

characteristics. Another American study⁹ showed that urban adolescents want to be listened to, their problems taken seriously and to be treated with dignity and respect. In South Africa there is a paucity of data on the specific needs and circumstances of young people when they access preventive services in the private sector.

The provision of adolescent preventive services needs to be appropriate in terms of content and delivery. In the United States, health maintenance organisations tend to the preventive needs of all young people irrespective of their financial status.¹⁰ Primary health care workers try to optimise preventive care by using the AMA's Guidelines for Adolescent Preventive Services (GAPS)¹⁰ in a series of annual health care visits for young people between 11 and 21 years of age. In a survey mailed between September 1996 and April 1997 to all paediatricians practising in a California-based group model health maintenance organisation,¹¹ doctors were asked about their screening and education practices on 34 recommended services and actions taken with adolescents involved in health risk behaviours. The study showed that these doctors provide preventive services to adolescent patients at rates below recommendations but at rates greater than physicians in other practice settings. It also highlighted the need to improve areas that contribute most to adolescent mortality and to improve preventive service delivery to those who screen positive for health risk behaviours. Assessing adolescent preventive service delivery by GPs in the South African health care setting is difficult. Firstly, adolescent preventive services are predominantly school based in terms of life skills programmes being incorporated into the normal school curriculum. Secondly, young people from economically disadvantaged backgrounds are using government clinics because they are more affordable and thirdly there is the absence of national guidelines being applied in a designated preventive visit. Research relating to the evaluation of adolescent preventive service delivery in the private health sector is sparse. Previous studies have focused on the public sector (predominantly government clinics) and on specific health risk behaviours.⁸

Methods

Aim

The aim of this study is to provide a profile of adolescent health risk behaviours among older adolescents and describe their usage of preventive services as well as their GPs' provision of such services to address these health risk behaviours.

Study design

This is a cross-sectional descriptive study.

Study population and sample

The study population consisted of senior high school learners (grades 10, 11 and 12) attending secondary public coeducational schools with an ordinary curriculum (that is, no special arts, drama or technical curriculum) in Johannesburg. These inclusion criteria were based on the fact that these learners represented the majority of learners attending senior secondary school. The study population consisted of learners from the lower and middle socio-economic groups. The study population was mainly urban with learners from both residential suburbs and informal housing settlements. The majority of learners were black although racial data were not specifically sought in this study.

One hundred and twenty-four schools in the 2001 Gauteng Department of Education (GDE) school listing¹² were eligible to participate. Using random selection, the first school selected took part in the nominal group discussion and the second in the pilot study. Of the remaining one hundred and twenty two schools a further 18 schools were randomly selected to participate in completing the final research questionnaire (a proportional number from each educational district), in order to achieve a sample size of at least 1 000 learners. Once schools had responded to the telephonic or registered mail invitations, one class in each grade was randomly selected and given consent forms to allow participation.

Research tools

The nominal group discussion was a highly structured meeting between relevant experts (high school learners) and a facilitator (the researcher) to confirm that the GAPS recommendations¹⁰ for the delivery of preventive services in the primary care setting were applicable to the study group. It also provided insight into the way the final research questionnaire had to be structured and worded.

The pilot study indicated the percentage of learners likely to consent and complete the final research questionnaire. It also assisted in the layout and phrasing of the final research questionnaire.

The research questionnaire was self-administered, anonymous, in everyday language and in a format familiar to learners. All learners were asked to report on their demographic data, their involvement in a particular health risk behaviour, the pattern of the health risk behaviour and their risk perception. Only those learners with a GP were asked to report on their doctor's demographic information, the uncovering of the health risk behaviour and the discussions had and services used in dealing with the particular health risk behaviour. Other aspects covered were the learners' consulting patterns and their reason for choosing their GP.

Data collection

Research day in each school was a co-ordinated effort between researcher, research assistant, a school contact person and learners with previously checked consent forms. A brief explanation about the reason for conducting the research and the method of filling in the questionnaire was given with the research team being available to clarify any difficulties. Completion of the research questionnaire occurred under the same conditions of a written school examination for 30 minutes of a 45-minute school period. Learners were reminded not to write their names on the questionnaires. In order to give learners privacy when completing the questionnaires, teachers and principals were available but not present.

Data analysis

Completion of the final research questionnaire took place in 54 separate sessions (three grades from each of the 18 schools). Each questionnaire was individually coded to be able to trace a questionnaire to a particular class in a particular school. The data were captured at the Medical Research Council in Pretoria and analysed using the EPI Info Program. Frequency tables and bar charts were used to present the data describing various aspects of the study sample. In order to present the data in a meaningful way, differences between subgroups could only be highlighted if percentages were compared because the n values differed for each subgroup. This also meant that non-responders could not be reflected on the tables. Statistical significance of observed data

in subgroups was determined using the two-tailed p values with a 95% confidence interval.

Ethical considerations

1. The Committee for Research on Human Subjects issued a clearance certificate number M011116 on 23 January 2001. The protocol was approved by the Post-Graduate Committee. The GDE granted permission for access to schools and the permission of each school principal was sought.
2. Information letters accompanied the consent forms that had to be signed by parents or guardians. Learners 18 years and older could sign their own consent form.
3. Learners participating in the research were provided with information packages relating to substance use and sexual activity. A list of contact people and associations involved in health risk behaviour management was also provided.

Background/setting

In South Africa the second National Health Risk Behaviour Survey has been completed. Efforts in the public health care sector are being made to make existing clinics more adolescent friendly at a structural and organisational level (NAFCI, National Adolescent Friendly Clinic Initiative).² The country lacks national guidelines for all primary health care workers (including the private GP) dealing with young people on when and how to deliver preventive services to young people. This research is aimed at understanding the dynamics involved when adolescents in public schools (most economically disadvantaged) use private sector GPs in dealing with health risk behaviours. Such insight may provide not only an understanding of GPs' present level of adolescent care but may also provide valuable insight for future strategies to optimise preventive service delivery to those most vulnerable to the complications of unhealthy lifestyle choices.

Results

Response rates

Fifty-four schools were approached in order to get 20 schools to participate (37% response rate from schools). The first school took part in the nominal group discussion and the second school took part in the pilot study. In the remaining 18 schools, 2 287 consent forms were handed out and 1 269 were returned (56% response rate). Of 1 269 learners with completed consent forms, 1 139 completed the research questionnaire (90% response rate)

Learner demographics

One thousand one hundred and twenty-seven learners reported their age. There were 594 'younger' learners (53%) of 14 to 17 years of age and 533 'older' learners (47%) of 18 to 21 years of age. It is important to note that 244 learners (21%) were 19 to 21 years of age, which is above the age expected for Grade 12 learners who started formal schooling at six to seven years of age.

One thousand one hundred and thirty-eight learners reported their gender. Six hundred and seventy-five learners (59%) were female and 463 learners (41%) were male. Learners attending government schools are predominantly from the lower and middle socio-economic groups. Learners generally do not know the family income. Based on their parents/guardians' work description, an income score was assigned. These scores fell predictably in the lower range. Of the 1 105 learners

who reported income data, the median value divided the group into 592 learners (54%) with 'lower' income scores and 513 learners (46%) with 'higher' income scores.

Health risk behaviour profiles

The highest reported health risk behaviour was alcohol use (65%) followed by sexual activity (57%), tobacco use (39%) and drug use (15%). Table I shows the statistically significant learner demographics related to the health risk behaviour profiles.

Table I: Learner demographics: health risk behaviours

Learner Demographics	Tobacco	Alcohol (65%)	Drugs (15%)	Sexual Activity (57%)
Males	50% p<0,05 LL=45,5%: UL=54,7%	77% p<0,05 LL=73,3%: UL=81,1%	24% p<0,05 LL=20,4%: UL=28,4%	73% p<0,05 LL=69,3%: UL=77,5%
Females	31%	57%	9%	45%
Younger	36%	61%	14%	41%
Older	41%	69% p=0,007 LL=65%: UL=73%	16%	73% P<0,05 LL=68,9%: UL=76,6%
Lower income score	34%	65%	13%	61% p<0,05 LL=57,3%: UL=65,3%
Higher income score	45% P<0,05 LL=40,5%: UL=49,3%	64%	18% P=0,024 LL=14,9%: UL=2,8%	51%

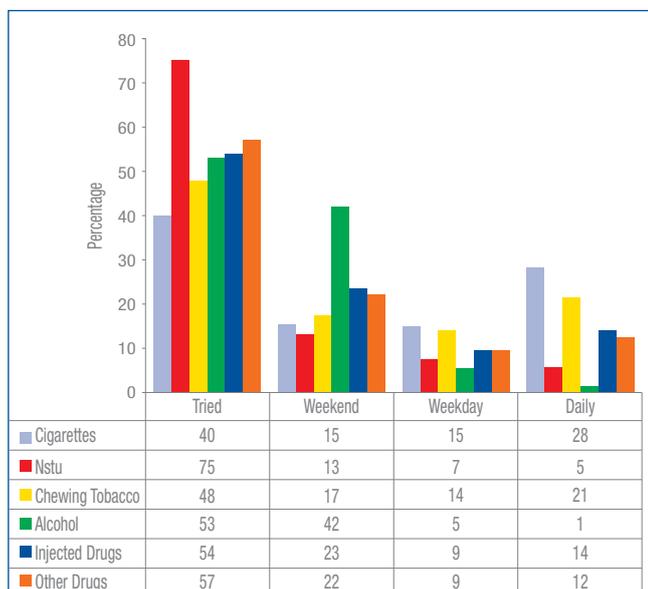
A higher percentage of male learners were involved in all the health risk behaviours. More 'older' learners were involved in alcohol use and sexual activity, more learners with lower income scores reported sexual activity and more learners with higher income scores reported tobacco and drug use.

Health risk behaviour patterns

Substance use

The most frequently reported pattern of substance use was the experimental pattern of having tried the substance as shown in Figure 1.

Figure 1: Patterns of substance use



Of note is the predominant pattern of weekend alcohol and drug use as opposed to the daily use of cigarettes. Statistically significant learner demographics are shown in Table II.

Table II: Learner demographics: the 'tried' pattern of substance use

Learner Demographics	Cigarette	NTSU (N=63)	Alcohol (N=390)	Injected Drugs (N=35)	Other Drugs (N=90)
Males	35%	9%	42%	23% p=0,02 LL=15,8%: UL=32,1%	46%
Females	45% p<0,05 LL=37,8%: UL=51,7%	21% p=0,002 LL=15,4%: UL=26,8%	53% p<0,05 LL=57,8%: UL=67,7%	14%	62%
Younger	47% p=0,010 LL=39,9%: UL=53,7%	21% p<0,05 LL=15,8%: UL=27,1%	59% p=0,004 LL=52,4%: UL=73,7%	15%	64% p=0,049 LL=52,4%: UL=73,7%
Older	35%	8%	47%	25%	43%

Income scores for all substances did not yield statistically significant results. There were more female learners and younger learners who reported having tried various substances. More male learners experimented with injected drugs and more younger learners tried other drugs.

Sexual activity

As shown in Table III, the majority of sexually active adolescents were practising unsafe sex (55% with multiple partners, 52% without condoms, 35% without family planning and condoms and 28% without family planning).

Table III: Learner demographics: patterns of unsafe sex

Learner Demographics	Multiple Partners (55%)	No Family Planning (28%)
Males	70% p<0,05 LL=65,4%: UL=75,4%	16%
Females	39%	42% p<0,05 LL=36%: UL=47,4%
Younger	46%	25%
Older	62% p<0,05 LL=56,8%: UL=66,%	30%
Lower income score	51%	28%
Higher income score	60% p=0,03 LL=53,9%: UL=66%	30%

Unsafe sexual practices such as "no condom use" and "no condom and family planning use" did not show any statistically significant results. There were more learners who were male, were older and had higher income scores reporting multiple partners. More females reported that no family planning was used.

Coexisting health risk behaviours

Table IV shows that learners reported coexisting health risk behaviours to a large degree.

Statistically significant learner demographics are shown in Table V.

More male learners and older learners reported coexisting health risk behaviours. More learners with higher income scores reported tobacco and alcohol use.

Table IV: Frequency of coexisting health risk behaviours

Co-existing Health Risk Behaviours	Frequency	Percentage
Alcohol use and sexual activity	505	44%
Tobacco and alcohol use	407	36%
Tobacco use and sexual activity	298	26%
Alcohol and tobacco use and sexual activity	287	25%
Alcohol and drug use	168	15%
Tobacco and drug use	156	14%
Tobacco, alcohol and drug use	151	13%
Drug use and sexual activity	139	12%
Alcohol and drug use and sexual activity	136	12%
Tobacco and drug use and sexual activity	124	11%
Tobacco, alcohol and drug use and sexual activity	122	11%

Table V: Learner demographics: coexisting health risk behaviours

Learner Demographics	Alcohol and Sex	Tobacco and Alcohol	Tobacco and Sex
Males	65% p<0,05 LL=60%: UL=68,9%	47% p<0,05 LL=42,3%: UL=51,5%	41% p<0,05 LL=37%: UL=46,1%
Females	30%	28%	16%
Younger	33%	32%	19%
Older	56% p<0,05 LL=52,1%: UL=60,7%	39% p=0,011 LL=35,2%: UL=43,7%	34% p<0,05 LL=30,2%: UL=38,4%
Lower income score	38%	32%	25%
Higher income score	42%	41% p=0,001 LL=36,9%: UL=45,5%	29%

Self-perceived health risk (risk perception)

The risk perception for substance use was higher than for sexual activity. Eighty-two per cent of learners reported feeling that their substance use could be dangerous to their health and 40% felt that it had already affected their health. Twenty-five per cent of learners felt that their sexual activity may be dangerous to their health and 5% felt that they had already been affected. Table VI shows the statistically significant learner demographics related to risk perception for substance use.

For sexual activity the only statistically significant results were that 14% of females felt that they had already been affected by pregnancy ($p = 0,018$, LL = 9.9% and UL = 17.9%) and 27% of older learners felt in danger of contracting HIV/AIDS ($p = 0,001$, LL = 22.5% and UL = 31.6%).

Table VI: Learner demographics: self-perceived health risk for substance use

Learner Demographics	Tobacco Danger	Tobacco Affected	Alcohol Danger	Alcohol Affected	Drugs Danger	Drugs Affected
Males	89%	50% p=0,014 LL=44%: UL=57,3%	70%	34%	88%	51% p=0,012 LL=41,7%: UL=61%
Females	84%	37%	80% p<0,05 LL=75,8%: UL=84%	31%	79%	32%
Younger	86%	39%	74%	28%	82%	37%
Older	87%	48%	76%	37% p=0,008 LL=32,4%: UL=42,5	89%	52% p=0,031 LL=41,7%: UL=64,1%
Lower income score	87%	46%	78% p=0,025 LL=74%: UL=82,4%	87% p=0,007 LL=31,9%: UL=41,8%	87%	47%
Higher income score	86%	42%	71%	27%	83%	41%

Learners with GPs

Two hundred and seventy-one learners (24%) had GPs in private practice. The doctor group had more learners who were younger and with higher income scores; these learners reported more tobacco and drug use and less sexual activity. These differences were statistically significant. The school that the learner was attending was more likely to be in the same area where his or her doctor's rooms were situated. Seventy-seven per cent of learners attending a Johannesburg South school had a doctor in the same area and similarly for Johannesburg North (41%), Johannesburg East (75%) and Johannesburg West (71%). Forty-five per cent of doctors were perceived to be 'younger' (less than 40 years) and 83% were male.

The learner-GP interaction

The interaction between learner and GP was favourable in many ways to allow for preventive service delivery. Seventy per cent of learners had medical aid cover, 41% had been seeing their GP for more than five years, 92% had a 'family' doctor, 80% had visited their GP in the past six months and 60% had consulted on their own at least once. Statistically significant learner demographics are shown in Table VII.

Table VII: Learner demographics: learner-GP interaction

Learner Demographics	Medical Aid 70%	Doctor for > 5 years 41%	Family Doctor 92%	Consult on own 60%
Learner Age	75% younger p=0,001 LL=68%: UL=81,1%	*	*	71% Older p=0,004 LL=61,8%
Learner Income Score	75% Higher p=0,002 LL=68,1%: UL=81%	*	96% Higher p<0,05 LL=92,8%: UL=98,8%	*
Doctor Gender	*	45% Male p=0,004 LL=38,8%: UL=52,3%	94% Male p=0,005 LL=90,3%: UL=96,9%	76% Female p=0,022 LL=60,5%: UL=87,1%
Doctor	*	52% Older p<0,05 LL=45,3%: UL=62,2%	*	68% Younger p=0,016 LL=59,2%: UL 76,5%

*No statistically significant differences

There were no statistically significant differences in learner gender and with the last consultation occurring within six months.

Learners' perceptions of preventive services by their GPs

Learners not involved in health risk behaviours require primary preventive discussions that focus on maintaining abstinence and pointing out the dangers of the health risk behaviours. Once health risk behaviours are

Table VIII: GPs' response to health risk behaviours

Doctors' Response	Tobacco	Alcohol	Drugs	Sexual Activity
Primary prevention discussions	19%	23%	24%	28%
Uncovering health risk behaviour	18%	18%	11%	40%
Uncovering by direct questioning	48%	47%	33%	49%
Uncovering co-existing health risk behaviours	Alcohol: 59% Drugs: 25% Sex: 78%	Tobacco: 52% Drugs: 38% Sex: 70%	Tobacco: 60% Alcohol: 100% Sex: 100%	Tobacco: 56% Alcohol: 46% Drugs: 33%
Secondary prevention discussions	76%* (13%)**	50%* (9%)**	100%* (11%)**	92%* (4%)**
Secondary prevention services	32%* (6%)**	25%* (5%)**	67%* (7%)**	86%* (4%)**

*Percentage of learners who received secondary preventive measures once the health risk behaviour was uncovered.

** Percentage of learners involved in health risk behaviours who received secondary preventive measures.

uncovered doctors can provide secondary prevention in the form of discussions and services. Table VIII shows GPs' response to adolescent health risk behaviours.

Less than one in three learners not involved in health risk behaviours have reported receiving primary prevention discussions. Doctors uncover sexual activity to a greater degree than they uncover substance use. Once one health risk behaviour has been uncovered, uncovering of coexisting health risk behaviours is much easier. Secondary preventive measures in those learners whose doctors are aware of the health risk behaviour occur more frequently than primary preventive discussions. But if one considers all those learners involved in health risk behaviours who should have benefited from secondary preventive measures, these percentages are much lower.

Discussion

This descriptive study provides a profile of adolescent health risk behaviours and describes their GPs' provision of preventive services to address these health risk behaviours.

Profiling adolescent health risk behaviours

The prevalence of alcohol use (65%) and sexual activity (57%) in this Johannesburg study is higher than the Gauteng (62% and 47%) and the national figures (49% and 41%) reflected in the first South African National Youth Risk Behaviour Survey also conducted in 2002.⁷ This highlights the fact that certain adolescent health problems may be more significant in particular geographical regions. Like overseas countries South Africa can use national screening to target interventions at specific regions.

United States figures over a 10-year period (1991–2001) show a statistically significant decrease in the prevalence of tobacco and alcohol use and sexual activity as a result of the application of national guidelines in adolescent preventive care.⁷ When comparing the Cape Peninsula study in 1992⁸ to the Western Cape figures from the 2002 first South African National Youth Risk Behaviour Survey⁷ one sees that the prevalence of tobacco, alcohol and drug use and sexual activity has increased. These figures represent the trend in the absence of national guidelines in South Africa.

The research confirms that the pattern of substance use is usually transient and experimental and amenable to secondary preventive measures. It highlighted the deceptive 'weekend' pattern of drug and alcohol use as compared to the 'daily' pattern of tobacco use. Drugs and alcohol have the potential to affect schooling to a greater extent than tobacco use has. Binge drinking is a common and hazardous behaviour

among adolescents who are at high risk of dying in alcohol-related road accidents.¹³ Research shows that most adult smokers have acquired the habit by the age of 19 years.¹⁴ The research confirms that adolescent sexual behaviour patterns are characterised by multiple sexual partners and unsafe sexual practices.

Like the 2002 Cape Peninsula study⁸ and the CDC's Youth Risk Behaviour Survey,⁵ this study also showed that health risk behaviours often coexist. Of note is that 44% of learners reported coexisting alcohol use and sexual activity. This highlights the importance of adolescent preventive services encompassing all health risk behaviours.

With all health risk behaviours learners reported feeling in 'danger' more than being 'affected', confirming that the effects of the behaviours are usually seen later in adult life. Learners' risk perception for substance use is higher than for unsafe sexual practices, perhaps because substance use involves 'unnatural substances' while sexual activity is viewed as a 'natural activity'. The study showed that risk perception is higher in the older age group. Overseas studies show that education alone will not have an impact on adolescents who are experiencing a normal biological need to experiment while self-regulatory mechanisms are still developing.¹⁵ A Canadian study¹⁶ shows that adolescents are less concerned about being involved in health risk behaviours than they are about the consequences of the health risk behaviours. They were more concerned about the immediate consequences of the health risk behaviours as opposed to the long-term effects. These findings suggest that perhaps South African preventive efforts should aim at minimising the effects of unhealthy lifestyle choices as opposed to focusing on behaviour change.

Adolescents' perceptions of their GPs' provision of preventive services to deal with health risk behaviours

Intervention by doctors is only possible if risky behaviour is uncovered. The study showed poor uncovering. Unsafe sexual activity, which is more likely to produce symptoms during adolescence, was uncovered more frequently than was substance use. The most common way of uncovering was by the doctor asking the learner directly about involvement in a health risk behaviour, confirming that adolescents do not typically volunteer this information. Learners reported that their doctors were more successful in uncovering coexisting health risk behaviours.

It is expected that once doctors are aware of health risk behaviours, they will provide relevant health information and education. Research has shown that young people trust doctors for health-related information and want to discuss a broad range of health-related topics.¹⁷ In this study, however, it appeared that not all learners had discussions with their

doctors once their sexual activity and substance use were uncovered. The study also showed that secondary prevention discussions were occurring to a greater extent than were primary prevention discussions, indicating that doctors are more inclined to have discussions when the adolescent is already involved in a health risk behaviour.

Essential secondary prevention services include appropriate immunisation, the means to cease substance use and make sexual activity safe and screening for and managing the complications of unhealthy lifestyle choices.¹⁰ The research showed that the GPs being reported on were having a minimal impact when addressing the preventive needs of adolescents already involved in health risk behaviours.

Unsafe sexual activity and the use of injected drugs require that adolescents be immunised against the hepatitis B virus.¹⁰ Despite most learners' probably having received this vaccine as children as part of the expanded immunisation programme, a discussion about the vaccine is warranted during adolescence, and where necessary vaccinating those who have not received the vaccine is essential. Only 6% of those who were sexually active had had a discussion relating to the hepatitis vaccine and none had received a vaccine.

Secondary preventive service delivery was poor: nicotine patches (4%), nicotine chewing gum (28%), antiabuse tablets (16%), referral to Alcoholics Anonymous (9%), urine drug tests (50%), referral for drug rehabilitation (33%), condom provision (55%) and family planning services (27%). These figures may also be low because of adolescents' reluctance to cease their substance use and to use secondary preventive services at more cost-effective venues such as government clinics.

Learners reported a low level of screening for the medical complications of health risk behaviours: pregnancy tests (31%), HIV tests (27%), syphilis tests (6%) and Pap smears (2%). Learners reported that their GP managed the medical complications of their health risk behaviour to a minimal degree: emergency contraception (18%), sexually transmitted infection (STI) medication (6%), termination of pregnancy (4%) and antenatal assessments (12%). Learners may, however be using more cost-effective services at government clinics.

Interaction between adolescents and their GPs

The adolescents

The study population comprised almost an equal number of 15–17-year-olds and 18–21-year-olds, with learners older than 21 being excluded from participation. If one considers seven as the age to start school, one sees that the public schooling system has a significant number of older learners with tremendous implications for peer pressure. Many teenage girls leave the public schooling system due to pregnancy which means that female learners in this study (59%) are being underrepresented. The secondary schooling environment probably represents the adolescents least affected by unhealthy lifestyle choices.

The GPs

The study showed that more male learners are consulting with male doctors and more female learners are consulting with female doctors. Learners are more likely to consult GPs in the area where they are schooling. These findings could indicate that adolescents seek out specific GPs to consult.

The interaction

Research has shown that adolescents choose specific individuals with whom to discuss specific health concerns.¹⁸ In this study the learner and doctor demographics alluded to the complex nature of adolescent consulting patterns and choices of a GP. Fifty-one per cent of male learners preferred to see a male doctor whereas only 11% of females had a preference for a female doctor. Of note is that 68% of learners reported that the reason for consulting with their particular doctor was because he or she was the family doctor.

Conclusions and recommendations

The research shows that there is a high prevalence of adolescent health risk behaviours in Johannesburg among lower income groups, especially with regard to alcohol use and sexual activity. There is some indication that South African adolescent health risk behaviour is deteriorating⁸ as compared to the United States where profiles are showing some improvements.⁶ The research also confirms that health risk behaviours often coexist^{6,8} in young people so a holistic approach to preventive service delivery is essential. Like the United States⁶ Youth Risk Behaviour Survey, South Africa has now also completed its second health risk behaviour survey. The data from the South African National Health Risk Behaviour Survey is a necessary prerequisite to tailor interventions to be region specific.

The research shows that GPs' provision of preventive services to deal with adolescent health risk behaviours is not optimal.

Firstly, adolescents from poorer socio-economic circumstances, most in need of preventive services, are using this resource to a limited degree. Government clinics cannot cope with providing comprehensive preventive services to adolescents. The public and private sectors need to work together to develop national guidelines for the organisation and implementation of preventive health care for adolescents. Perhaps fewer clinics with more efficient comprehensive services complemented by the assistance of GPs may be a better option. An adolescent health card could possibly serve as a tool to provide preventive services to adolescents. Any accredited primary health care facility, whether in the private or public sector, can be approached for these services.

Secondly, despite the interaction between adolescent and GP being conducive to the receipt of preventive services, this interaction is not optimum. GPs can improve their counselling skills¹⁸ especially with regard to uncovering of health risk behaviours by direct questioning and imparting harm-reductive strategies when risk perception for health risk behaviours is poor and behaviour change less likely.¹⁵ GPs can look into ways of making their practices more adolescent friendly, especially with regard to access and cost.⁴ GPs can instigate changes in the ways medical aid companies service young people by encouraging and rewarding the use of preventive services without compromising confidentiality.

Limitations

1. The research conducted in Johannesburg is not broad based and thus lacks generalisability.
2. The research is not comprehensive enough to include all adolescent health risk behaviours.

3. Selection bias may have been introduced where learners with the least health risk behaviours attending high school, as opposed to school dropouts, were studied.
4. Only public schools, where the vast majority of the adolescents are located, were selected for study. (Private schools, schools with specialised curricula and schools for learners with special needs were excluded.)
5. Selection bias for the 'healthier learners' may have occurred since the absenteeism rates for high school learners with risky behaviours is high.
6. The research relies on the self-reporting of health risk behaviours, which is only accurate within five to seven months of receipt of the service.
7. The extent of under-reporting and over-reporting cannot be determined.

Acknowledgements/conflict of interest

I declare that I have no financial or personal relationships that may have inappropriately influenced me in writing this paper.

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