



# CYPSA JULY 2017 REPORT

## **Abstract**

This report highlights trends and patterns found worldwide as well as CYPISA's key findings and a discussion regarding dagga use amongst South African youth.

**CYPSA JULY 2017 UPDATE**

Compiled by: E Fleischmann, Adam Mickleburgh, Nthutuzelo Nkatha,  
Busi Radebe, Rahel Graff

[mail@cypsa.org.za](mailto:mail@cypsa.org.za)

# CONTENTS

Background of CYPSA.....	3
Key findings.....	3
Literature study.....	4
Legalising Dagga (Cannabis) against the spirit of the UN .....	4
Dagga (marijuana) legalisation lessons from the USA .....	4
Cannabis legalisation lessons from the Netherlands and the UK.....	5
Cannabis Related Disorders and Adverse Effects .....	6
Non-smoker exposure to second-hand dagga smoke .....	7
Dagga and Whoonga/Nyaope (Heroin) risk.....	7
Possible impact on HIV/AIDS in South Africa.....	8
Current proliferation of the darknet.....	9
The right of the Child .....	10
CYPSA Project.....	11
Results, latest trends and discussions.....	11
Vulnerability of South African youth.....	13
Usage of Dagga and Dagga mixes amongst school children .....	14
The voice of the Educator .....	15
CYPSA school presentation evaluation form .....	15
Principal’s opinions on dagga.....	17
The Way Forward.....	19
Conclusion.....	20
Annexure A: .....	21
Bibliography .....	22

## BACKGROUND OF CYPSA

**Concerned Young People of South Africa (CYPSA)** is a youth based and community focused initiative that was registered as an NPO in 2010. The vision of CYPSA is to provide support and guidance to young people whilst also providing a voice for the youth of South Africa. CYPSA offers a free 21-day restoration program, to provide an alternative option for addicted youth who cannot afford to pay for services and support at rehabilitation centres. CYPSA regards our young people as the future of our country. This report highlights trends and patterns found worldwide as well as CYPSA's key findings and a discussion regarding dagga use amongst the youth.

### **KEY FINDINGS**

- The World Drug Report (2017), the European Union Countries and the Colorado report advocates **tighter legislation of dagga.**
- **Dagga is the primary and most dominant illicit drug** used by adolescent and young adult males, with a 96.1% prevalence as a first drug (gateway drug) in South African males.
- The average age of first illicit drug use is **16 years** in South Africa (Dagga has the ability to affect the development of the pre-frontal cortex which is responsible for the loss of memory and a permanent IQ shift of 8 points downwards.)
- **This report highlights that SA drug use patterns may differ from that of other countries.** This study indicates that male youth generally start with dagga (cannabis) and thereafter Whoonga/Nyaope (cheap heroin). This is a direct move from dagga to hard drugs, supporting the finding of dagga being a gateway drug.
- **School principals strongly oppose dagga legalisation.**
- Dagga legalisation would not be in the **best interest of the child.**

**TERMS:** Dagga (South Africa): Marijuana (USA), Cannabis(UK)

## LITERATURE STUDY

This section provides a theoretical basis regarding dagga usage patterns and trends worldwide as well as the possible effect on the youth.

### ***LEGALISING DAGGA (CANNABIS) AGAINST THE SPIRIT OF THE UN***

Cannabis (dagga/marijuana) is by far the most commonly used illicit drug globally (UNODC, 2017b, p. 13). Because of popularity, the Americas, followed by Africa, remain the main markets of the cannabis herb (UNODC, 2016, p. 43).

As pro-cannabis activists demand that legislation must change, often referring to the *“failure of illicit drug control through legislation”*, and the need to *“end the war on drugs”*, the United Nations upholds their position of keeping cannabis illegal for several important reasons. However, breaking away (due to populism), from the cautious approach of the UN, a growing number of countries such as the US (Alaska, Colorado, Oregon and Washington), Uruguay and Portugal have legalised cannabis for recreational use (UNODC, 2016, p. 45). Moreover, various cannabis lobbying groups, mainly cannabis users, 182.5 million to date (UNODC, 2016, p. 43), have added momentum to this discourse and continue to criticise the prohibition of cannabis worldwide.

While extensive political, societal and regulatory debates are raging regarding the legalisation of dagga (*Cannabis sativa*) and its presumed possible remedies, new evidence is emerging that cannabis legalisation could be posing serious public health risks. This is evident in the overall increase in treatment for cannabis-related problems at specialised facilities in Europe (Montanari, Guarita, Mounteney, Zipfel, & Simon, 2017). For this reason, recent draft laws from European Union countries, have been compiled with the objective to *“mainly protect public health, rather than to raise revenue”* (Hughes, Quigley, Ballotta, & Griffiths, 2017). Moreover, the UN stated that the *“move to legalise cannabis for recreational purposes remains contrary to the spirit of the international drug control conventions”* (United Nations, 2016, p. 45). Indeed, these stances reflect the fact that cannabis legalisation could have outpaced cannabis research, especially regarding the impact cannabis legislation may have on the youth (Gruber, 2017).

### ***Dagga (marijuana) legalisation lessons from the USA***

Studies on marijuana (dagga) legalisation in Colorado have highlighted the following consequences:

- dagga use in Colorado increased from 27 per cent in 2011 to 31 per cent in 2014, mainly driven by increased use among young adults (persons aged 18-25) (UNODC, 2016, p. 47).
- dagga exposure calls to the Washington Poison Center in the State of Washington (USA) involving persons under 20 have doubled since the period 2010-2011 (UNODC, 2016, p. 48).

- **dagga-related emergency room visits in Colorado saw a 38 per cent increase** in hospitalisations, within one year of legalisation of recreational cannabis use (UNODC, 2016, p. 48).
- the **commercial marketplace** has made available a wide range of THC-containing food products, or “edibles”, which may “increase the risk of accidental ingestion”, acute intoxication, psychosis, poisoning and intoxication-related injury or death, which is of concern. Because oral consumption of dagga (cannabis) has a delayed onset of effect of between 30 and 90 minutes that lasts from 4 to 12 hours, (far longer than psychotropic effects from inhalation, which last around 2 to 3 hours), edible dagga could lead to ingestion of greater quantities of THC than desired, especially when eating dagga muffins (space muffins). The link between cannabis use and myocarditis has been well documented. One study issued an alert to physicians warning parents using dagga regarding possible paediatric myocarditis and cardiac death of infants after they had consumed dagga edibles (Nappe & Hoyte, 2017).
- the prevalence of dagga use in Colorado is higher, and is “increasing faster”, than the national average.
- as the prevalence of dagga usage in Colorado rises, the number of primary treatment admissions per 100,000 is “high and growing” among persons aged 12 or older, and has exceeded the national average since 2003.

Furthermore, Silins et al. make the following observation:

*Research suggests that such changes could lead to an increase in cannabis use mainly through a reduction in price. Although the effect of cannabis prices on the intensity and duration of cannabis use is unclear, evidence suggests that lower prices might lead to earlier onset of use. This hypothesis is concerning because the adolescent brain is vulnerable to the effects of cannabis and, as our findings suggest, cannabis use in adolescence is associated with increased risk of adverse developmental outcomes. In the rapidly changing political and legislative landscape, protection of adolescents from the potentially adverse effects of cannabis use is an important facet of cannabis legislative reforms. Despite increased availability of cannabis (for medical use) in some US states, a study showed no increase in use among young people in those states. Nonetheless, (sic) **efforts to reform cannabis legislation should be carefully assessed to ensure they reduce adolescent cannabis use and prevent potentially adverse developmental effects.**(Silins et al., 2014)*

### **Cannabis legalisation lessons from the Netherlands and the UK**

**The Netherlands**, who at one time legalised cannabis, and permitted cannabis coffee shops, has reinstated a higher level of control of cannabis whilst declaring these cannabis coffee shops illegal.

The sobering move of the **UK** to reinstate cannabis (dagga) to Class B (2009) after the resulting failure of downgrading cannabis from Class B to C in 2002 (Shiner, 2015) has further added a note of caution to the debate.

## ***CANNABIS RELATED DISORDERS AND ADVERSE EFFECTS***

**According to the World Drug Report**, increased cannabis use is linked to the growing perception that cannabis is not harmful. Even strong cannabis products have not passed strict pharmaceutical product development and testing. The implementation of *medicinal use* and *recreational* legalisation is causing this widespread perception that dagga is not harmful (UNODC, 2017a, pp. 20,21). However, despite the *perceived low health risk* of cannabis use by the public, there is an *increasing clinical awareness* of the spectrum of behavioural and neurobiological disturbances associated with dagga exposure, such as psychosis, cognitive deficits, memory loss, drop in IQ, loss of motivation, anxiety, depression, paranoia, social impairments, and addiction (Malone, Hill, & Rubino, 2010; Meier et al., 2012; Szutorisz & Hurd, 2016). Concerns about the effects of the acute intoxication of dagga are linked to concerns about its direct effects on cognition and motor function. The chief concern though, is the long-term impact of dagga (cannabis), especially when exposure occurs during critical periods of brain development (Szutorisz & Hurd, 2016), such as in the adolescent and young adult (Chadwick, Miller, & Hurd, 2015). In addition, cannabis use by adults of child-bearing age and women who are breastfeeding, may also have neurological consequences for foetuses and infants (Hughes et al., 2017).

It is important to evaluate the impact of the use of cannabis on the onset and course of psychotic illness and cannabis use disorders, as the increasing number of novice cannabis users may translate into a greater public health burden.

Evidence from the World Drug Report (UNODC, 2017b, pp. 15,17) points out that:

- 1) 39% of drug related disorders are due to dagga use disorders (Hasin et al. showed that nearly 3 out of every 10 cannabis users in the USA (2012-2013) exhibited a dagga related disorder (2015))
- 2) cannabis may be becoming more harmful, presumably from higher THC levels and
- 3) increasingly, younger people are seeking treatment for dagga related disorders.

To combat these escalating trends, UNODC advocates a balanced approach towards national strategies by complementing;

- 1) *supply reduction strategies* (particularly law enforcement and interdiction) and
- 2) *demand reduction strategies* (prevention, treatment and rehabilitation).
- 3) whilst enhancing good governance or the strengthening of state institutions or "the rule of law"

UNODC highlights that

*"...in an environment where risk perceptions and social norms affect attitudes and behaviour towards the use of drugs such as **cannabis**, effective prevention strategies and interventions are needed more than ever"* (UNODC, 2017a)

and warns that:

*"research has shown that, notwithstanding the usefulness of some cannabinoids in the management of specific medical conditions, their use, particularly in the botanical form of **herbal cannabis with unknown content and dosage, can be detrimental to health.**"* (UNODC, 2017a)

Also in Africa, cannabis remains the main drug for which drug treatment is sought. (UNODC, 2017b, p. 17).

### ***Non-smoker exposure to second-hand dagga smoke***

Various studies indicate that non-dagga smokers, exposed to second-hand cannabis smoke, can test positive for THC in oral fluid and blood up to three hours following exposure (Cone et al., 2015). The child's right to a safe and healthy environment may be affected due to dagga smoke exhalation of parents, other adults or peers. See Bill of Rights, Article 28 1(f)(ii) ("The Constitution of the Republic of South Africa," 1996).

### ***Dagga and Whoonga/Nyaope (Heroin) risk***

Particularly worrisome is the increase in heroin usage in Colorado after marijuana was legalised. The April 2017 Colorado report (Gorman & Myers, 2017), on heroin use in Colorado, describes a rise in heroin seizure incidence from 26 in 2013 to 427 in 2015.

Recent epigenetic studies of cannabinoid effects on mice revealed attenuated heroin seeking behaviour in their offspring, with a change in DNA. A Harvard study by Grelotti et al. (2014) described the following incident:

*"Children [in South Africa] who ate space muffins (dagga ingredients), which the children may not know contain a drug, reportedly became "drunk" in school. It is said that they "lust of this cake." According to one informant, intoxication from space muffins placed a child at increased risk of rape."*

Moreover, a South African study mentions the use of ARVs (antiretroviral medication) within Whoonga (Rough et al., 2014). Whoonga, a mixture of low-grade heroin, rat poison strychnine, steel wool, household cleaners, **crushed anti-retroviral drugs**, etc., smoked with dagga in a joint, may therefore further affect South Africa's HIV/AIDS pandemic negatively. David Grelotti, a Harvard School of Public Health researcher, has expressed

concern that people with HIV, who smoke Whoonga may develop mutant strains of the HIV virus which are resistant to the available medication (Grelotti, Closson, & Mimiaga, 2013). **HIV drug resistance** is growing due to recreational use of HIV drugs *Efavirenz* and *Ritonavir*, rendering them ineffective not only for users but non-users as well. One study showed that 3% to 5% of people with HIV in areas where Whoonga was used exhibited "pre-treatment resistance" to antiretroviral drugs used to treat HIV (Grelotti et al., 2013).

### ***Possible impact on HIV/AIDS in South Africa***

Unlike the myth that dagga can cure HIV and AIDS, emerging research points in the opposite direction.

- The effect of dagga on HIV is still largely unknown. Studies do **not support** a statistically significant association with dagga and HIV viral suppression (Okafor et al., 2017).
- An Eastern Cape study indicated that problem drinking and dagga use mediate HIV sexual risk behaviours in men with histories of childhood sex abuse (CSA), whereas the intervention on dagga and alcohol use may be "particularly useful for strategies to reduce HIV sexual transmission in South Africa" (Icard, Jemmott, Teitelman, O'Leary, & Heeren, 2014).
- A recent epigenetic study on marijuana cannabinoids and its long term consequences on the offspring of mice, indicated that **immunosuppressive effects of cannabinoids** can be mediated through epigenetic mechanisms such as "altered microRNA, DNA methylation and histone modification profiles that could have significant immunological consequences for offspring as well as long term transgenerational effects" (Zumbrun, Sido, Nagarkatti, & Nagarkatti, 2015, p. 245).

CYPSA argues that the possible impact that dagga has on South Africa's HIV/AIDS pandemic still requires an impact assessment analysis before claiming it as a cure for HIV/AIDS. Premature assumptions may pose a serious national public health threat.

## CURRENT PROLIFERATION OF THE DARKNET

The revolution of communication networks, has given *birth to **the darknet***, where drug buyers can buy cannabis online and have their packages delivered in a concealed manner (UNODC, 2017b, p. 10). Various South African websites exist, where any person can order dagga and associated paraphernalia online, with delivery included, even to overseas countries (see figure 1).

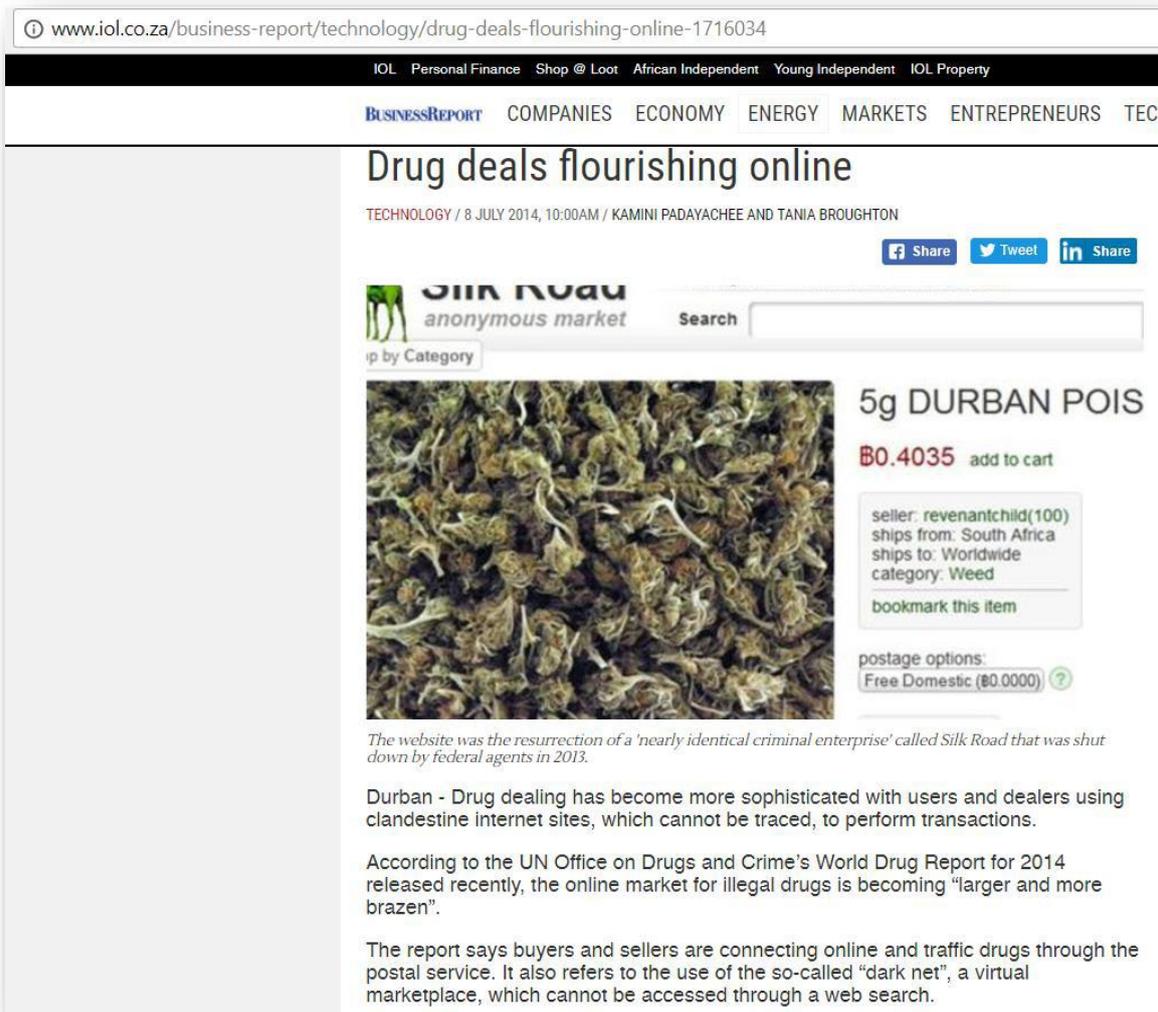


Figure 1 Darknet flourishing in South Africa

### ***The right of the Child***

According to the Bill of Rights, Chapter 2 of the Constitution of the Republic of South Africa 108 of 1996, dagga distribution and/or use by children under 18 years, is in contradiction to the basic rights of the child as referred to in Article 28 1(b), 1(d) and 1(e), 1(f), (2) and (3), as displayed in Figure 2. The school and staff's responsibility to act *in Loco Parentis* of the child, are been compromised by those propagating, advertising and selling of dagga and other drugs in various forms within and without schools (see Addendum B).

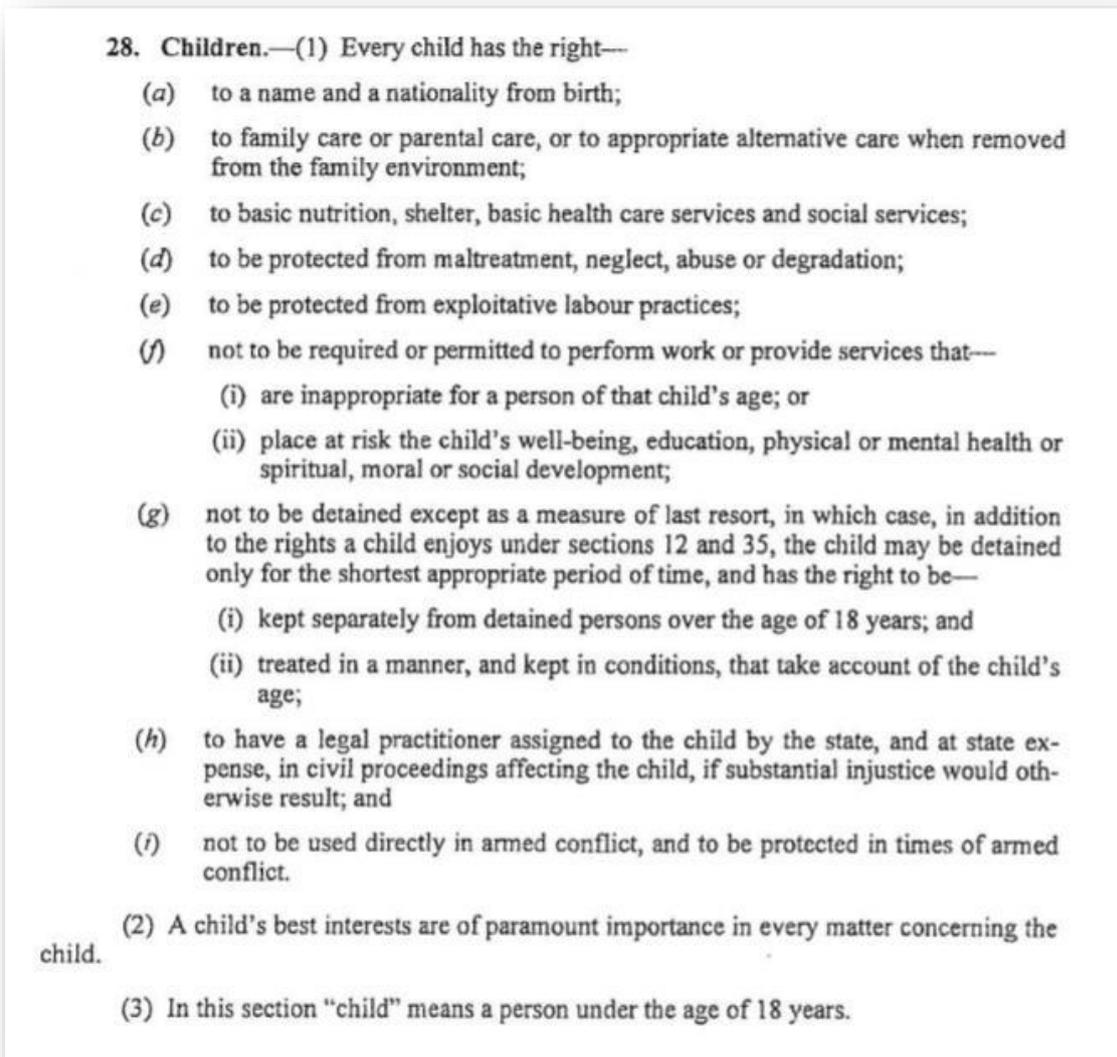


Figure 2 Bill of Rights, Chapter 2 of the Constitution of South Africa 108 of 1996

## CYPSA PROJECT

Various districts of the Departments of Basic Education and several communities have requested a CYPSA report on illicit drug addiction patterns amongst the youth of South Africa. In answer to this call, some leaders from various communities requested the academia to assist with the authoring of this report.

This CYPSA drug addiction report is based on community-participation action research (community-PAR) methodology, utilising mixed methods. A pragmatic approach has been used. The focus of this research is to understand drug usage patterns amongst male adolescents in South Africa. Results from this report informs CYPSA drug awareness campaigns throughout South Africa. The objective of this report is to draw a picture for academics and policy makers on drug use patterns at grassroot levels.

CYPSA's investigation is comprised of two phases. Phase 1 included a survey on 5 182 drug addicts, followed by semi-structured focus group interviews and a dagga-specific survey of 148 drug addicts. Phase 2 included feedback from principals of more than 2 534 schools on key problems experienced in schools. A follow-up invitation was made to principals to share their insight into dagga use amongst the young people of South Africa (See Annexure B).

### ***RESULTS, LATEST TRENDS AND DISCUSSIONS***



The self-reported illicit drug use survey (n=5 182), selected through snowball sampling, revealed the average age at which dagga was first used to be 16.38 years of age, within an age range of 5-51 years. Dagga was found to be the most commonly used entry (first) drug used with 96.1% of the subjects in this study having used it as a first drug (see Figure 3). These findings are disturbing, bearing in mind that dagga (cannabis/marijuana) has the potential to disrupt brain development, with a permanent fall in IQ of 8 points, of the adolescent and young adult under 25 years, as pointed out earlier.

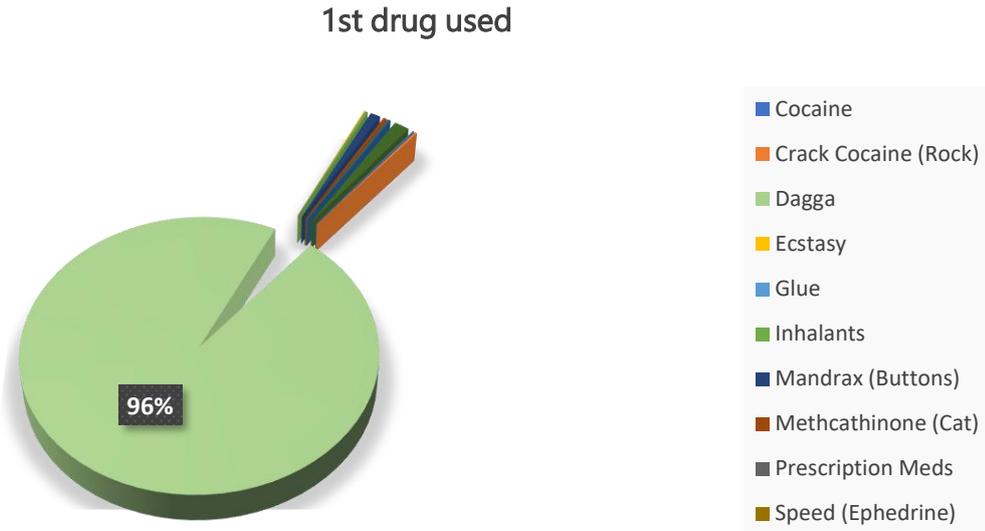


Figure 3 Results on first drug used

Data from the survey (n=5 182), suggests a direct progression from dagga (cannabis) to whoonga/nyaope (cheap heroin) with the majority **(49.2%) of first time dagga users progressing to whoonga/nyaope**, while 27.7% of dagga users would progress to buttons (mandrax) and 4.3% on to cocaine and crack cocaine. These second drugs, whoonga/nyaope, buttons and cocaine add up to 81.2%. Some also continued with tik (crystal meth), methcathinone (CAT), ecstasy or prescription medication. Poly-substance abuse is found to be high, with only 14,88% participants who used dagga as a starting drug not progressing to any harder drugs.

Figure 4 represents the progression of usage from dagga as a first drug to whoonga/nyaope (cheap heroin) or mandrax (buttons) as a second drug.

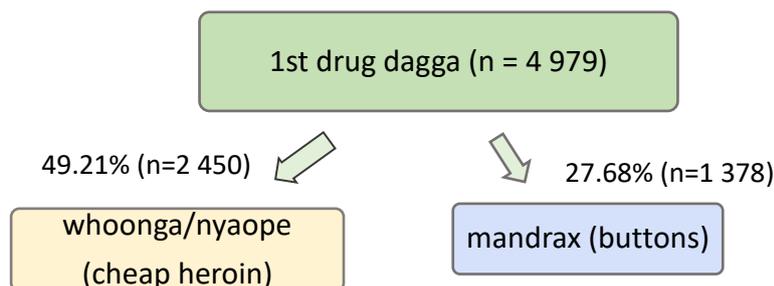


Figure 4 Progressing from dagga as first drug to second drug as either whoonga/nyaope or mandrax

Furthermore, 36.2% of drug users progressed to a third drug. Whoonga/nyaope seems to be a popular drug since another 22,1% (n = 1145) of all participants who did not take whoonga/nyaope as a first or second drug, took it as a third drug. A 70% of all participants took whoonga/nyaope. This trend of dagga to whoonga/nyaope, which is cheap heroin (as second or third drug), is worrisome, as it reveals a direct progression from dagga to

hard core drugs in South Africa, especially amongst the low-income groups that CYPASA serves.

### ***Vulnerability of South African youth***

**The main reasons** given for the choice of dagga/cannabis as an entry drug (n=5 182), can be divided into two main groups, firstly *influence* from friends, family and environment, and secondly to serve as a *coping-mechanism* for underlying socio-economic problems so common to South Africa.

Among those stating *influences*, the influence of friends constitutes (97.7%). Other reasons given were influence of family (family members smoking dagga) (0.76%), problems at home, curiosity and experimentation (59%) and being misled by friends (9.22%).

Dagga seems to be a *coping method* employed by youth to deal with stress and the various challenges they face today. Loneliness, death of family members (AIDS and violence) as well as lack of stimulation, are reasons given for its use. Young people also seem confused about the medicinal use of dagga, interpreting the use of the whole plant to be beneficial for slimming, epilepsy, asthma and the enhancing of brain activity. The use of dagga amongst school children is of great concern to CYPASA.

In an ongoing dagga focused survey, preliminary results collected from 148 participants suggest that an early onset of dagga use seems to 1) increase the likelihood of attempted suicide, 2) encourage continued usage of harder drugs and 3) be directly/indirectly responsible for crimes committed 4) increases the risk of dropping out of school prematurely. Table 1 depicts results showing the average age of onset of dagga use and the occurrence of suicidal behaviour, usage of harder drugs, criminality and school completion.

*Table 1 - Average age of onset of dagga use and effects*

	Yes		No	
	Average Age	% of Participants	Average Age	% of Participants
Attempted Suicide	14,83	40,14%	14,9	59,86%
Used dagga as first drug	15,42	97,96%		2,04%
Continued with harder drugs	15,50	68,06%		
Committed Crime directly or indirectly as a result of dagga usage	15,24	53,74%	15,34	43,54%
Went to Prison (of those committed crime)		51,90%		
Completed Schooling	15,51	48,30%	15,08	51,02%

As seen in Table 1, attempted suicide (40,14% prevalence) was associated with earlier onset of dagga use (average 14.83 years) compared to individuals who did not attempt suicide (average 14,9 years). 68,06% of the participants who used dagga as their first drug continued to also use harder drugs. As depicted in table 1, dagga usage was in 53,74% of the cases directly/indirectly responsible for crimes committed, of which half (51,9%) were imprisoned for their crimes. Participants who started using dagga at a younger age were also more prone to leave school before the completion of their education. These are however our preliminary findings.

(Note that the perceived age difference between the yes and no groups has not yet been formally tested. A formal statistical hypothesis testing is still needed within this ongoing survey so as to determine the statistical significant age difference. This will be done at a later stage.)

### **Usage of Dagga and Dagga mixes amongst school children**



Figure 5 Picture taken by CYPSA, 8:00am during a school visit in the Western Cape



Figure 6 A close up from photo in Figure 5

Focus group interviews conducted by CYPSA of South African ex-drug addicts revealed the reasons for their use of dagga:

- 1) get consent from girls for sex,
- 2) gives courage to commit crimes and a
- 3) fundamental part of initiation into the major gangs in South Africa (also in prisons).

Dagga dealers, selling to school children, often mix dagga (cannabis) with Whoonga/Nyaope (cheap heroin), without the buyers' (mostly school children) knowledge. One seller explained *"This is to ensure my clients of a more potent 'type' or 'grade' of dagga. Only when these children are caught in addiction, I tell them that the 'more potent dagga', was in fact Whoonga."*

Another drug addict revealed that *"they [the drug addicts] steal ARV's from HIV patients visiting the Hillbrow clinic, to enable them to manufacture Whoonga."*

Data gleaned through interviews in the CYPSA study, suggest that dagga is also used continuously as a baseline drug, while adding, mixing and experimenting with other drugs that are within the addict's reach. New drugs, such as flakka, could pose additional serious health threats if added to the mix.

**THE VOICE OF THE EDUCATOR**

**CYPSA school presentation evaluation form**

This section describes the main challenges faced by 2534 schools, visited by CYPSA during 2013-2017. Schools (2534) were visited through the CYPSA drug awareness outreaches starting in 2013. After the CYPSA presentations, school principals completed a CYPSA school presentation evaluation form, which also inquired about the main challenges faced within the community.

The content analysis of 2534 *CYPSA school presentation evaluation forms*, also reflects drug abuse and dagga as main challenges:

- 948 (37.4%) of visited schools mentioned drug addiction/drugs
- 234 (9.23%) of visited schools specifically mentioned dagga
- Other school challenges included, pregnancy (16.4% of schools), poverty (4.4% of schools), orphans (2.5% of schools), school drop outs (2.24% of schools) and child headed homes (1.8% of schools). These various challenges were further grouped into various categories as presented in Figure 7.

**Comparison of Substance Abuse with Other Categories (Combined)**

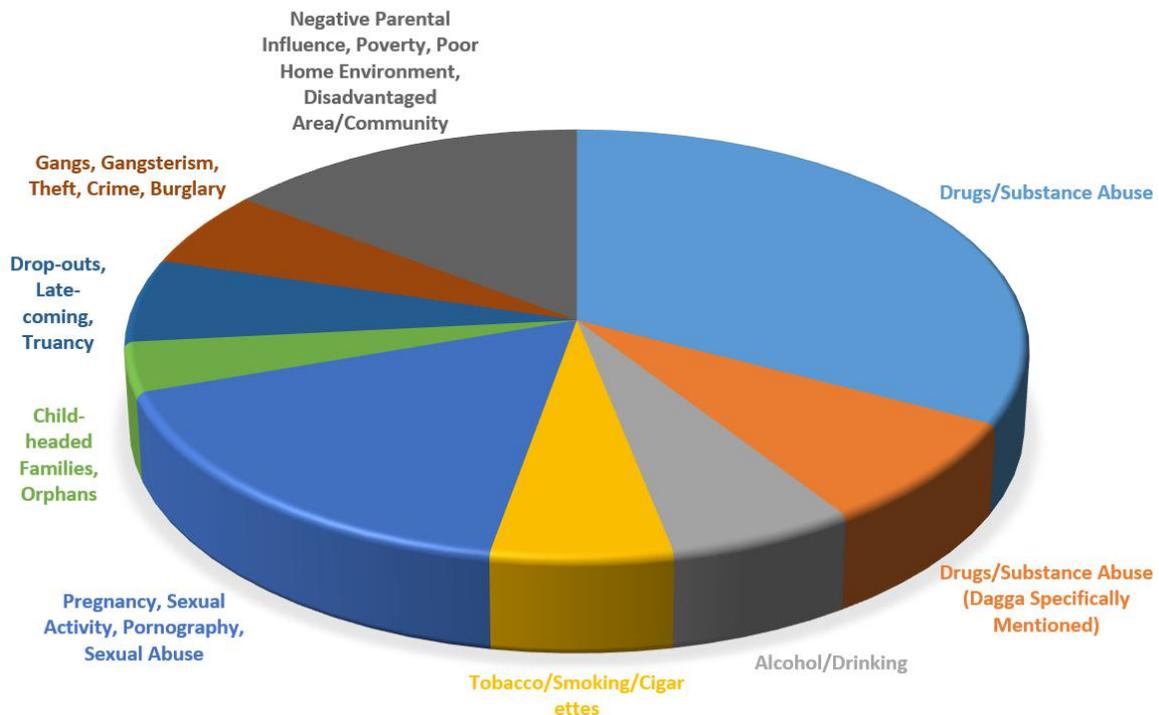


Figure 7 Main problems experienced at schools

Figure 7 depicts the frequency of the main categories of challenges experienced. Table 2 shows the word count frequency of each of these categorical challenges.

Table 2 Word count frequency of main challenges in 2534 schools

Problems and Challenges	Word count frequency
<b>Drug/Substance Abuse</b>	<b>948</b>
<b>Drug/Substance Abuse (Dagga Specifically Mentioned)</b>	<b>234</b>
Alcohol/Drinking	176
Tobacco/Smoking/Cigarettes	171
<b>Pregnancy, Sexual Activity, Pornography, Sexual Abuse</b>	<b>488</b>
Child-headed Families, Orphans	108
Drop-outs, Late-coming, Truancy	182
Gangs, Gangsterism, Theft, Burglary	167
<b>Negative Parental Influence, Poverty, Poor Home Environment, Disadvantaged Area/Community</b>	<b>422</b>

As seen in Figure 7, the terms "drug", "substance abuse" were found to be the most prominent problems experienced in schools with a word count of 948 (see Table 2). Very often there was also a specific reference to dagga. Furthermore, pregnancy, sexual activity, sexual abuse and pornography were also prominent. It should be noted that during an interview one dagga seller referred to the "use of dagga to get the girls into bed... once they get the whiff, it is easy". Drop-outs, late coming and truancy, were also referred to by school principals as secondary effects of dagga abuse. Dagga is often utilized within the initiation rites of the major gangs within South Africa.

Figure 8 shows the main substance abuse categories which were,

- 1) alcohol (6.95% of schools)
- 2) tobacco, smoking or cigarettes (6.75% of schools)
- 3) drug abuse or drugs (37.41% of schools)
- 4) dagga (9.23% of schools)

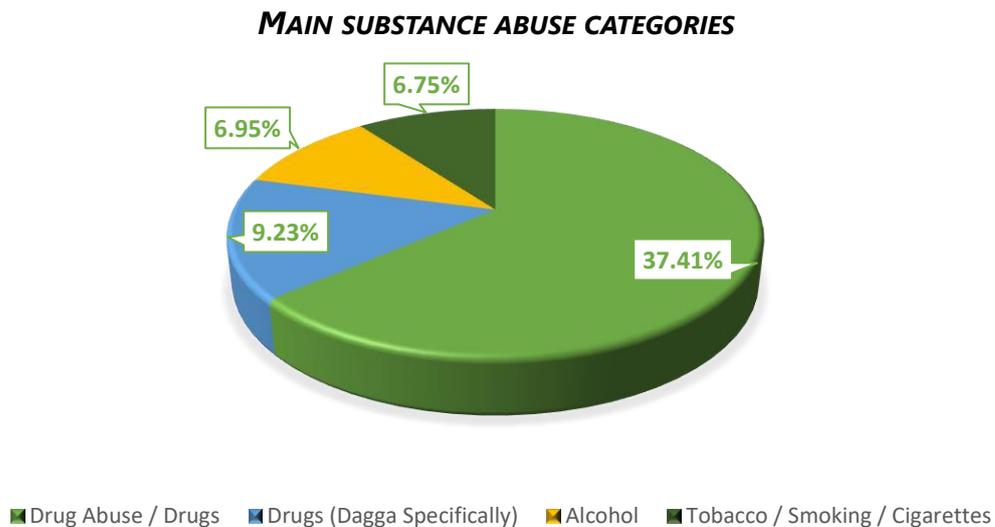


Figure 8 Main substance abuse categories

### *Alcohol / Drinking*

The terms "alcohol" or "drinking" were found 176 times (6.95%). It is important to note, that the availability of alcohol to learners still poses a significant problem, despite being a supposedly regulated substance.

### *Tobacco/Smoking/Cigarettes*

"Tobacco", "smoking" and "cigarettes" were found 171 times (6.75%). Cigarettes available to learners is still a significant problem, despite being a supposedly regulated substance.

### *Drug abuse/drugs*

The words, "drug abuse" or "drugs" were found 948 times, which reflects 37.41% of the schools visited. It is important to note that dagga could also have been included under the terms "drug abuse" or "drugs".

### *Dagga*

Reference to the term "dagga" specifically, was found 234 times (9.23%). It is important to note that dagga was mentioned more than alcohol amongst the main challenges faced by school principals. A possible reason may be that dagga remains longer in the learner's system than alcohol or cigarettes.

These findings show that dagga not only ranked among the top three problems in schools, but also causes other secondary school problems, such as coming late, high drop-out rates, lack of motivation, disrespect, poor discipline, etc. as seen in the quotations that follow where principals shared their concerns that dagga causes lethargy, rebelliousness, late coming and school drop-outs amongst school children. One school teacher informed us that *"after break, I cannot teach the learners anything, they are all on a high, using dagga"*. These concerns appear to be widespread in schools across South Africa.

### ***Principal's opinions on dagga***

As dagga featured prominently among the main challenges faced at schools and the community, a follow-up was done with the principals so as to better understand their challenge with dagga.

The following quotes capture the teachers' and school principals' opinion on dagga legalisation (see Addendum B);

***"I object to the use of dagga at school because as teachers we are already suffering in the classroom. Learners are inattentive in the class due to use of dagga and sometimes utter insults to the educator. There is high failure rate due to abuse of drugs and most of the time learners tend to bunk classes. Even younger learners are not safe at school because they are bullied by these dagga users."***

***-Principal A***

We could therefore argue that since dagga remains in the body for more than 21 days, even the smoking of dagga or eating dagga muffins (space cakes) after school or over weekends, is retarding school children's academic and sport achievements, and creates an unsafe environment for the child. The right of the child to a safe environment, and the right to learn is therefore infringed. Principal B stated the following:

***"If this malpractice [dagga is legalised] is done, 1) the future of our learners will be destroyed. 2) The country will be full of criminals made by this drug. 3) The number of rapists will increase. 4) More number of street kids. 5) More uneducated people, which will make this country more than it is."***

**– Principal B**

Principal C observed the following in his school:

***The legalisation of dagga in schools and country is a destructive danger.*** *It just means our future is doomed and we have contributed to that. Dagga must not be legalised for the following reasons: In 2013 we had a substance awareness day due to learners who were 1) Fighting at school, 2) chatting back to teachers. challenging them, 3) being forceful in their misbehaviour actions. 4) Above all form groups of gangsterism. In that program, we involved a lot of other stakeholders e.g. SAPS Police, dog - unit, Social development, department of health, education etc. After that programme things seems to drop to a certain extent. Even now we are experiencing lots of challenges due to drugs -dagga abuse by learners. Parents are complaining a lot saying that they need us to help them. So legalising these drugs will destroy our schools and S.A. learners. Can't we protect our children by NOT accepting this please.*

*Kindly intervene in stopping this [dagga legalisation]. -*

**Principal C**

Another principal reasoned as follows:

***Legalisation of dagga is not correct because learners at school shall be affected by [the] negative effect of it, mostly children born from that are not normal and who shall save the country because this days we see those smoking it [dagga] proceeding to Nyaope usage and as we can see our kids are overdoing it and there is no life as such, according to me it is not advisable to legalise it as it also affect birth, in our schools we think of resigning and taking early retirement to refrain from these substance abusers in our school, it is no longer safe for us as teachers because learners are smoking and not doing anything at school, the government must take note of that ...the community members are selling dagga and other substances not caring for their wellbeing but they don't want their children smoking what they sell to others, that show that they want good things happening to their kids not others.***

**Principal D**

Principal D highlighted the addictive nature of dagga. This principal asked how would legalising of dagga control the addictive nature of dagga which leads to physical, mental and emotional behavioural changes. This principal also stated that "*legalising dagga would not be in the best interest of the child*", and therefore opposes dagga legalisation.

In contrast, to the previous quotations, Principal E gave the following impression:

*"The thinking and reasoning behind the legalisation of dagga was solely because it was reported that it has the capabilities to ease the dreaded pain of certain ailments. I sincerely hope that when it does become legal then it is solely for that purpose only and it must be prescribed by someone in authority and who understands its benefits. My understanding is that it is not for recreational purposes."* –

**Principal E**

As seen in the above examples, the majority of principals indicated that the legalising of dagga would be detrimental to the learning of learners. From Principal E's quote, it can be inferred that the public is being influenced to believe that dagga can be used for medicinal ailments, such as "dreaded pain", and they are unaware of medicines such as Dronabinol® which is already available for extreme cases of pain.

## THE WAY FORWARD

CYPSA recommends further South African Impact Assessment (IAs) research regarding the effects of cannabis on:

- the current HIV/AIDS pandemic in South Africa (including epigenetic studies)
- mental health of the youth and the young adolescent (including epigenetic studies)
- accidents and work-related accidents
- the rights of the child to a safe and healthy environment
- the impact on crime
- educational law and school drug policies
- prevalence of “under the influence of dagga, committing a crime” in prison sentences
- on the economy with regard to;
  - school and university dropout rates,
  - health burden of dagga disorder treatment and other mental disorders
  - HIV: suppression in immune systems (more medicine required)
  - drop in motivation and productivity at work

CYPSA therefore appeals to health professional bodies, such as the following **to issue a public warning on the dangers of dagga usage:**

- the Medicine Control Council (MCC)
- South African Medical Association (SAMA),
- Health Professions Council of South Africa (HPCSA),
- South Africa Federation for Metal Health (SAFH),
- Psychological Society of South Africa (PsySSA),
- South African Pharmacy Council (SAPC),
- South African Association of Hospital and Institutional Pharmacists (SAAHIP)

For the sake of South Africa’s youth, CYPSA requests that the media only circulate articles on dagga (cannabis/marijuana) in the public domain that have been factually verified by such medical professional bodies.

## CONCLUSION

According to the literature studied, dagga usage not only negatively impacts individual users, but may also cause adverse effects in infants and children, whilst also causing genetic harm to future generations.

Within this report, it became evident that dagga usage amongst learners is one of the major problems faced in South African schools. When bearing in mind that the average age of commencing first drug use (dagga 96%), was 16 years, there is reason for concern. It is within this cohort that brain development of the pre-frontal cortex is most profound, with consequences later in life.

Poly-substance abuse was found to be high. The use of second (and third drug), which was mostly Whoonga/Nayope, (which also consists of a dagga mix with cheap heroin etc.) is also worrisome, reflecting a direct move from dagga to hard core drugs. Dagga seems to be used as underlying drug even during the progression to harder drugs.

An ongoing concern remains the brazen promotion of untested, untried cannabis remedies and the propagation of the usefulness of the whole cannabis plant to the public, on medical forums and in advertisements, which are contrary to our current medicinal laws and practices and not in *the best interest of the child* and the adolescent, especially within the low economy groups. CYPSA therefore agree with the World Drug Report, which calls for tighter legislation on cannabis, whilst placing emphasis on the harmful effects through dagga awareness by educators and health professionals.

CYPSA are therefore in agreement with the standpoint of Staci Gruber, an associate professor of psychiatry at Harvard Medical School, who stated "*when we think about legalisation, we always like science to inform policy. In this particular case [USA- Marijuana], it seems that policy has outpaced science... especially given concerns for our youngest users*" (Gruber, 2017).

May South Africa not make the same mistake.

## ANNEXURE A:

What if the future generation would one day say to us:

### I COULD HAVE BEEN...

I could have been...  
The next state president to create more jobs  
The next Reserve Bank governor  
The next Minister of Finance

BUT

*You legalised Dagga*

I could have been...  
The paramedic who saved your life  
The judge who incarcerated your rapist  
The lifeguard who rescued your drowning child

BUT

*You legalised Dagga*

I could have been...  
The teacher who taught your child nothing is impossible  
The motivational speaker who inspired them to live  
The role model who showed your child the way

BUT

*You legalised Dagga*

I could have been...  
A rational person  
A logical thinker  
A responsible citizen

BUT

*You legalised Dagga*

NOW I AM...

The jailbird you saw through bars  
The street bum you passed in your Mercedes  
The burglar who broke in last night  
The reason behind many tears  
The murderer you read about in Sunday's morning paper

BECAUSE...

*You legalised Dagga*

*a warning from a South African youth*

## BIBLIOGRAPHY

- Chadwick, B., Miller, M. L., & Hurd, Y. L. (2015). Cannabis use during adolescent development: susceptibility to psychiatric illness. *Clearing the smokescreen: The current evidence on cannabis use*, 32.
- Cone, E. J., Bigelow, G. E., Herrmann, E. S., Mitchell, J. M., LoDico, C., Flegel, R., & Vandrey, R. (2015). Nonsmoker exposure to secondhand cannabis smoke. III. Oral fluid and blood drug concentrations and corresponding subjective effects. *Journal of analytical toxicology*, 39(7), 497-509.
- The Constitution of the Republic of South Africa, 108 Stat. (1996).
- Gorman, T., & Myers, L. (2017). *Heroin in Colorado: preliminary assessment*. Retrieved from
- Grelotti, D. J., Closson, E. F., & Mimiaga, M. J. (2013). Pretreatment HIV antiretroviral exposure as a result of the recreational use of antiretroviral medication. *Lancet Infect Dis*, 13(1), 10-12. doi:10.1016/S1473-3099(12)70294-3
- Gruber, S. (2017, 3 February) *Playing catch-up on marijuana/Interviewer: H. gazette*. Science and Health, Harvard Medical School, Harvard Medical School.
- Hasin, D. S., Saha, T. D., Kerridge, B. T., Goldstein, R. B., Chou, S. P., Zhang, H., . . . Smith, S. M. (2015). Prevalence of marijuana use disorders in the United States between 2001-2002 and 2012-2013. *JAMA psychiatry*, 72(12), 1235-1242.
- Hughes, B., Quigley, E., Ballotta, D., & Griffiths, P. (2017). European observations on cannabis legalization. *Addiction*, 112(7), 1136-1137.
- Icard, L. D., Jemmott, J. B., Teitelman, A., O'Leary, A., & Heeren, G. A. (2014). Mediation effects of problem drinking and marijuana use on HIV sexual risk behaviors among childhood sexually abused South African heterosexual men. *Child abuse & neglect*, 38(2), 234-242.
- Malone, D. T., Hill, M. N., & Rubino, T. (2010). Adolescent cannabis use and psychosis: epidemiology and neurodevelopmental models. *British Journal of Pharmacology*(160), 511-522.
- Meier, M. H., Caspi, A., Ambler, A., Harrington, H., Houts, R., Keefe, R. S., . . . Moffitt, T. E. (2012). Persistent cannabis users show neuropsychological decline from childhood to midlife. *Proceedings of the National Academy of Sciences*, 109(40), E2657-E2664.
- Montanari, L., Guarita, B., Mounteney, J., Zipfel, N., & Simon, R. (2017). Cannabis Use among People Entering Drug Treatment in Europe: A Growing Phenomenon. *European Addiction Research*, 23(3), 113-121.
- Nappe, T. M., & Hoyte, C. O. (2017). Pediatric Death Due to Myocarditis After Exposure to Cannabis. *Clinical Practice and Cases in Emergency Medicine*.
- Okafor, C. N., Zhou, Z., Burrell, L. E., Kelso, N. E., Whitehead, N. E., Harman, J. S., . . . Cook, R. L. (2017). Marijuana use and viral suppression in persons receiving medical care for HIV-infection. *The American journal of drug and alcohol abuse*, 43(1), 103-110.
- Rough, K., Dietrich, J., Essien, T., Grelotti, D. J., Bansberg, D. R., Gray, G., & Katz, I. T. (2014). Whoonga and the abuse and diversion of antiretrovirals in Soweto, South Africa. *AIDS and Behavior*, 18(7), 1378-1380.
- Shiner, M. (2015). Drug policy reform and the reclassification of cannabis in England and Wales: a cautionary tale. *International Journal of Drug Policy*, 26(7), 696-704. doi:10.1016/j.drugpo.2015.03.009
- Silins, E., Horwood, L. J., Patton, G. C., Fergusson, D. M., Olsson, C. A., Hutchinson, D. M., . . . Swift, W. (2014). Young adult sequelae of adolescent cannabis use: an integrative analysis. *The Lancet Psychiatry*, 1(4), 286-293.
- Szutorisz, H., & Hurd, Y. L. (2016). Epigenetic effects of cannabis exposure. *Biol Psychiatry*, 79(7), 586-594. doi:10.1016/j.biopsych.2015.09.014.
- UNODC. (2016). *World Drug Report 2016*. New York: United Nations.

- UNODC. (2017a). *World Drug Report 2017: Executive summary conclusions and policy implications*. Retrieved from Vienna
- UNODC. (2017b). *World Drug Report, 2017: Global overview of drug demand and supply*. Retrieved from Vienna
- Zumbrun, E. E., Sido, J. M., Nagarkatti, P. S., & Nagarkatti, M. (2015). Epigenetic regulation of immunological alterations following prenatal exposure to marijuana cannabinoids and its long term consequences in offspring. *Journal Neuroimmune Pharmacology*, 10(2), 245-254.