Illicit drug use in South Africa: Findings from a 2008 national population-based survey

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Objective. The aim of this secondary analysis of the South African National HIV Prevalence, Incidence, Behaviour and Communication (SABSSM) 2008 survey is to provide current data on illicit drug use that could assist in the development and implementation of effective substance abuse policies and intervention programmes aimed at these populations in South Africa.

Method. A multistage random population sample of 15 828 people age ≥15 (56.3% women) was included in the survey. Illicit drug use was assessed by 2 sections of the Alcohol, Smoking and Substance use Involvement Screening Test (ASSIST). Frequency analyses for different age groups, geolocality, educational level, income, and population group were calculated, as were odds ratios for these variables regarding combined illicit drug use.

Results. Current cannabis use was reported by 3.3% of the population sample – 6.1% of the men and 1.2% of the women – and the use of combined all-other illicit drugs (cocaine, amphetamines, inhalants, sedatives, hallucinogens, opiates) was reported by 1.8% of the participants. Coloured men (14.3%) were most likely, and Indian or Asian women (0.6%) least likely, to be cannabis users. Illicit drug use (combined) among men was associated with the 20 - 34-year age group and the coloured and white population groups, and among women in the younger age groups, the coloured and white population groups, and low and higher income.

Conclusion. An increase of cannabis and other illicit drug prevalence rates was observed from 2005 (2.1%) to 2008 (3.3%) in the population sample. Multilevel interventions are required to target illicit drug users, in addition to creating awareness in the general population of the problems associated with illicit drug use. There is a need to address illicit drug use in national and provincial policy planning and intervention efforts and, in terms of treatment, a need to ensure that treatment practitioners are adequately trained to address illicit drug use. Future prospective studies are necessary to assess the impact of illicit drug use.

An illicit drug is a psychoactive substance whose production, sale or use is prohibited.[1] In the case of pharmaceutical preparations as well as naturally occurring substances such as cannabis, a drug is a substance that is used with the intention of bringing about change in some existing process or state, be it psychological, physiological or biomedical. The intended modification can be directed towards change in medical, behavioural or perceptual states and for either therapeutic or non-medical purposes. Substances not usually considered as drugs (e.g. foods, beverages, solvents and aerosols) may function as drugs under certain circumstances.[1] Globally, the use of illicit drugs entails a considerable burden of disease: in 2000, 0.8% of the global burden as measured in disability-adjusted life years was attributable to illicit drugs.[2]

Drug treatment data provide information about those seeking help. The primary substance(s) of abuse (apart from alcohol (51.3%)) on admission to most government-funded treatment centres (*N*=60) in 2006 in South Africa show high rates for illicit drugs: cannabis – 19.9%, methamphetamine (tik) – 5.2%, crack/cocaine – 7.8%, cannabis and mandrax – 2.6%, heroin/opiates – 5.5%, and prescription and over-the-counter (OTC) drugs – 2.8%.[3] The percentage of admissions for cannabis, heroin, and methamphetamine increased between 1996 and 2005, while the admission percentages decreased for alcohol. Cannabis abuse alone increased from 14% in 1999 to 17% in 2005, for all treatment demands.[3] Cannabis and mandrax (methaqualone), alone or in combination, are the most frequently reported illicit drugs of abuse generally, with the largest proportions among drug-related arrests, drug-related psychiatric diagnoses and drug-positive trauma patients.[4]

Population surveys provide evidence of illicit drug use patterns at the individual level. Few representative and population-based

surveys of illicit drug use have been conducted in South Africa, apart from the South African Stress and Health (SASH) survey of 2002 - 2004[5] and the South African National HIV Prevalence, Behaviour and Communication Survey (SABSSM II) of 2005.[3,6] Van Heerden *et al.*[5] found, based on data from the 2002 - 2004 SASH study, a cumulative occurrence for cannabis use of 8.4% and for other drug use of 2.0%. The SABSSM II of 2005 found prevalence rates for current (past 3 months) cannabis use of 2.1% (4.2% for men and 0.3% for women) among 15-year-olds and above, and prevalence rates for current use (past 3 months) of other illicit drugs were cocaine – 0.3%, amphetamine-type stimulants – 0.2%, inhalants – 0.1%, sedatives – 0.3%, hallucinogens – 0.1%, and opiates – 0.1%.[3]

Illicit drug use may vary according to age, social class, occupation, school status, gender and geographical location.[7] In the SABSSM II of 2005, a higher current cannabis use rate in South Africa was found in urban (2.3%) than in rural (1.0%) areas. Among adolescents, current cannabis use was highest among Indians, Asians and coloureds, while among adults it was highest among coloureds and whites. Current cannabis use was especially low (about 0.2% or less) among black and Indian/Asian women. Current cannabis use rates seemed not to have been related to any educational level.[3] Van Heerden *et al.*[5] found statistically significant associations between male gender and cannabis and other drug use; coloureds and whites were more likely than blacks to have used other drugs. Use of cannabis and other drugs was much more common in recent cohorts, with a similar cumulative incidence of cannabis across age cohorts.

As there is a need for accurate recent national prevalence data for adolescent and adult illicit drug use in South Africa, the aim of this secondary analysis was to provide current data that could assist in the development and implementation of effective substance abuse policies and intervention programmes aimed at these populations in South Africa. Specifically, we wanted to estimate the frequency of illicit drug use among men and women based on a nationally representative population-based survey of 2008.

Method

Design

The study is a secondary analysis of the South African National HIV Incidence, Prevalence, Behaviour and Communication Survey (SABSSM) of 2008 on illicit drug use.

Sample and procedure

The survey targeted all persons >2 years old in South Africa and residing in dwellings, i.e. excluding individuals living in educational institutions, old-age homes, hospitals and uniformed service barracks, but including those living in hostels. A multi-stage cluster sample stratified by province, settlement geography (geotype) and predominant population group in each area was used. A systematic sample of 15 households was drawn from each of 1 000 census enumeration areas (EAs). In each household, 1 person was randomly selected in each of 4 mutually exclusive age groups (<2 years, 2 - 14 years, 15 - 24 years, ≥25 years). The sample used in this analysis included the age group 15 years and was 13 828 (77.5% black, 9.1% coloured, 10.5% white and 2.8% Indian/Asian). Socio-demographic and behavioural information was collected via questionnaires administered by trained fieldworkers (more details on the methodology are described by Shisana *et al.*[8]).

Measures

Illicit drug use was assessed via 2 sections of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST).[9] The 2 sections included the past 3 months' substance use (question 2), failure to do what one is expected to do in the past 3 months due to substance use (question 5), and the taking of drugs by injection (question 8). For the cannabis question, the term 'dagga' (the common South African name for cannabis) was added, as was mandrax under sedatives, and tik under amphetamine-type stimulants. The Cronbach's alpha score for the 7 substance use frequency items of the ASSIST was 0.88 for this sample.

Data analysis

Data analysis was performed using STATA software, version 10.0 (Stata Corporation, College Station, Texas, USA). The analysis took into account the multilevel stratified cluster sample design of the study. The estimates of prevalence of illicit drug use variables and associated two-sided 95% confidence intervals (CIs) are reported. A *p*-value ≤5% was used to indicate statistical significance. The estimates, 95% CIs and *p*-value were adjusted for the multi-stage stratified cluster sample design of the study. We also conducted adjusted logistic regression analysis to calculate adjusted odds ratios and 95% CIs for men and for women separately, for illicit drug use (all combined) in relation to sociodemographic variables.

Results

Sample characteristics

From the total sample of 13 828, the individual interview response rate was 89.1%. The socio-demographic characteristics

of the weighted sample closely match those of the population estimates in terms of sex, race, and province, indicating that the 2008 survey sample is representative of the population from which it was drawn.[5] Most of the respondents were 25 - 34 and 35 - 44 years old (23.6% and 18.1% respectively). Regarding locality type, nearly two-thirds (62.5%) of the respondents lived in urban (which includes formal urban and informal urban) areas. At the provincial level, the highest proportion of respondents was from Gauteng province at 21.1%, followed by KwaZulu-Natal province at 20.2%. More than half of the participants (59.6%) had Grade 8 or higher education, while 9.8% had no formal education. Under employment and income status, 21.8% of the sample reported to have been unemployed at the time of the survey, 27.5% earned <R1 000/month) and 24.6% of the respondents earned R12 001 - R48 000 per year. A clear gender difference for income status was shown: there were more men (28.5%) than women (20.6%) in the R12 001 - R48 000/ year income category. Similarly, there were more men (28.9%) than women (23.1%) in the >R48 001/year income category (Table I).

Frequency of illicit drug use

Overall cannabis use was 3.3 - 6.1% among men and 1.2% among women. The highest prevalence of cannabis use (4.7% and 4.3%, respectively) was among men and women between 20 - 24 and 25 - 34 years old. Regarding area of residence, more women in urban (1.5%) than in rural areas (0.6%) took cannabis, while men in both urban and rural areas reported high cannabis use (6.7 - 5.1%). The province with the highest prevalence of cannabis use was the Western Cape (6.7%), followed by the Northern Cape (5.6%) and Free State (4.9%). Among the different population groups, coloureds had the highest rate of cannabis use (8.4%), followed by whites (3.5%) and blacks (2.8%). Persons with primary education (Grade 1 - 7) and low- and middle-level income (<R12 000 - R48 000/year) reported the highest levels of cannabis use.

The overall prevalence of combined illicit drug use without cannabis was 1.2%, and including cannabis 3.7%; for cocaine 0.6%, for amphetamine-type stimulants 0.7%, for inhalants 0.5%, for sedatives 0.8%, for hallucinogens 0.5%, and for opiates 0.5%. Prevalence rates for combined illicit drugs without cannabis were higher in urban (1.5%) than rural areas (0.6%), and highest in the Western Cape (3.1%) and KwaZulu-Natal (1.9%) provinces. The rate was 3.1% among coloureds, 3.1% among whites and Indians/Asians, and lowest among blacks (0.7%). With increasing education and income levels, combined illicit drug use without cannabis increased from 0.5% to 2.1%, and from 0.8% to 2.2%, respectively. The use of amphetamine-type stimulants (including speed, ecstasy and tik) was highest in the Western Cape (2.2%) and KwaZulu-Natal (1.5%) provinces (Table II).

Multivariate logistic regression with combined illicit drug use

Among men, the age groups 20 - 35 were associated with illicit drug use, while the age groups 35 - 64 among women and men ≥65 were protective of illicit drug use. In comparing population groups, both coloured and white men and women had significantly higher rates of illicit drug use than blacks. Grade 6 - 11 educational levels among men, and higher education among women, were protective of illicit drug use. Higher income among men was protective of, whereas little and higher income among women was positively associated with, illicit drug use. Urban versus rural residence was not significantly associated with illicit drug use (see Table III).

Discussion

The national study of 2008 among persons ≥15 years old found that 3.3% were currently (past 3 months) using cannabis: 6.1% for men and 1.2% for women. These prevalence rates show a considerable increase over the previous (2005) SABSSM II overall rate of 2.1% (men 4.2% and women 0.3%).[3] Studies in other African countries also found that cannabis was the most prevalent drug used among illicit drugs, and there was a preponderance among men users.[10] The use of cannabis across socio-economic and geographical levels in South Africa may be influenced by its high availability and accessibility. South Africa is a large producer of cannabis, most of which is consumed in the southern African region.[11]

The overall prevalence of combined illicit drug use without cannabis was 1.2%; and specifically for cocaine – 0.6%, for amphetamine-type stimulants – 0.7%, for inhalants – 0.5%, for sedatives – 0.8%, for hallucinogens – 0.5%, and for opiates – 0.5%. These prevalence rates have more than doubled compared with those from the 2005 SABSSM II, which were cocaine – 0.3%, amphetamine-type stimulants – 0.2%, inhalants – 0.1%, sedatives – 0.3%, hallucinogens – 0.1%, and opiates – 0.1%.[3] The use of amphetamine-type stimulants including speed, ecstasy and tik was highest in the Western Cape province

Table I. Demographic characteristics of respondents ≥15 years old

	Men (*N*=5 501)	Weighted	Women (*N*=8 327)	Weighted	Total (*N*=13 828)	Weighted
	N	% (95% CI)	*N*	% (95% CI)	*N*	%
Age						
15 - 19	1 211	19.5 (18.0 - 21.0)	1 235	12.6 (11.7 - 13.5)	2 446	15.6 (14.8 - 16.4)
20 - 24	904	15.7 (14.3 - 17.3)	1 230	13.5 (12.5 - 14.6)	2 134	14.5 (13.6 - 15.4)
25 - 34	923	22.1 (20.2 - 24.2)	1 391	24.7 (23.2 - 26.3)	2 314	23.6 (22.4 - 24.9)
35 - 44	820	16.0 (14.4 - 17.7)	1 546	19.7 (18.4 - 21.0)	2 366	18.1 (17.1 - 19.1)
45 - 54	786	13.4 (12.2 - 14.7)	1 271	12.5 (11.5 - 13.6)	2 057	12.9 (12.1 - 13.7)
55 - 64	464	6.9 (6.1 - 7.8)	855	8.4 (7.6 - 9.3)	1 319	7.7 (7.2 - 8.4)
65+	393	6.4 (5.6 - 7.3)	799	8.6 (7.7 - 9.5)	1 192	7.6 (7.0 - 8.3)
Locality						
Urban	4 068	64.5 (60.6 - 68.2)	5 883	61.0 (56.9 - 64.8)	9 951	62.5 (58.8 - 66.1)
Rural	1 433	35.5 (31.8 - 39.4)	2 444	39.0 (35.2 - 43.1)	3 877	37.5 (33.9 - 41.2)
Province						
Western Cape	802	12.7 (11.2 - 14.3)	1 004	10.4 (9.2 - 11.7)	1 806	11.4 (10.2 - 12.7)
Eastern Cape	714	13.3 (11.4 - 15.5)	1 092	12.8 (11.1 - 14.8)	1 806	13.0 (11.4 - 14.8)
Northern Cape	445	2.2 (1.8 - 2.6)	593	1.9 (1.7 - 2.2)	1 038	2.0 (1.8 - 2.3)
Free State	358	6.5 (5.1 - 8.1)	571	5.8 (4.8 - 6.9)	929	6.1 (5.0 - 7.3)
KwaZulu-Natal	976	16.3 (14.0 - 19.0)	1 690	23.1 (20.2 - 26.4)	2 666	20.2 (17.7 - 22.8)
North-West	437	8.5 (7.3 - 10.0)	670	8.2 (7.1 - 9.5)	1 107	8.3 (7.3 - 9.5)
Gauteng	855	22.6 (19.2 - 26.4)	1 304	20.0 (17.3 - 23.1)	2 159	21.1 (18.3 - 24.3)
Mpumalanga	439	7.1 (5.9 - 8.6)	641	7.1 (5.9 - 8.4)	1 080	7.1 (6.0 - 8.4)
Limpopo	475	10.8 (9.3 - 12.5)	762	10.7 (9.3 - 12.4)	1 237	10.7 (9.5 - 12.2)
Ethnicity						
Black African	3 149	75.5 (72.8 - 78.1)	5 148	79.1 (76.7 - 81.3)	8 297	77.5 (75.2 - 79.7)
White	703	11.4 (9.6 - 13.4)	942	9.8 (8.3 - 11.5)	1 645	10.5 (9.0 - 12.1)
Coloured	1 070	10.2 (8.8 - 11.8)	1 436	8.2 (7.1 - 9.4)	2 506	9.1 (7.9 - 10.3)
Indian or Asian	566	2.8 (2.1 - 3.6)	786	2.8 (2.1 - 3.8)	1 352	2.8 (2.1 - 3.6)
Other	13	0.1 (0.1 - 0.3)	15	0.2 (0.1 - 0.3)	28	0.1 (0.1 - 0.2)
Education						
No education	427	7.8 (6.8 - 8.9)	928	11.3 (10.2 - 12.5)	1 355	9.8 (8.9 - 10.7)
Grades 1 - 5	752	15.7 (14.3 - 17.2)	1 228	14.2 (13.1 - 15.3)	1 980	14.8 (13.9 - 15.8)
Grades 6 - 7	910	16.2 (14.9 - 17.6)	1 274	15.4 (14.3 - 16.7)	2 184	15.7 (14.8 - 16.7)
Grades 8 - 11	2 913	52.0 (49.7 - 54.2)	4 221	52.3 (50.3 - 54.3)	7 134	52.1 (50.4 - 53.8)
Grade 12	154	2.6 (2.0 - 3.3)	189	2.0 (1.6 - 2.6)	343	2.3 (1.9 - 2.8)
Tertiary	345	5.8 (4.7 - 7.2)	487	4.8 (3.9 - 5.9)	832	5.2 (4.3 - 6.3)
Employment status/income						
Not employed	454	17.1 (14.8 - 19.6)	832	26.7 (23.8 - 29.8)	1 286	21.8 (19.8 - 24.1)
<Rk12/year	683	25.5 (22.9 - 28.4)	990	29.6 (27.0 - 32.3)	1 673	27.5 (25.6 - 29.6)
Rk12 - Rk48/year	804	28.5 (25.8 - 31.4)	752	20.6 (18.3 - 23.2)	1 556	24.6 (22.7 - 26.6)
>Rk48/year	956	28.9 (26.0 - 32.1)	851	23.1 (20.4 - 26.1)	1 807	26.0 (23.7 - 28.6)

(2.2%). In 2006, methamphetamine (known as tik) substantially penetrated the coloured population of Cape Town,[12] but it is relatively uncommon in other parts of South Africa. According to Plüddemann, Myers and Parry,[13] 66% of people <20 years of age coming for treatment for substance abuse problems in Cape Town currently take tik as the primary or secondary drug of abuse.

Table II. Percentage of men and women (≥15 years old) reporting current (past 3 months) illicit drug use

	Current cannabis use			Cocaine (coke, rocks, crack, etc.)	Amphetamine-type stimulants (speed, ecstasy, tik, etc.)	Inhalants (nitrates, glue, petrol, paint thinners, etc.)	Sedatives or sleeping pills (Valium, Mandrax, Serepax, Rohypnol, etc.)	Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	Opiates (heroin, morphine, methadone, codeine, etc.)	Any illegal drug except cannabis	Any illegal drug (including cannabis)
	Men (%)	Women (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Age											
15 - 19	4.5	1.5	3.2	0.7	0.8	0.8	0.7	0.7	0.7	0.9	3.3
20 - 24	8.1	1.6	4.7	0.5	1.1	0.4	0.6	0.5	0.4	1.5	4.9
25 - 34	7.9	1.8	4.3	1.0	1.0	0.6	1.2	0.7	0.6	1.6	4.9
35 - 44	8.2	0.9	3.7	0.6	0.6	0.6	0.7	0.6	0.6	0.8	3.8
45 - 54	4.8	0.5	2.4	0.2	0.2	0.2	0.8	0.2	0.2	1.0	3.1
55 - 64	3.5	0.1	1.4	0.3	0.4	0.3	0.6	0.3	0.4	0.6	1.7
65+	0.4	0.7	0.6	0.5	0.5	0.5	1.1	0.5	0.5	1.3	1.3
All	6.1	1.2	3.3	0.6	0.7	0.5	0.8	0.5	0.5	1.2	3.7
Locality											
Urban	6.7	1.5	3.8	0.7	0.9	0.5	1.0	0.6	0.6	1.5	4.4
Rural	5.1	0.6	2.5	0.4	0.4	0.4	0.5	0.4	0.4	0.6	2.5
Province											
Western Cape	11.7	2.0	6.7	0.9	2.2	0.2	1.8	0.6	0.2	3.1	7.8
Eastern Cape	4.2	1.0	2.4	0.8	0.8	0.7	1.0	0.8	0.7	1.1	2.7
Northern Cape	10.6	1.2	5.6	0.2	0.2	0.2	0.5	0.2	0.2	0.6	6.0
Free State	10.6	0.1	4.9	0.2	0.2	0.2	0.4	0.2	0.2	0.4	5.0
KwaZulu-Natal	4.1	1.9	2.7	1.5	1.5	1.4	1.7	1.4	1.5	1.9	3.0
North-West	6.8	0.1	3.1	0.0	0.0	0.0	0.2	0.0	0.2	0.3	3.4
Gauteng	4.2	1.6	2.8	0.4	0.2	0.3	0.5	0.2	0.3	0.8	3.2
Mpumalanga	5.6	0.5	2.7	0.0	0.0	0.1	0.1	0.0	0.0	0.2	2.9
Limpopo	5.6	0.1	2.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.3
Ethnicity											
Black	5.5	0.8	2.8	0.5	0.6	0.6	0.6	0.5	0.6	0.7	2.9
White	4.0	3.2	3.5	1.1	0.9	0.3	1.3	0.6	0.4	2.5	4.8
Coloured	14.3	2.7	8.4	0.6	2.1	0.3	1.8	0.3	0.3	3.1	9.5
Indian or Asian	2.2	0.6	1.3	1.0	0.5	0.4	1.8	0.4	0.6	2.5	3.4
Education											
No education	6.4	0.4	2.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.3
Grades 1 - 5	9.5	0.7	4.5	0.6	0.7	0.6	0.6	0.6	0.7	0.9	4.8
Grades 6 - 7	10.1	0.8	5.0	0.5	0.7	0.5	0.6	0.5	0.5	0.8	5.2
Grades 8 - 11	5.7	1.1	3.2	0.4	0.7	0.4	0.6	0.4	0.4	0.9	3.3
Grade 12	4.6	1.6	2.9	0.9	0.9	0.8	1.3	0.8	0.8	1.5	3.5
Higher	4.5	1.6	2.9	0.9	0.6	0.0	1.3	0.5	0.2	2.1	4.1
Employment status/ income											
Not employed	5.8	0.5	2.5	0.4	0.5	0.3	0.5	0.3	0.3	0.8	2.8
<Rk12/year	7.7	2.3	4.7	1.1	1.2	1.1	1.3	1.1	1.2	1.5	4.8
Rk12 - Rk48/per year	8.1	1.6	5.4	0.7	1.0	0.5	1.0	0.7	0.5	1.2	5.4
>Rk48/year	3.0	1.8	2.5	0.6	0.4	0.2	1.3	0.3	0.3	2.2	4.1

The prevalence rates of illicit drug use in South Africa (Table IV) seem considerably lower than those in countries such as the USA and Australia, though it is difficult to compare other surveys and populations. Current (past month) cannabis use among South Africans of 2.2% is considerably less than that among Australians (5.1%) and US Americans (6.1%). Likewise, current prevalence

Table III. Logistic regression analysis of sociodemographic characteristics and illicit drug use (combined)

	Men (Pseudo R^2 0.06)			Women (Pseudo R^2 0.11)		
	AOR	95% CI	*p*	AOR	95% CI	*p*
Age						
15 - 19	1.00			1.00		
20 - 24	2.16	1.30 - 3.59	0.003	0.81	0.33 - 2.00	0.646
25 - 34	2.19	1.26 - 3.82	0.006	0.92	0.36 - 2.32	0.847
35 - 44	1.69	0.96 - 2.97	0.067	0.33	0.12 - 0.96	0.041
45 - 54	1.10	0.54 - 2.26	0.797	0.32	0.13 - 0.76	0.010
55 - 64	0.56	0.25 - 1.20	0.131	0.19	0.06 - 0.54	0.002
65+	0.25	0.06 - 0.95	0.042	0.51	0.17 - 1.49	0.216
Locality						
Urban	1.00			1.00		
Rural	0.71	0.48 - 1.06	0.101	0.55	0.27 - 1.14	0.108
Ethnicity						
Black	1.00			1.00		
White	2.07	1.20 - 3.59	0.009	3.69	1.81 - 7.51	0.000
Coloured	3.12	2.15 - 4.54	0.000	3.87	1.97 - 7.61	0.000
Indian or Asian	1.68	0.64 - 4.43	0.293	1.02	0.35 - 3.02	0.968
Education						
No education	1.00			1.00		
Grades 1 - 5	1.16	0.50 - 2.68	0.911	1.62	0.38 - 6.92	0.650
Grades 6 - 7	0.95	0.39 - 2.30	0.035	1.40	0.33 - 5.91	0.780
Grades 8 - 11	0.44	0.20 - 0.95	0.025	1.21	0.32 - 4.59	0.830
Grade 12	0.37	0.16 - 0.88	0.078	1.19	0.25 - 5.76	0.435
Tertiary	0.41	0.15 - 1.11	0.982	1.83	0.40 - 8.29	0.000
Employment status/income						
Not employed	1.00			1.00		
<Rk12/year	1.00	0.65 - 1.53	0.982	3.49	1.85 - 6.60	0.000
Rk12 - Rk48/year	0.93	0.57 - 1.52	0.771	1.45	0.57 - 3.67	0.438
>Rk48/year	0.55	0.32 - 0.97	0.039	2.44	1.11 - 5.39	0.027

AOR = adjusted odds ratio; CI = confidence interval.

Table IV. Comparisons of current (past month) illicit drug use epidemiology: South Africa, USA and Australia

Type of drug	South Africa, 2008 (≥15 years)	USA, 2008 (≥12 years)*	Australia, 2007 (≥14 years)†
Cannabis	2.2	6.1	5.1
Inhalants	0.0	0.6	0.2
Mandrax, sedative, pain reliever, tranquillisers	0.1	2.7	1.9
Cocaine (including crack)	0.0	1.9	0.5
Opiates, heroin	0.0	0.2	0.1
Club drugs/amphetamine type stimulants	0.1	0.4	2.3
Hallucinogens	0.0	1.1	0.1

*National Survey on Drug Use and Health (NSDUH).[15]
†National Drug Strategy Household Survey.[16]

of other illicit drugs (sedatives, cocaine, inhalants, opiates, amphetamine-type stimulants and hallucinogens) is considerably lower in South Africa than in the USA and Australia (Table IV) but similar to past-month prevalence in developing countries(e.g. Chile) of 2.2% for any illegal drug (marijuana, coca paste, and cocaine hydrochloride).[14]

Our study found socio-economic differences regarding illicit drug use. Among men, the age groups 20 - 35 were associated with

illicit drug use. Among male and female population groups, both coloureds and whites had significantly higher rates of illicit drug use compared with blacks. Educational levels of Grade 6 - 11 among men and higher education among women were protective of illicit drug use. Higher income among men was protective of, whereas little and higher income among women was positively associated with, illicit drug use. Van Heerden *et al.*[5] also found that coloureds and whites were more likely than blacks to have used other drugs. The use of illicit drugs was also found in younger age groups in other studies (Chile, 19- and 25-year-olds).[14] The association of more frequent illicit drug use and higher socio-economic levels in this study was found only for illicit drug use without cannabis, as found in other studies.[14,17]

Limitations

As this was a self-reported household survey on illicit drug use, it may under-report the true consumption. For example, Reddy *et al.*[18] found much higher rates of illicit drug use in a national school-based survey, as compared with the 2003 SABSSM II household survey, e.g. current (past month) use of cannabis of 9% among 13 - 19 year-olds compared with cannabis prevalence of 2% in the past 3 months among 15 - 19 year-olds.[3]

Conclusion

An increase in cannabis and other illicit drugs prevalence rates was observed from 2005 to 2008 in South Africa. Multilevel interventions are required to target illicit drug users, create awareness in the general population of the problems associated with illicit drug use, address illicit drug use in national and provincial policy planning and intervention efforts, and ensure that treatment practitioners are adequately trained to address illicit drug use.[19,20] Primary care providers who see the majority of people with illicit drug disorders need to be better equipped to diagnose and intervene, providing brief interventions for early illicit drug use disorders.[21-23] Specialist treatment is required for persons with more severe drug use disorders, as this holds substantial benefits for affected individuals and the community. Seedat *et al.*[24] found in South Africa that mental health consultation rates were lowest among those with substance use disorders and highest among those with mood and anxiety disorders. People with psychiatric disorders abuse alcohol or illicit substances twice as much as the general population, a problem that is even more frequent in the early phase of psychotic disorders where prevalence of substance abuse ranges. Cannabis is currently the most frequently used substance and, although its impact is often minimised, data suggest that it constitutes a risk for psychosis.[25] To reduce the supply of illegal drugs, programmes to better monitor the importation and manufacture of illegal drugs need to be enforced.[26] Future prospective studies are needed to assess the impact of illicit drug use.

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