VOLUME 18
NUMBER 1 2019

ISSN 1531-4065

AFRICAN JOURNAL of DRUG and ALCOHOL STUDIES

PUBLISHED BY

CRISA Centre for Research and Information on Substance Abuse

AFRICAN JOURNAL OF DRUG AND ALCOHOL STUDIES

PURPOSE AND SCOPE

The *African Journal of Drug & Alcohol Studies* is an international scientific and peer-reviewed journal published by the African Centre for Research and Information on Substance Abuse (CRISA). The Journal publishes original research, evaluation studies, case reports, review articles and book reviews of high scholarly standards. Papers submitted for publication may address any aspect of alcohol, tobacco or drug use and dependence in Africa and among people of African descent living anywhere in the world.

The term "drug" in the title of the journal refers to all psychoactive substances other than alcohol. These include tobacco, cannabis, inhalants, cocaine, heroin, prescription and over-the-counter medications, and traditional substances used in different parts of Africa (e.g., kola nuts and khat).

EDITORIAL AND MANAGEMENT TEAM

AFRICAN JOURNAL OF DRUG AND ALCOHOL STUDIES

Volume 18, Number 1, 2019

CONTENTS

Abstracting/Indexing services:
The journal is indexed/abstracted by the following services: Addiction Abstracts, African Journals Online (AJOL), DrugScope, Applied Social Sciences Index, Social Services Abstracts, Sociological Abstracts, Scopus, Embasse.

African Journal of Drug & Alcohol Studies, 18(1), 2019

'IT ALMOST FEELS LIKE IT GETS LIGHTER ON YOUR SHOULDERS': MEN'S DRINKING WITH MALE FRIENDS IN A LOW-INCOME FARMWORKING COMMUNITY IN SOUTH AFRICA

Elmien Lesch and Rozanne Casper

Psychology Department
Stellenbosch University, South Africa

ABSTRACT

Problem drinking is a pertinent health issue amongst South African men, particularly in rural farmworker communities in the Western Cape Province. Consumption of alcohol amongst these men often takes place in the company of male friends. To shed light on this phenomenon, we draw on data generated through individual interviews and focus group discussions conducted with 13 mid-life men living in one farmworker community. Our thematic analysis of the data resulted in two themes: (i) drinking rooted and maintained in male friendships; and (ii) the therapeutic effect of an exclusive male drinking space. We conclude that gender transformation interventions are needed to address men's problem drinking in this community.

Keywords: men, gender, friendships, problem drinking, alcohol use, South Africa

INTRODUCTION

Problem drinking, which refers to a range of alcohol consumption patterns that could result in individual and social health problems, has been identified worldwide as a pertinent issue that negatively affects men's health (World Health Organisation (WHO), 2014). This is also the case in South Africa (Parry, 2005; Peltzer, Davids, & Njuho, 2011) where men's problem drinking has been linked to negative consequences such as violence, injuries, death, and crime perpetration (Peltzer et al., 2011; Peltzer & Ramlagan, 2009). Research indicates that problem drinking is prominent among men in the Western Cape Province, particularly in rural and farmworker communities (Gossage et al., 2014; May et al., 2007; McLoughlin, Little, Mazok, Parry, & London, 2013; Parry, 2005; Parry et al., 2012). Although some survey-based epidemiological studies shed some light on

Corresponding Author: Elmien Lesch, Psychology Department, PB X1, Matieland, Stellenbosch University, 7602, South Africa. Email: el5@sun.ac.za

the incidence and negative consequences of problem drinking in these communities, Gossage et al. (2014) highlight the need for knowledge about the contextual issues that contribute to problem drinking in Western Cape farmworker communities. Furthermore, Gossage et al. (2014) and Allan, Clifford, Ball, Alston, and Meister (2012), point out that despite an increasing recognition that community and cultural norms play an influential role in alcohol use, limited literature is available internationally about the ideas and practises that contribute to problem drinking in rural communities. In response to this gap in extant literature, we aimed in our study to add to such knowledge by focussing on men's drinking ideas and practices in one Western Cape farmworker community. We specifically explore drinking in the context of men's same-sex friendships, as existing research in Western Cape farmworker communities indicate that problematic alcohol use by men often occur within the context of socialising with same-sex friends. However, many of the men who participated in these studies narrated their alcohol use as unproblematic and as an integral part of their normal friendship and recreational activities in a context where there is a shortage of alternative recreational facilities or options (e.g., De Kock, 2002; Falletisch, 2008; Lesch & Adams, 2016).

A BRIEF REVIEW OF LITERATURE RELEVANT TO MEN'S SAME-SEX FRIENDSHIPS AND ALCOHOL USE

Internationally and locally, limited qualitative research (e.g., Emslie, Hunt, & Lyons, 2012, 2013; Joseph, 2012) has been conducted to investigate midlife men's problematic drinking within same-sex friendship contexts. (We want to note here that we alternatively use the terms "same-sex" and "male" to denote men's friendships with people of the same sex.) While there is extensive international literature on men's same-sex friendships and bonding in general (e.g., Thurnell-Read, 2012), South African research on the subject is limited. The studies that we could locate that touch on these topics were conducted in relation to: group rape (Wood, 2005), men's sexual and social networks (Ragnarsson, Townsend, Thorson, Chopra, & Ekström, 2009), and rhetorical representations of masculinities (Luyt, 2003). A number of international (e.g., Joseph, 2012; Thurnell-Read, 2012; Virtanen & Isotalus, 2014) and local (e.g., Townsend et al., 2010; Wood, 2005) studies have covered the relationship between male friendships and alcohol amongst men as part of a broader topic. However, to our knowledge, Emslie et al. (2013) and Clayton and Harris (2008) are the only researchers that have explicitly focused on how alcohol features within male friendships on an international level.

Although the definitions and practice of all friendships are influenced by social, cultural, and historical factors (Butera, 2008), men's same-sex friendships are often interpreted to be performances of masculinity where men are compelled to act in accordance with a collectively constructed notion of legitimised masculinities (Migliaccio, 2009; Thurnell-Read, 2012). According to Migliaccio (2009), men's male friendships that are consistent with the principles of hegemonic masculinity tend to lack expression of vulnerability, emotional needs, and a general establishment of intimacy. It is argued that such expressions are considered to

be feminine and therefore prohibited (Migliaccio, 2009).

In northern/international contexts, drinking alcohol has been found to be an important intermediate activity through which men engage in social bonding (Thurnell-Read, 2012; Virtanen & Isotalus, 2014). Various studies have concluded that the shared consumption of alcohol and its associated drunken behaviour amongst men is key to the creation and maintenance of male friendships in different population groups, such as the Scottish men in Emslie et al.'s (2013) and the Caribbean-Canadian men in Joseph's (2012) studies. Clayton and Harris (2008) propose that drinking alcohol together offers a "localized sphere" (p. 320) where men come together in a non-threatening space and build close relationships with each other via acts of male hegemony, such as bantering with play insults or sexualised talking about women. Furthermore, according to Thurnell-Read (2012), being drunk with other men could be viewed as a particular manifestation of connectedness.

Men's ability to talk freely about their emotional experiences is often facilitated by the consumption of alcohol (Emslie et al., 2013; Virtanen & Isotalus, 2014). Men describe how the consumption of alcohol at the right time and place (e.g., at night, in the pub) with their male friends enables a particular relaxed state of being which creates an optimal context for receiving and expressing emotional experiences (Emslie et al., 2013; Virtanen & Isotalus, 2014). Emslie and colleagues (2013) suggest that drinking with male friends creates a space that enables the enactment of non-hegemonic practices such as sharing and open emotional expression because it briefly relaxes the constraints surrounding what is considered acceptable or normative gender performances.

The above brief review of the extant literature indicates that the drinking of alcohol often plays a key role in the initiation and maintenance of men's friendships with other men. Most of the research on this, however, has been conducted amongst younger men living in the global north. Our study therefore aimed to explore how a group of South African middle-aged men, living in a Western Cape farming community in South Africa , construct their friendships with other men, and how alcohol features within these relationships.

METHOD

We employed a qualitative method to explore alcohol use within the context of male friendships in our group of participants.

Social constructionism as theoretical departure point for this study

We situated our study within a social constructionist framework. According to this framework, human behaviour is viewed as a product of culture and history, as well as the specific dominant political, social, gender, and economic contexts of their immediate living environment (Burr, 2003; Willig, 2001). These contexts and cultures in which people reside provide instructions, meanings, and norms that inform and regulate gendered behaviour, including men's ideas and practices with regard to being a successful man in their specific context (Willig, 2001). Connell (1995) argues that in any social setting there is a collectively held understanding of ideal male practices which men aspire

to, and which influences their practices and their understanding of themselves. According to Thurnell-Read (2012), it is often in men's interactions with their male friends that specific forms of masculinity become culturally dominant over other forms, and male dominance is legitimised. Men's behaviours are viewed as attempts to position themselves individually and socially in terms of the idealised masculinity notions in their context (Courtenay, 2000). Men in marginalised and low-resource contexts may construct a subordinated masculinity in which hypermasculine behaviours, such as problem drinking, may be enacted as a means to enhance their self-esteem, and position themselves within the gender order of these marginalised contexts (Connell, 1995). Dolan (2011), therefore, argues that there is a need to connect theories of masculinities and health to focus on the social and economic backdrop of individuals' lives in order to create more complex theories concerning the interactions of the factors of social class and gender, and men's health practices.

Social constructionism suggests that the masculinity ideas that prevail in a certain context inform and regulate how male friendships and drinking fit into these masculinity constructions (Willig, 2001). Moreover, the common language or discourses that men in a context share, construct specific behaviours as meaningful in that specific context (Hepworth, 2004). Such understandings of men's friendships and drinking are formed over time in the micro-contexts of people's daily social interactions with family, friends, and members of the greater community (Burr, 2003). These assumptions are usually naturalised, rationalised, and made part of the common sense of the society in which the assumptions are constructed (Burr, 2003). Social constructionist thought, however, also alerts the researcher to look beyond such hegemonic assumptions and look for ways that participants may contest or disrupt these assumptions (Thurnell-Read, 2012).

The research community

The research community is located approximately 10 kilometres outside of a large town in the Cape Winelands district within the Western Cape Province of South Africa. Many of the farmworkers and their families have lived on farms in the area for many generations (Andrews, 2013; Visser & Ferrer, 2015), and have historically been exposed to or indirectly impacted by colonial and apartheid practices where alcohol was utilised as compensation for labour. (Gossage et al., 2014). Current problem drinking in these communities is viewed as rooted in these historical practices (Gossage et al., 2014; May et al., 2007), and is maintained by the legal and illegal sale of cheap alcohol (Mager, 2004). Moreover, in line with international findings (e.g., Emslie et al., 2013; Willott & Lyons, 2012), South African men's problem drinking in general, including that amongst rural farmworkers, is are thought to be underpinned by hegemonic masculinity ideals (Salo, 2003; Sawyer-Kurian, Wechsberg, & Luseno, 2009). More specifically, problem drinking amongst male farmworkers has been linked to their marginal positions over centuries in patriarchal farm structures and practices (Holtman, Shelmerdine, London, & Flisher, 2011) which contributed to masculinity constructions in which problem drinking practices may function as a demonstration of manhood (Salo, 2003).

Participants

Our convenience sample consisted of 13 midlife men who ranged in ages from 35 to 58, lived and worked in the research community, and who drank alcohol. The number of participants in this study was determined by thematic saturation, i.e. when new themes no longer emerged over the course of the iterative data collection and analysis process (Braun & Clarke, 2013). The demographic information that we collected from the participants indicated that five participants worked as general farm labourers, whilst the others worked as labourers in industries related to the wine industry that is based in this community, for example, a distillery. They reported an average monthly income of approximately USD 335. Only one of the participants reported completing secondary school education as the highest level of education, while one participant reported that he had no formal school education at all. All the participants reported current alcohol use and the majority consumed alcohol, mostly beer or wine, on a weekly basis. The reported number of units of alcohol consumed in one sitting and over the course of a week indicated that most of the participants' drinking habits fit the World Health Organization's definition of Heavy Episodic Drinking (WHO, 2014) and they can therefore be viewed as problem drinkers.

Data collection method

We utilised both individual and focus group interviews conducted with friendship circles. These interviews were conducted in the participants' first language, Afrikaans, by a trained interviewer guided by semi-structured interview schedules. We decided to use the same interviewer for both the individual and focus groups as we argued that participants would likely feel more comfortable in the individual interviews with someone they had already come to know in the interviewer role. Questions included asking the respondents to describe: (i) a typical week and weekend day in their lives; (ii) their male friendships; (iii) activities they typically engaged in when they were with male friends; and (iv) how they experienced these activities.

Research procedure.

Subsequent to obtaining ethics clearance from the Stellenbosch University Human Research Ethics Committee (HS944/2013), participant recruitment commenced. We employed a 27-year-old, tertiary educated man who grew up in the research community. He worked in a non-profit development organization in the community at the time of the research where he provided human development interventions. He knew many of the people in the community and seemed to us a well-known and respected community member. He could therefore be considered an insider which Rubin and Rubin (2011) argue contributes to participants feeling more comfortable than they would with an outsider. Furthermore, he impressed us as a warm and approachable person who was able to establish a warm and comfortable interview setting for participants.

This young man recruited participants by visiting men in the community whom he knew fitted the inclusion criteria. Those men who agreed to participate were asked about their friends and the latter were also approached to participate in the study. This process of visiting the men at their homes and inviting them

and their friends to participate resulted in the 13 men who participated in the study. Following the obtainment of written informed consent, participants were first interviewed in small friendship focus groups (one consisting of four, and three consisting of three friends), followed by individual interviews to explore individual participants' constructions more comprehensively.

The interviewer conducted the interviews in Afrikaans in venues that were convenient for both participants and interviewer (e.g., local church hall, participants' houses). Although the interviewer used a semi-structured interview schedule, he was encouraged to cultivate a conversational tone when conducting the interviews and to organically follow the respondents' responses. The interviews were recorded on a cell phone and their duration was between 60 and 90 minutes. We concluded recruitment and data collection when our review of the last focus group and individual interviews indicated that they did not produce new or additional information. Twelve individual interviews (one participant was unavailable for an individual interview) and eight focus group interviews (two interviews with each group) were conducted with a total recorded interview time of 1 144.5 minutes. It is important to note here that although the individual interviews added more detailed information, the content and tone of the participants' responses did not differ between the two sources of data information. This is in line with other research in similar communities that found that participants were remarkably frank in sharing their personal lives and drinking habits with other people (De Kock, 2002; Falletisch, 2008).

Data analysis

Concurrent with data collection, we transcribed the interviews verbatim in the original Afrikaans and used the six-step thematic analysis process proposed by Braun and Clarke (2013) to analyse these transcriptions. The analysis process was concluded with the sixth step that entailed the selection of specific themes related to male friendships and drinking, as well as compiling the general narrative that the analysis constructs. We completed the process by selecting salient and convincing examples of excerpts and ascertaining that these excerpts satisfactorily illustrated the themes and subthemes. These selected excerpts were translated into English to make them accessible to a wider audience. We then identified literature relevant to these themes and used it to further expand on our analysis.

Study credibility

Space limitations prevent us from a comprehensive discussion of all the credibility issues pertinent in this study. Therefore, we curtail our brief overview to the social constructionist principles of triangulation and researcher reflexivity outlined by Patton (2002). Firstly, we used researcher triangulation by using both authors' differing and coinciding perspectives; for example, we separately read the interviews and identified themes, and then met several times to discuss the use of the separate analyses. We only used themes that we concurred were prominent in the data. Researcher reflexivity compelled us to continuously reflect on the research process and how the interviewer and researchers' subjectivity may have shaped the data and study findings. We were mindful of how these may have been influenced by aspects such as the socio-economic differences between

the participants (primary and secondary school educated, working-class men), interviewer (tertiary educated, professional man), and us (tertiary educated, middle-class women). Therefore, we consulted with the interviewer, community leaders such as lay pastors, and fellow-researchers who regularly worked with similar groups of men in the specific research community, to build on or challenge our understandings or sense-making of the participants' accounts. These mechanisms helped us stay closer to the participants' worlds and meanings. We want to acknowledge, though, that our positions as outsiders and our lack of direct contact with the research participants may have contributed to a divide between us and the participants. On the other hand, Merriam et al. (2001) propose that such an outsider position may contribute to researchers being less likely than insider researchers to take participants' views and practices for granted, and therefore more likely to interrogate them.

RESULTS

In this section, we present two themes that illuminate male friendships and drinking as viewed and practised by the research participants. Quotations, translated from the original Afrikaans into English to keep as close as possible to the original meanings and sentence structures of the participants, are used to illustrate the themes and subthemes. Please note that we utilise pseudonyms to protect participants' identities.

Theme 1: Drinking rooted and maintained in male friendships

In their accounts of the first time that they used alcohol, participants related with enjoyment that their induction into the use of alcohol and the accompanying experience of intoxication took place with the encouragement and in the company of male friends:

> *We were at a party and we stole the grown ups' wine in order to enjoy ourselves. We were so drunk that I couldn't reach the house.* [Rocky, 38].

Moreover, the participants' accounts indicate that the buying and sharing of alcohol and its associated drunkenness was an important part of the initiation, formation, maintenance, and demonstration of male friendship bonds. Hendrik (38), for example, described how his friend's buying and sharing of alcohol marked the beginning of their current friendship.

> *...that Friday evening he came to me with a bottle* [hard liquor] *...then him and me we sat with a bottle and chilled here, I sat right here, we drank a little...and that's how me and him started to be friends.*

Drinking as a social activity to be shared with male friends was further highlighted by the participants' adamance that drinking should not be a solitary activity, as articulated by Venter (58): *"...you can't drink alone. You must have a friend to drink with, you must have a friend to chat to".*

It was emphasised by the participants that an important gesture of friendship is to make sure that a friend does not miss out on drinking by buying him alcohol even if he does not have the money to pay for it. Div (50) said this gesture is reserved for a special class of friend: "… *it depends on those classes of friends that you have. Not all friends are the kind that*

you would give a beer to." Also, Marthinus's (36) account indicates that real friends demonstrate their friendship by sharing alcohol with each other – to the extent of cutting out friends who do not share: *"If there are other guys who come along who don't give us any, then we say to him: 'Right, we don't have anything for you, just go home rather'."*

Some of the participants indicated that they find it easier to socialise when they use alcohol, whilst others felt that they needed alcohol in order to socialise in the jovial and talkative way that seems to be required and valued in their friendship circles. Rocky (38) explained that without alcohol: "*I don't have anything to say then, there isn't any conversation that I can have".* In contrast, socialising with alcohol felt effortless: *"But if I've had a drink, then the words just come by themselves, you can say whatever is on your tongue…*." In the same vein, Hannes (38) said: "*if I don't have alcohol in me, I am a speechless person*", and Pieter (58): "*I am not a guy who talks a lot, but if I have had a drink then I am talkative".*

Many of the participants related how male friends would pressure them to drink alcohol if they (the participants) said that they wanted to abstain or remain sober. Kobus (36), for example, told about his friend's unsupportive attitude towards his attempt to stop drinking: *"I told him: 'Man, I want to stop drinking' and he knew that I must stop but still he kept on at me".*

The mechanism that friends commonly used to derail attempts at sobriety was to ridicule or question the sobriety attempter's manhood, as illustrated below:

> *If I had to give up drinking now my friends will say to me: "Oh my tjommie* [slang word for friend] *doesn't drink anymore, here's a chocolate for you, here's a packet of chips for you and so on"* [Servaas, 39].

Related to the above, our participants claimed that sobriety could mean the end of their friendships. Markus (38) said that if he gave up drinking, very few of his friends would be interested in maintaining their friendship: "*There will perhaps be one or two who are still interested. But the others will say: 'That man doesn't drink anymore so he can't be a part of our friendship anymore.'"*

Theme 2: The therapeutic effect of an exclusive male drinking space

The participants portrayed alcohol-infused male friendship practices as having a therapeutic effect that alleviates the pressures associated with the provider expectations that men face in this community. They reported that they experienced 'heaviness' and 'pressure' related to fulfilling these expectations and that they are alone in shouldering these responsibilities:

> *…it's a heaviness on you…but that is no one else's problem, it's my problem. I have the problem. I am alone, I must go through it alone… I have responsibilities, I must accept them every day, I must be strong by myself* [Lukas, 35].

Although twelve of the men were in committed relationships with female partners, they did not perceive these relationships and their homes as spaces where they could share their burdens. Rather, they experienced their female partners and home lives as adding to the pressure they experienced. Div (50) articulated it as follows: "*...it almost feels*

that you are getting smothered at home. Taking care of the wife and everyone. You must be free."

Many of the participants described drinking with friends as a world separate from their home lives where they could escape the responsibilities of female partners and children. For example, Markus (38) said: *"…it's the only little bit of escape that I can get…I know it's wrong, but it's the only way I can escape the pressure I am under*." Furthermore, Lukas (35) portrayed his leaving of his wife to drink with friends when he felt frustrated at home as a consideration of her. He said that he would tell her in such situations: "…*listen here, I don't want you to be stuck here with me, look I am going to turn my back on you for a bit*." He also said that he and his friends would rather share problems with male friends than female partners: *"…to share something with your wife, you don't do it, you rather go and look for advice from your friends".*

Many participants described their female partners as spoiling their fun and interfering with the flow of the male friendship drinking space. Rocky (38), for example told of how his wife appealed to him to leave the drinking space early:

> *"Come it's late, we must go home" she says while the guys are still enjoying themselves. Here there is still wine and now you have to go home. They* [women] *take you away from the pleasure, understand?*

In addition, Markus (37) describes women as inhibiting free talk amongst the male friends:

> *Ja, for me it's better to drink or party without women, because, when you maybe want to talk something crude with one of your friends, then a woman will always say: "Watch your language." So for me, it's better to carry on without a woman.*

Many of the men described how their own group of male friends would regulate female partners' participation or presence in these male circles. Venter (58) said that he and his friends make their own drinking space outside and that "*women can come in and out; they will come and ask for something, but they won't stay there in our space".*

Corresponding to various international (e.g., Emslie et al., 2013; Virtanen & Isotalus, 2014) and local studies (e.g., Sawyer-Kurian et al., 2009), the men in this study claimed that when they drink in these exclusive male friendships, they are able to soothe feelings of pressure by talking about it with their male friends. In fact, our participants reported that while intoxicated with friends they experience an almost involuntary, cathartic, and unfiltered outpouring of information.

> *...because then everything comes out. Now you're talking because you don't worry, there is no one here that will stop you... It's almost like, you share your thoughts. We unburden, yes. The stress is removed now* [Louw, 44].

Like Louw (44), the other participants related that they experience talking to their friends under the influence of alcohol as therapeutic and supportive:

> *...Because the weight is a little bit too heavy so that you don't want to think*

about it… Then with the talk it almost feels like it gets lighter on your shoulders [Div, 50].

The above excerpts indicate that for the men in this study, drinking with their male friends creates a space that allows for talk about personal concerns that would ordinarily conflict with masculine norms of emotional toughness and stoicism that are often praised and valued in dominant masculinity ideologies (van Niekerk & Boonzaier, 2015).

DISCUSSION

Similar to the findings of other studies in the global north (Emslie et al., 2013; Joseph, 2012; Keenan et al., 2015), the men in this study described how their friendships with other men are rooted in and maintained by drinking alcohol. They narrated how alcohol facilitates a kind of sociability and social confidence that seems to be required and valued when they socialize with their men friends, and that they are unable to achieve without drinking alcohol. They also recounted feeling pressured by friends to drink when they try to stay sober and that sobriety could lead to the disintegration of their friendship relations. In line with social constructionist masculinity theories discussed earlier in this article, these men's friendships can be considered to constitute a space where men feel compelled to perform certain required masculinities, and where these performances are evaluated and policed by one another (Thurnell-Read, 2012). Furthermore, in low-income, working class contexts such as those in which this study's participants lived, performing successful or thriving masculinities by attaining traditionally highly valued breadwinner/provider status is challenging for men (Boonzaier, 2005; Enderstein & Boonzaier, 2015; Ross, 2010; van der Heijden, 2009). They may, therefore, experience pressure to perform alternative masculinities that are more readily available. In the case of this study's community context, and for men living in similar contexts, where a history of excessive drinking is deeply entrenched in colonial and apartheid labour compensation practices, the alternative masculinity performance that may be more readily available is drinking alcohol and socialising effectively, i.e., telling the best stories and the best jokes (Ross, 2010).

In our second theme, we indicated that men's descriptions of distress caused by pressures of everyday life responsibilities was couched in a kind of disciplining talk implying that they should be tough and sort out their problems themselves. This is characteristic of a kind of tough, self-reliant masculinity that is valued in many communities across the world (Connell, 1995). Furthermore, we highlighted that the participants described that they felt that they could not speak about their problems at home with their female partners. They narrated that they needed to escape from their home lives and partners from time to time and that drinking with friends offered such an escape. These narratives suggest that these men's challenges with regards to attaining the idealised providing and responsible husband and father role, and showing emotional strain and weakness under the pressure to attain this respectable ideal, may result in them expecting to be subjected to uncomfortable judgement and critique by female partners and other members of the household. Given that

research in similar contexts indicate that women are often positioned as judges of successful masculinities (Boonzaier, 2005 ; Van Niekerk & Boonzaier, 2016), it is possible that men want to keep women out of their drinking space with male friends because women symbolize and serve as a reminder of these expectations. Alternatively, however, it could be argued that these men are maintaining gender inequality by resisting more assertive or outspoken femininities and barring women from spaces traditionally considered as male spheres. Such an interpretation foregrounds the gender transformation challenge of empowering women whilst acknowledging and navigating men's feelings of disempowerment, without compromising the gender equality project.

The men in this study described that when they were drinking with their male friends, they were able to experience an unfiltered and cathartic outpouring of emotions. This corresponds with various international (e.g., Emslie et al., 2013; Virtanen & Isotalus, 2014) and local studies (e.g., Sawyer-Kurian et al., 2009). It is argued that by drinking to the point of intoxication or drunkenness, men are temporarily able to display vulnerabilities in an unbounded way that is in direct opposition to the rational, controlled and bounded demeanour that is often expected of men (Emslie et al., 2013; Thurnell-Read, 2011). Shefer, Kruger and Schepers (2015) propose that masculinity scholarship should foreground these moments of vulnerability, precariousness and anxieties that come through in the dominant masculine talk, and that these highlight the nuanced, complex and contradictory masculinities that men perform. Moreover, these authors believe that an acknowledgement of men's vulnerabilities and struggles is key to engaging men and women as agents in gender justice and social change.

Shefer, Kruger and Schepers (2015) propose that masculinity scholarship should foreground these moments of vulnerability, precariousness and anxieties that come through in the dominant masculine talk, and that these highlight the nuanced, complex and contradictory masculinities that men perform. Moreover, these authors believe that an acknowledgement of men's vulnerabilities and struggles is key to engaging men and women as agents in gender justice and social change.

It is important to highlight that our above discussion indicate that our findings are not exclusive to our specific research community. Men's problem drinking across the globe and across social strata has been linked to hegemonic masculinities in which femininity is devalued and characteristics like risk-taking, stoicism and self-reliance are encouraged. In line with the latter point, gender-transformative interventions could play an important role in addressing problem drinking amongst men across social contexts. . The main objective of such programmes should be to challenge and disrupt prevalent hegemonic masculine norms and promote gender equality (e.g., Dworkin, Fleming, & Colvin, 2015; Fleming, Colvin, Peacock, & Dworkin, 2016). A key component of a gender transformative intervention in this context would be to offer safe social spaces that encourage alternative ways of being men where men are able to be vulnerable and openly express their emotions while still retaining social status (Gibbs, Vaughn, & Aggleton, 2015). Part of this could include an open facilitation and exploration of men's feelings

of pressure and stress in their daily lives and the vulnerabilities they feel. Furthermore, Jewkes, Flood and Lang (2015), focussing on ways to address gender-based violence, recommend that gender-transformative interventions in communities that have historically been exposed to adverse and violent life circumstances, should validate men's (and women's) pain as collective victims of a system, and develop means for better livelihoods. These authors also argue that we need more research on the effect of interventions with boys or men that focus not on one area of men's health but interventions that focus on areas that seem to be interrelated, such as substance abuse, psychological distress and violence.

LIMITATIONS OF STUDY

The purpose of this qualitative study was not representativity, but to explore a small purposively selected group of men's drinking behaviour with friends in a specific community context. These findings can therefore not be generalised to the broader research community or other communities. Furthermore, we acknowledge that our data and analysis may have been shaped in important ways by differences between the contextual backgrounds of participants, interviewer and researchers. It is, therefore, possible that different accounts may have been obtained by interviewers who were more similar to the participants. It is also possible that the focus group interviews that were conducted by the same interviewer before the individual interviews may have influenced the accounts constructed in the latter interviews. This may explain why the accounts were similar across the individual and group interviews. Using different interviewers could have facilitated more authentic individual accounts that may have differed from the group accounts.

DECLARATION OF INTERESTS

The authors confirm that we do not have financial or non-financial conflicts of interest to declare.

ACKNOWLEDGEMENTS

This work was supported by grants from the South African National Research Foundation, and the Partnership for Alcohol and AIDS Intervention Research.

We want to thank Neil Fortuin for his invaluable fieldwork, and the participants for being willing to share their stories with us. Our thanks also go to the anonymous reviewers of this article for their feedback that contributed to strengthening the work.

REFERENCES

Allan, J., Clifford, A., Ball, P., Alston, M., & Meister, P. (2012). 'You're less complete if you haven't got a can in your hand': Alcohol consumption and related harmful effects in rural Australia: The role and influence of cultural capital. *Alcohol and Alcoholism*, *47*(5), 624–629.

Andrews, M. (2013). Sleeping giant is stirring: Farmworkers in South Africa. In *La Via Campesina's open book: Celebrating 20 years of struggle and hope* (pp. 1–4). Retrieved from https://viacampesina.org/downloads/pdf/openbooks/EN-09.pdf

Boonzaier, F. (2005). The relational construction of woman abuse: Narratives of gender, subjectivity and violence in South Africa (Unpublished doctoral dissertation). University of Cape Town, South Africa.

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. London: Sage Publications.

Burr, V. (2003). *Social Constructionism* (2nd ed.). London: Routledge.

Butera, K. J. (2008). 'Neo-mateship' in the 21st century. *Journal of Sociology*, *44*(3), 265–281. https://doi.org/10.1177/1440783308092884

Clayton, B., & Harris, J. (2008). Our friend Jack: Alcohol, friendship and masculinity in university football. *Annals of Leisure Research*, *11*(3–4), 311–330. https://doi.org/10.1080/11745398.2008.9686800

Connell, R. W. (1995). *Masculinities*. Berkeley, CA: University of California Press

Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science & Medicine, 50*(10), 1385–1401. https://doi.org/10.1016/s0277-9536(99)00390-1

De Kock, A. (2002). *Alcohol consumption by farm workers on a farm in Stellenbosch, South Africa: An ethnographic study* (Master's thesis, University of Cape Town, Cape Town, South Africa). Retrieved from https://open.uct.ac.za/bitstream/handle/11427/10342/thesis_hum_2002_de_kock_ae.pdf?sequence=1&isAllowed=y

Dolan, A. (2011). 'You can't ask for a Dubonnet and lemonade!': Working class masculinity and men's health practices. *Sociology of Health & Illness, 33*(4), 586–601. https://doi.org/10.1111/j.1467-9566.2010.01300.x

Dworkin, S. L., Fleming, P. J., & Colvin, C. J. (2015). The promises and limitations of gender-transformative health programming with men: Critical reflections from the field. *Culture, Health & Sexuality, 17*(sup2), 128–143.

Emslie, C., Hunt, K., & Lyons, A. (2012). Older and wiser? Men's and women's accounts of drinking in early mid-life. *Sociology of Health & Illness*, *34*(4), 481–496. https://doi.org/10.1111/j.1467-9566.2011.01424.x

Emslie, C., Hunt, K., & Lyons, A. (2013). The role of alcohol in forging and maintaining friendships amongst Scottish men in midlife. *Health Psychology*, *32*(1), 33–41. https://doi.org/10.1037/a0029874

Enderstein, A. M., & Boonzaier, F. (2015). Narratives of young South African fathers: Redefining masculinity through fatherhood. *Journal of Gender Studies, 24*(5), 512–527. https://doi.org/10.1080/09589236.2013.856751

Falletisch, L. A. (2008). *Understanding the legacy of dependency and powerlessness experienced by farm workers on wine farms in the Western Cape* (Master's thesis, Stellenbosch University, Stellenbosch, South Africa). Retrieved from https://scholar.sun.ac.za/handle/10019.1/1651

Fleming, P. J., Colvin, C., Peacock, D., & Dworkin, S. L. (2016). What role can gender-transformative programming for men play in increasing men's HIV testing and engagement in HIV care and treatment in South Africa? *Culture, Health & Sexuality, 18*(11), 1251–1264. https://doi.org/10.1080/13691058.2016.1183045

Gibbs, A., Vaughan, C., & Aggleton, P. (2015). Beyond 'working with men and boys': (Re)defining, challenging and transforming masculinities in sexuality and health programmes and policy. *Culture, Health & Sexuality 17*(sup 2), 85–95.

Gossage, J., Snell, C., Parry, C., Marais, A.-S., Barnard, R., de Vries, M., … May, P. (2014). Alcohol use, working conditions, job benefits, and the legacy of the "dop" system among farm workers in the Western Cape province, South Africa: Hope despite high levels of risky drinking. *International Journal of Environmental Research and Public Health*, *11*(7), 7406–7424. https://doi.org/10.3390/ijerph110707406

Hepworth, J. (2004). Public health psychology: A conceptual and practical framework. *Journal of Health Psychology, 9*(1), 41–54.

Holtman, Z., Shelmerdine, S., London, L., & Flisher, A. (2011). Suicide in a poor rural community in the Western Cape, South Africa: Experiences of five suicide attempters and their families. *South African Journal of Psychology*, *41*(3), 300–309. https://doi.org/10.1177/008124631104100305

Jewkes, R., Flood, M., & Lang, J. (2015). From work with men and boys to changes of social norms and reduction of inequities in gender relations: A conceptual shift in prevention of violence against women and girls. *The Lancet*, *385*(9977), 1580–1589. https://doi.org/10.1016/S0140-6736(14)61683-4

Joseph, J. (2012). Around the boundary: Alcohol and older Caribbean-Canadian men. *Leisure Studies*, *31*(2), 147–163. https://doi.org/10.1080/02614367.2011.570776

Keenan, K., Saburova, L., Bobrova, N., Elbourne, D., Ashwin, S., & Leon, D. A. (2015). Social factors influencing Russian male alcohol use over the life course: A qualitative study investigating age based social norms, masculinity, and workplace context. *PLOS ONE*, *10*(11), e0142993. https://doi.org/10.1371/journal.pone.0142993

Lesch, E., & Adams, A. R. (2016). Couples living with and around alcohol abuse: A study of a farmworker community in the Cape Winelands, South Africa. *Social Science & Medicine*, *156*, 167–174. https://doi.org/10.1016/j.socscimed.2016.03.030

Lesch, E., & Casper, R. (2017). "Drinking with respect": Drinking constructions of men who live in a Cape Winelands farm community in South Africa. *Journal of Health Psychology*, *22*(4), 409–421. https://doi.org/10.1177/1359105315603476

Luyt, R. (2003). Rhetorical representations of masculinities in South Africa: Moving towards a material-discursive understanding of men. *Journal of Community & Applied Social Psychology*, *13*(1), 46–69. https://doi.org/10.1002/casp.706

Mager, A. (2004). 'White liquor hits black livers': Meanings of excessive liquor consumption in South Africa in the second half of the twentieth century. *Social Science & Medicine*, *59*(4), 735–751. https://doi.org/10.1016/j.socscimed.2003.12.005

May, P. A., Gossage, J. P., Marais, A.-S., Adnams, C. M., Hoyme, H. E., Jones, K. L., … Viljoen, D. L. (2007). The epidemiology of fetal alcohol syndrome and partial FAS in a South African community. *Drug and Alcohol Dependence*, *88*(2–3), 259–271.

https://doi.org/10.1016/j.drugalcdep.2006.11.007

McLoughlin, J.-A., Little, F., Mazok, C., Parry, C., & London, L. (2013). Prevalence of and associations with papsak wine consumption among farm workers in the Western Cape province, South Africa. *Journal of Studies on Alcohol and Drugs*, *74*(6), 879–888. https://doi.org/10.15288/jsad.2013.74.879

Merriam, S. B., Johnson-Bailey, J., Lee, M.-Y., Kee, Y., Ntseane, G., & Muhamad, M. (2001). Power and positionality: Negotiating insider/outsider status within and across cultures. *International Journal of Lifelong Education, 20*(5), 405–416. https://doi.org/10.1080/02601370120490

Migliaccio, T. (2009). Men's friendships: Performances of masculinity. *The Journal of Men's Studies*, *17*(3), 226–241. https://doi.org/10.3149/jms.1703.226

Parry, C. D. H. (2005). South Africa: Alcohol today. *Addiction, 100*(4), 426-429. https://doi.org/10.1111/j.1360-0443.2005.01015.x

Parry, C. D. H., Gossage, J. P., Marais, A.-S., Barnard, R., de Vries, M., Blankenship, J., … May, P. A. (2012). Comparison of baseline drinking practices, knowledge, and attitudes of adults residing in communities taking part in the FAS prevention study in South Africa. *African Journal of Drug and Alcohol Studies, 11*(2), 65–76.

Patton, M. Q. (2002). Qualitative interviewing. In *Qualitative research and evaluation methods* (pp. 344–347). Thousand Oaks, CA: Sage Publications.

Peltzer, K., Davids, A., & Njuho, P. (2011). Alcohol use and problem drinking in South Africa: Findings from a national population-based survey. *African Journal of Psychiatry, 14*(1), 30-37

Peltzer, K., & Ramlagan, S. (2009). Alcohol use trends in South Africa. *Journal of Social Sciences, 18*(1), 1-12. https://doi.org/10.1080/09718923.2009.11892661

Ragnarsson, A., Townsend, L., Thorson, A., Chopra, M., & Ekström, A. M. (2009). Social networks and concurrent sexual relationships – a qualitative study among men in an urban South African community. *AIDS Care*, *21*(10), 1253–1258. https://doi.org/10.1080/09540120902814361

Ritchie, J., & Lewis, J. (Eds.). (2003). *Qualitative research practice: A guide for social science students and researchers*. London: Sage Publications.

Ross, F. C. (2010). *Raw life, new hope: decency, housing and everyday life in a post-apartheid community*. Cape Town, South Africa: UCT Press.

Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. Thousand Oaks, CA: Sage publications.

Salo, E. (2003). Negotiating gender and personhood in the new South Africa: Adolescent women and gangsters in Manenberg township on the Cape Flats. *European Journal of Cultural Studies, 6*(3), 345–365. https://doi.org/10.1177/13675494030063005

Sawyer-Kurian, K. M., Wechsberg, W. M., & Luseno, W. K. (2009). Exploring the differences and similarities between black/African and coloured men regarding violence against women, substance abuse, and HIV risks in Cape Town, South Africa. *Psychology of Men & Masculinity*, *10*(1), 13–29. https://doi.org/10.1037/a0013267

Shefer, T., Kruger, L., & Schepers, Y. (2015). Masculinity, sexuality and vulnerability in "working" with young men in South African contexts: You feel like a fool and an idiot…a loser. *Culture, Health & Sexuality, 17*(2), 96–111. https://doi.org/10.1080/13691058.2015.1075253

Thurnell-Read, T. (2011). Off the leash and out of control: Masculinities and embodiment in Eastern European stag tourism. *Sociology, 45*(6), 977–991. https://doi.org/10.1177/0038038511416149

Thurnell-Read, T. (2012). What happens on tour. *Men and Masculinities*, *15*(3), 249–270. https://doi.org/10.1177/1097184X12448465

Townsend, L., Rosenthal, S. R., Parry, C. D. H., Zembe, Y., Mathews, C., & Flisher, A. J. (2010). Associations between alcohol misuse and risks for HIV infection among men who have multiple female sexual partners in Cape Town, South Africa. *AIDS Care*, *22*(12), 1544–1554. https://doi.org/10.1080/09540121.2010.482128

van der Heijden, I. (2009). Women of steel: Articulations of empowerment and livelihood practices in the Dwars River Valley, Western Cape (Doctoral dissertation, Stellenbosch University, Stellenbosch, South Africa). Retrieved from https://scholar.sun.ac.za/handle/10019.1/4073

van Niekerk, T. J., & Boonzaier, F. A. (2015). "You're on the floor, I'm the roof and I will cover you": Social representations of intimate partner violence in two Cape Town communities. *Papers on Social Representations*, *24*(1), 89–116. Retrieved from http://www.psych.lse.ac.uk/psr/PSR2015/5_van_Niekerk_Boonzaierfinal.pdf

Virtanen, I. A., & Isotalus, P. (2014). Talking troubles with Finnish men: Meaningful contexts of 'supportive silence.' *NORMA*, *9*(2), 111–125. https://doi.org/10.1080/18902138.2014.908625

Visser, M., & Ferrer, S. (2015). Farm workers' living and working conditions in South Africa: Key trends, emergent issues, and underlying and structural problems. Pretoria. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---africa/documents/publication/wcms_385959.pdf

World Health Organization. (2014). *Global Status Report on Alcohol and Health 2014*. Geneva. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/112736/9789240692763_eng.pdf;jsessionid=DBC0FC4991B64E5F4CC8C4F71987346E?sequence=1

Willig, C. (2001). *Introducing qualitative research in psychology: Adventures in theory and method*. Buckingham: Open University Press.

Willott, S., & Lyons, A. C. (2012). Consuming male identities: Masculinities, gender relations and alcohol consumption in Aotearoa New Zealand. *Journal of Community & Applied Social Psychology, 22*(4), 330-345. doi: 10.1002/casp.1115

Wood, K. (2005). Contextualizing group rape in post-apartheid South Africa. *Culture, Health & Sexuality*, *7*(4), 303–317. https://doi.org/10.1080/13691050500100724

Shefer, T., Crawford, M., Strebel, A., Simbayi, L. C., Dwadwa-Henda, N., Cloete, A.,…Kalichman, S. C. (2008). Feminism & Psychology, 18(2), 157 – 182. doi:10.1177/0959353507088265

African Journal of Drug & Alcohol Studies, 18(1), 2019

PATTERNS OF SUBSTANCE USE AMONG INTERNALLY DISPLACED PERSONS IN BORNO STATE, NIGERIA

James T. Gire[1], Reuben L. Ibaishwa[2]

[1]Virginia Military Institute, Lexington, VA, USA
[2]Street Child, Maiduguri, Nigeria

ABSTRACT

The activities of Boko Haram in the past eight years have forced over a million people to flee their homes. This has resulted in individuals living in internally displaced people (IDP) camps and host communities, leading to crises such as psychological disorders and drug abuse. This study investigated patterns of drugs use among these IDPs in Borno State, Nigeria, using a mix method (qualitative, quantitative and observations) approach. A total of 137 participants comprising of 135 (98.5%) males and 2 (1.5%) females (age range of 16-42 years) were purposively selected. Also, 77 (56.2%) participants were selected in Maiduguri and 60 (43.8%) in Bama. The WHO Youth Drug Survey Questionnaire (WHOYDSQ) was used for data collection. The quantitative data were analyzed using descriptive techniques; qualitative data were transcribed. The findings of objective 1 showed that a majority of the respondents who reported using rugs did so frequently, using them on > 20 days a month. The findings of Objective 2 indicate that the most commonly used drugs are tobacco product, sniffing or inhaled things to get high, sedatives and cannabis. Objective 3findings showed that friends and family were the major sources of introduction to drug use. Enjoyment, relief from psychological distress, and to be sociable, were the main reasons why IDPs take drugs, consistent with the findings of Objective 4. Objective 5 showed that there are presently no organizations working in camps and host communities to tackle the problem of drug abuse. The study recommends using psychotherapy and psycho-education as the main interventions to control the serious problem of drug abuse among IDPs.

Keywords: Drug Use, IDPs, Camp, Host Community

Corresponding Author: James T. Gire, Virginia Military Institute, Lexington, VA, USA. Email: jtgire@gmail.com

INTRODUCTION

Large-scale displacement of people due to destruction of homes and environment, religious or political persecution or economic necessities are consequences of conflicts and disasters (Owoaje, Uchendu, Ajayi & Cadmus, 2017). These internally displaced persons (IDPs) are 'persons or groups of people who have been forced or obliged to flee or leave their homes or places of habitual residence, in particular as a result of, or in order to avoid the effects of armed conflicts, situations of generalised violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognised state border' (United Nations Commission on Human Rights, 1998). They are distinct from refugees who are displaced outside their national borders. Furthermore, IDPs are often more disadvantaged than refugees because they do not benefit from assistance provided by international agencies unless the national government requests such assistance (United Nations Commission on Human Rights, 1998).

In Nigeria, the insurgent activities of Boko Haram in the past decade have forced over a million people to flee their homes. This has resulted in an unprecedented humanitarian crisis in the northeastern part of the country and the Lake Chad region (Norwegian Refugee Council, 2016). There are various crises such as health problems, teenage prostitution, pregnancy, food insufficiency, lack of shelter, insecurity, mental illness, substance abuse and other disorders that are experienced by the displaced persons living in camps and host communities. The current study focused on only one of the above-mentioned crises – drug abuse among IDPs in camps and host communities.

Drug use among IDPs in the conflict-ravaged North East region of Nigeria is a neglected area of research and public health. Researchers have tended to focus on other areas that examine the causes and consequences, as well as the living conditions of IDPs. Organizations and governments, on their part, have focused mostly on food, shelter, etc., neglecting substance use among the displaced persons. However, displacement areas are important risk environments for drug use as well as the development of substance-related harms, such as HIV infection (Ezard et al., 2011).

The IDPs who lose their social, legal, shelter and economic ties suffer considerable physical and psychological hardship (Kett, 2005). They often face special difficulties not experienced by other conflict-affected groups that make their livelihoods insecure. Specifically, these are difficulties related to re-establishing livelihoods in areas of temporary settlement or reintegration into unstable areas when traditional means of livelihoods are no longer viable (World Food Programme, 2000). On the one hand, IDPs do have special needs; on the other hand, there is a growing consensus that IDPs ought not be singled out for special treatment. Consequently, people may not wish to be classified as IDPs and may incur even greater psychological and security risks (Hines & Balletto, 2002). This loss of social, legal, shelter and economic standing, as well as difficulties in re-establishing livelihoods are presumed to push IDPs into drug use. The likelihood that IDPs could resort to drug use as a coping mechanism has been a serious concern to the government of Borno State and indeed the Federal

Government of Nigeria (Ola, 2016). Even before the insurgency, Borno State had been known as a major hub for illicit drug trafficking, with merchants in this area said to have served as links from West Africa through the Central African Republic to Europe (Ola, 2016).

Children in North East Nigeria are also involved in drug use (Mamman, Othman & Lian, 2014), and probably have other psychological disorders resulting from the effects of the Boko Haram insurgency (Adepelumi, 2018). This insurgency-related violence and military counter operations have severely increased the prevalence of substance use by affected children and adolescent boys and girls. Women and girls abducted by Boko Haram, survivors of rape, and children born out of sexual violence face stigmatization and often rejection from their communities upon their return (UNICEF/International Alert, 2016). These girls, women and their children are often feared by communities and ostracized from society as they are often suspected as Boko Haram sympathizers (UN OCHA, 2016). Unaccompanied and separated children (UASC) that are not identified and provided with safe alternative care struggle to access basic needs, and are at an increased risk of drug abuse (Plan International, 2017). The above shows that the issue of drug use by IDPs in Nigeria's North East is critical. Besides the above mentioned, most of the children have also lost friends and family members, are experiencing deterioration in living conditions, lack access to services such as schools and health care, have accumulated stress and are experiencing increase military presence as well as divisions in their communities (UN OCHA, 2016). This has made displaced persons as well as separated and unaccompanied children at heightened risk of drug use disorders.

Additionally, children recruited or abducted by Boko Haram are exposed to violence, substance use, and harsh working conditions and are often forced to commit violence. Similar to girls and women who have escaped or been rescued from Boko Haram, these young people are met with hostilities in their communities and their families upon return – whether or not they "willingly" participated in hostilities (UNICEF, 2017). This conflict has thus put these children at particular risk of drug use disorders.

Even though people who use drugs in IDP camps and host communities in Borno State consist of older adults, youths and children, the major users of illicit drugs are children in their late teens and young adults. According to 2013 statistics provided by Nigerian Opinion Polls, these people are mostly between 19 to 29 years of age. Unlike regular homes where parents can exercise a level of control over the activities of their children, parents in IDP camps have little or no control. However, drug abuse could be a coping mechanism of sorts for those in IDP camps. People who are homeless often turn to drugs and alcohol to cope with their situations. They use substances in an attempt to attain temporary relief from their problems.

The severe disruption in the daily lives and activities of communities and individuals due to insurgency has had a profound negative effect on the people living in the affected states. These individuals can no longer gain access to their homes, savings, farmland, family, love, and social support. Evidence from conflicts in other parts of the world suggests that psychological problems such as depression, trauma, posttraumatic stress disorder, anxiety,

fear, stress, etc may escalate during conflicts and fuel drug use and abuse. Yet, there have been no such corresponding studies conducted to examine the nature of the insurgency-ravaged conflicts on the drug use among communities in the North East region of Nigeria. The present study set forth to address this shortcoming by investigating the patterns of druguse/abuse by IDPs in camps and host communities in Borno State. The study also explored the feasibility of drug abuse treatment programming in IDP camps and host communities, and sought to identify ongoing humanitarian responses being implemented in the camps, and whether government and non-governmental organizations could leverage and implement drug abuse prevention, care and treatment services in IDP camps and host communities.

1.3 Objectives of the Study

i. To identify patterns of substance use by IDPs in camps and host communities.
ii. To identify substances commonly used by IDPs in camps and host communities.
iii. To identify sources of influence of drug use by IDPs in camps and host communities.
iv. To identify reasons why IDPs use drugs in camps and host communities.
v. To identify organizations and other stakeholders working in the IDP camps and host communities to tackle issues of drug and substance use/abuse

METHOD

Participants

A total of 137 participants (135 males and 2 females) were selected using non-probability sampling. The age range was 16-42 years. Of this number, 74 (54%) were living in IDP camps, 36 (26.3%) in host communities, 14 (10.2%) were living with their parents/other relatives in the host community/camp, and 13 (9.5%) were with friends in the host community/camp. Seventy seven (56.2%) were selected in Maiduguri, and 60 (43.8%) were from Bama.

Location of the study: There were two main locations for the study – Maiduguri, the Borno state capital and Bama local government area, Borno State. Bama the second largest local government area in Borno was completely destroyed by the activities of insurgency and counter insurgency. The towns have many IDP camps and many host communities where IDPs currently take refugee due to on-going activities of insurgency and counter insurgency.

Instruments/Materials

Tools were developed to obtain responses from participants covering the research objectives and comprised focused group discussions (FGD) with adult males, females and young girls/boys in the community, key informant interviews (KII) conducted with MDAs, security organizations and NGOs, case study and observational walks for qualitative data. The FGD and KII tools were pretested and the necessary observations effected before administering to the targeted study participants.

For quantitative data, a standardized questionnaire developed by WHO known as Youth Drug Survey Questionnaire (WHOYDSQ) was adapted from the work of Haddad (2015). This questionnaire was developed and standardized by the World

Health Organization in collaboration with the United Nations Fund for Drugs Abuse and Control among youths and secondary schools students. The questionnaire was developed for studies of non-medical drug use among youths, soldiers and prisoners. The WHOYDSQ consists of 32 items that are either open- or close-ended. The close-ended items each has a stem and a response (alternative) options from where the respondents could check the response most applicable to them. We recruited and trained research assistants to administer the research tool.

Key informant interviews (KIIs): We held key informant interviews (KII) with purposively selected key informants. The informants were persons considered as critical stakeholders in drug and substance use and deemed to be knowledgeable about the goings on in the IDP camps and host communities regarding drug use and abuse. For purposes of quality and ease of cross-referencing, a set of questions were developed to guide the KII. We took noted and had tape recordings of the interviews; these tapes were transcribed at the conclusion of the sessions. The KIIs covered national, state, local government and community level stakeholders, including NDLEA, Ministry of Women Affairs and Youth Development, security agencies and NGOs. These organizations were selected using convenient sampling.

Focus group discussions (FGDs): FGDs were conducted in the camps and host communities in Maiduguri and Bama local government areas of Borno State. The FGDs involved 10 persons with common characteristics of being adult male, adult female, young boys and young girls residing in the camps and host communities. Classification was considered on these grounds to ensure free communication and free flow of information. A total of 3 FGD sessions were conducted in each IDP camp and host community that were sampled. The FGDs were held separately for adult males, adult females and adolescent girls/boys. Participants were members of the IDP camp or host community who were knowledgeable about drug and substance use or who used drugs. Prior to making these FGDs we contacted and informed camp officials and community leaders about the study. Community leaders and gate keepers were used to identify individuals to participate in the FGD. To ensure a focused discussion, we developed and used an FGD guide to moderate the FGD sessions.

Observation walks. We used observations to assess slumps, likely structures or places for drug use in the camps and host communities. A scanning of the environment revealed individuals taking drugs and trading drugs/substances. An assessment guide was developed and used to guide the observation.

Design

We utilized a mixed method (qualitative, quantitative and observations) approach for this study to gain generalized and in-depth understanding of the issues relating to patterns of substance use among the IDPs. This mixed method technique enabled the acquisition of specific data needed to cover the five objectives of the study.

RESULTS

The quantitative data were analyzed using descriptive statistics; the qualitative

data were recorded and transcribed verbatim. We then analyzed the transcribed interviews and discussions using the thematic approach (objectives formulated). Prior to data analyses, several issues were resolved to ensure reliability. These were; accuracy of data entry and missing values. Accuracy of the data was verified through examination of descriptive statistics. For missing values in the scale, data were not replaced for that particular item. This was because some participants did not respond to some of the items on the scales, therefore their entire scores were not included.

Objective 1: To identify patterns of substance use by IDPs in camps and host communities

Table 1 shows the patterns of drug use in days per month based on current use. The results show that more than half of current users of each of the substances take them frequently, using them on > 20 days in a month except alcohol and sniffing or inhaling other things. This constitutes the abuse of these drugs, and applies mostly to tobacco, cannabis, amphetamines or other stimulants and sniffing or inhaling other things to get high.

Objective 2: To identify substances commonly used by IDPs in camps and host communities.

Results in Table 2 show the psychoactive substance commonly used among the respondents. A majority of the respondents 135 (98.5%) reported using amphetamines and other stimulants. This was followed by tobacco products 127 (92.7%), sniffed or inhaled substances and sedatives tied for third at 121 (88.3%) each. The other highly used substances were cannabis 91 (66.4%), other drugs not mentioned 27 (19.7%), and opiates 25 (18.2%).

Supporting this quantitative finding with qualitative analyses showed that during focus group discussions, a majority of the respondents said they used tobacco, sniffed and inhaled swage system and other things to get high. Many also professed to using cannabis in the camp and host community. A majority of the

Table 1. Patterns of drug use in days per month based on current use

Psychoactive Substances	Pattern in days per month			
	Non users	1-5 days	6-19 days	>20 days
Tobacco products	18 (13.1%)			119 (86.9%)
Alcoholic beverage	111 (75.9%)	11(8.0%)	10 (7.3%)	5 (3.6%)
Cannabis	51 (37.2%)	8 (5.8%)	10 (7.3%)	68(49.6%)
Cocaine	135 (98.5%)	-	-	2 (1.5%)
Amphetamines or other stimulants	12 (8.8%)	17 (12.4%)	21 (15.3%)	87 (63.5)
Hallucinogen	135 (98.5%)	2 (1.5%)	-	-
Sniffed or inhaled things to get high	12 (8.8%)	62 (45.3%)	34(24.8%)	29 (221.2%)
Tranquillizers	135(98.5%)	2 (1.5%)	-	-
Sedatives	121(88.3%)	4 (2.9%)	4 (2.9%)	8 (5.8%)
Opium	131 (95.6%)	2 (1.5%)	2 (1.5%)	2 (1.5%)
Heroin	131(95.6%)	4 (2.9%)	-	2(1.5%)
Other Opiates	110 (80.3%)	2 (1.5%)	20 (14.6%)	5 (3.6%)

Table 2. Substances commonly used by IDPs in camps and host communities

Psychoactive Substances	Frequency	Percentage
Tobacco products	127	92.7
Alcoholic beverage	33	24.1
Cannabis	91	66.4
Cocaine	2	1.5
Amphetamines and other stimulants	135	98.5
Hallucinogen	6	4.4
Sniffed or inhaled things to get high	121	88.3
Tranquillizers	-	-
Sedatives	121	88.3
Opium	6	4.4
Heroin	6	4.4
Other Opiates	25	18.2
Other drugs not mentioned	27	19.7
Total		

participants who took part in the focus group discussions confirmed that tobacco and cannabis were the most readily available drugs and largely the basis for their being some of the most commonly used psychoactive substances. Additionally, results of the key informant interviews showed that tobacco and cannabis as well as sniffing of things were the most commonly used drugs in the camp and host communities.

Objective 3: To identify sources of influence of drug use by IDPs in camps and host communities.

The results in Table 3 show that a majority of respondents who use psychoactive substances were introduced to the various drugs by their friends 83 (60.6%), and family members 37 (27.0%). This finding highlights the possible negative influence of family break down or crises can have on an individual.

Objective 4: To identify reasons why IDPs use drugs in camps and host communities

Table 4 shows the reasons for drug use among the IDPs. The major reasons for non-medical use of drugs include enjoyment 45 (32.8%); relief psychological

Table 3. Sources of Introduction to Non-medical Drug Use

Sources	Frequency	Percentage
Family	37	27.0
Casual acquaintance	4	2.9
Friends	83	60.6
Drug pusher	5	3.6
Other health practitioners	2	1.5
Other (Work nature (CJTF), self)	6	4.4
Total	137	100.0

Table 4. Reasons why IDPs use drugs in camps and host communities

Reasons	Frequency	Percentage
Religious custom	2	1.5
To be accepted by others	1	.7
To be sociable	24	17.5
Enjoyment	45	32.8
Enhancement of sex	7	5.1
Curiosity	1	.7
Treatment of health disorder	2	1.5
Relief to psychological stress	36	26.3
Relief of cold, hunger, or fatigue	5	3.6
Improvement of work performance	11	8.0
Don't know	3	2.2
Total	137	100.0

distress 36 (26.3%); to be sociable 24 (17.5%); and to improve work performance 11 (8.0). Results of the FGD showed that participants cited the relief from psychological distress as a result of living in camps and host communities due to the Boko Haram insurgency as one of the main reasons for using drugs. Other factors that emerged from the FGD for why the participants engaged in drug use included trauma resulting from loss of villages, properties, and loved ones. Furthermore, traumatic experiences, depression, stress, and idleness at the camps and host communities emerged in the discussions as contributory factors for initiating drug use. For example, a participant in the FGD stated:

> *"One of the major reasons they engage in drug taking is lack of engagement in activities like work, businesses, etc. because sitting just like that at home makes them to have useless thoughts so taking drugs makes them feel better and sleep fine. As a result of this idleness, they don't need anyone to introduce them into drugs."*

An another participant in the FGD stated thus:

> *"I can say that the lost of villages, lost of loved ones, properties, life earnings, sounds of guns, bombs have us to engage into drugs. There is no day that we don't talk about all that has happened to us in the hands of Boko Haram and there seems to be no end to this crisis, no help to enable us forget all that has happened to us. This makes us take drugs which help us to forget our experience in the hands of Boko Haram and the suffering we are going through."*

These views from participants in the FGD indicate that relief psychological distress caused by Boko Haram is a major reason why IDPs in camps and host communities have actively engaged in drug use and abuse.

Objective 5: To identify organizations and other stakeholders working in the IDP camps and host communities to tackle issues of drug and substance use/abuse

Based on FGD and KII, no organization is actively involved in curbing psychoactive drug use among IDPs in camps and host communities. This may be due to lack of knowledge and capacity of service providers to integrate drug use and abuse control into their programs. The capacity of humanitarian agencies working with IDPs is considered important to drug use control. Some of the organizations do not have technical skills in drug prevention programming. Some members of NGOs interviewed who are involved in implementing services to IDPs reported lack of understanding on integrating drug use control in their programs. Government capacity on the other hand is weak as drug users openly use and trade drugs in camps and host communities without government interference.

Observation

Observation during the study showed that there are certain areas in the camps and host communities where people gathered to take drugs, and places where drugs are sold in the camps and host communities. The seller displayed different types of drugs before the researchers. The range of drugs displayed were cannabis, codeine, and other drugs that were combination of different roots and chemicals. The researchers observed that children, adolescents, female and adults were actively involved in drug use.

In terms of service providers, the researchers found no organization working towards curbing drug use among IDP drug users in the camps and host communities visited. In addition, people were seem smoking, sniffing and inhaling a variety of substances, during the observation.

DISCUSSION

This study set out to investigate the prevalence of drug abuse among IDPs in Borno state. We established five main objectives: to explore patterns of drug use and abuse, determine the most commonly used drugs, sources of introduction to drug use, reasons for drug use, and to identify the organizations working to combat the problem. The discussion is based on each of these objectives.

The findings on the patterns of drug use in days per month based on current use showed that among the current users of these substances, more than half used these drugs frequently, consuming them more than 20 days in a month, the main exceptions being alcohol and sniffing or inhaling other things. This constitutes the abuse of these drugs - mostly tobacco, cannabis, and amphetamines. It also represents a high level of drug use and abuse among IDPs in camps and host communities. These patterns of drug use in days per month are due to the availability of the drugs, as well as the money to buy drugs and cultural/religious practices. For instance, among the Muslims (major population for the study), alcohol is prohibited while amphetamines or other stimulants like kolanuts are used for cultural practices such as marriage ceremonies. This also explains the low rate of alcohol consumption among IDPs in the northern part of Nigeria. In non-Muslim portions of Nigeria, alcohol would likely have been among the most frequently used substances. The results are consistent with the findings by Haddad (2015) who found that most people use psychoactive substance in different ways. While some smoke tobacco and cannabis, others chew kolanuts.

Considering that people in IDP camps have limited resources, the report by the National Drug Law and Enforcement Agency (NDLEA), that illicit drugs such as cocaine are sold to addicts within the camp as well as those in the host community in Maiduguri is intriguing. It is difficult not to question where the addicts get the money to fund their addiction to illicit drugs. It is rather worrisome that drug addiction and smuggling thrive in the same IDP camps where hunger and malnutrition seem to be the order of the day (Omono, 2016). However, there are several truths about poverty and drug addiction that show the possibility of drug addicts purchasing illicit drugs in the most dire of circumstances to feed their addiction. According to Sea Cliff Recovery Center (based in United States), addicts that are low income earners often find themselves becoming addicted to illicit drugs regardless of their financial state. The suggestion is that illicit drugs are easy to get on the streets, and young people living in poverty become easy prey for drug dealers and addicts who tend to inhabit these areas. Young people in IDP camps and host communities live in similar environments and become targets of drug peddlers and can serve a dual purpose: they are introduced to drug use as future customers, and at the same time, serve as carriers for the already established drug addicts (Omono, 2016).

The study's findings also showed that the most commonly used drugs by the IDPs are amphetamines, tobacco products, sniffing or inhaling of things to get high, sedatives and cannabis. However, the most frequently consumed psychoactive substance among IDPs is kolanuts. This may be due to the several roles kolanuts play in social functions such as marriage and naming ceremonies, and other festivals in northern Nigeria. Therefore, kolanuts are socially approved and recognized. Another reason for high kolanut use is its ability to increase mental activity and alertness to keeping the respondents awake and alert (Haddad, 2015; Karch, 2005). It probably explains why tobacco (mostly used in the form of cigarettes by the people in the IDP camps), another highly addictive stimulant, had high rates of consumption by the respondents. Cigarette also enable the consumer to concentrate, and at the same time, enhance the likelihood of being accepted by their peers or substance-using adults they admire. Both cigarettes and kolanuts are cheaper and readily available. Moreover, cigarettes are accepted in the north, are readily available, and easy to carry, accounting for their high usage.

These findings are in line with those of Abasiobong, Atting, Bassey and Ekott (2005) who found that in Uyo 37(31.1%) of the participants used kola nuts, 54(45.4%) used sedative while more individuals from Eket, 47(34.8%) used tobacco cigarettes, 76(56.3%) used alcohol, and 25(15.6%) indian hemp (cannabis). In a similar study, Eneh and Stanley (2004) found that the commonly used drugs were alcohol, kolanuts, tobacco/cigarettes, in order of decreasing frequency. The least used was cocaine, just as found in the present study. However, the findings by Eneh and Stanley (2004) that alcohol was a commonly used drug is not consistent with the findings of the present study, as alcohol was not commonly consumed by the IDPs. This highlights the influence that cultural and religious beliefs have on types of substances used.

Regarding the sources of introduction to substance use, we found that friends

and family were the predominant sources from which people in IDP camps and host communities in the study area were introduced to drug use. This highlights the role of peer influence and peer pressure in drug use initiation. Furthermore, family crises may also prompt individuals into drug use. This appears to be one of the manifestations of the negative consequences of family breakdown from these types of conflicts. This, by implication, suggests that IDPs need psycho-education to enable them weave off the influence of peer introduction to drugs and other social vices.

With no work to do, no farms to work on, IDPs are the camps for almost 24 hours a day. Such continuous contacts make peer influences that are very strong to begin with, even stronger. When such peers resort to drug use, it is difficult for the young people to resist that pressure. On the part of the family, children whose parents take drugs are likely to do so through observational or vicarious learning. These adults serve as models that the children try to emulate. For instance, there are cases where some children started abusing drugs by snatching the drugs from either their mothers or fathers. For parents who smoke cigarettes, the children start by smoking the unfinished portions of the cigarette that is discarded by their parents. From there they graduate to taking some cigarette sticks from their parents' packs. Additionally, the inability of families to provide for their children in the camps may cause them to go out to source for means of livelihood by falling into the hands of drug users and drug peddlers who then get them involved in drug use.

This finding is consistent with that of Hanson (2010) who noted that teen smoking accounts for 85-90% of new smokers. Evidence has shown that children learn not only from real people (such as friend, parents and family members) but also from characters whose lives they witness and admit through the media. This tallies with the main postulations of the peer cluster theory (Oetting & Beauvais, 1986; Oetting, Edwards, Kelly, & Beauvais, 1997) that stresses the importance of peer relationships in influencing character. These applications of the peer cluster theory found that peers have a direct influence on adolescent drug use.

In terms of the motives for drug use, enjoyment emerged as the most commonly cited reason as to why IDPs use drugs, followed by the need to relieve psychological distress, and the desire to be sociable. To be acceptable by others, and curiosity accounted for the least likely reasons for drug using drugs. IDPs are experiencing high degree of psychological distress stemming from their experiences at the hands of Boko Haram, as well as having to live in camps and host communities. The Boko Haram insurgency has brought traumatic experiences to the IDPs. Despite their traumatic experiences, there are no therapeutic services available to enable them cope with these challenging experiences. Consequently, many have resorted to drug as a coping strategy. The findings of the present study from the FGD showed that the loss of villages, loved ones, properties, depression, and stress, and other traumatic experiences, emerged as the most commonly cited factors leading to most IDP drug use. These findings converge with those by Eneh and Stanley (2004) who found that the most common reasons people stated for use psychoactive substance were to relieve stress, feel good, and parental influence.

Organizations and other stakeholders working in the IDP camps and host communities to tackle issues of drug and substance use

However, other IDPs believe that they enjoy taking psychoactive drugs. According to Agwogie (2012), most drug users possibly started abusing illicit drugs after taking social drugs such as cigarettes, kola nuts, and alcohol. These are sometimes referred to as gate-way drugs. The desire for a "better feel" possibly made them to go for more dangerous substances of abuse. Despite the risk that the use of drug posed to the individual, family and society at large, there are currently no organizations consistently or reliably providing services aimed at preventing, controlling and treating drug addicts. This may be due to lack of knowledge and capacity of service providers to integrate drug use and abuse control into their programs. The capacity of humanitarian agencies working with IDPs is considered important to drug use control. Some of the organizations do not have technical skills in drug prevention programming.

To summarize, the present study uncovered the patterns of drug use among IDPs in Borno State. Two local governments were used for the study- Maiduguri and Bama Local Government Areas. Besides the pattern of drug use among IDPs, the study also revealed that drugs commonly used by IDPs include cigarettes, kolanuts, cannabis, and sniffing and inhaling other things to get high. The findings further revealed that a majority of the respondents reported that friends and family members constituted the major influences to their drug initiation. Regarding their reasons to use drugs, IDPs used drugs for the purpose of enjoyment and to relief psychological distress. Finally, the study found that despite the high rate of drug use among IDPs, no organizations are currently providing services aimed at curbing the menace of drug use among the IDPs.

Psychologists constitute a large number of health care workers responsible for treating drug use disorders. In light of these findings, we recommend that psychologists should be contacted and engaged to provide therapy and psycho-education to IDPs and the general public on the prevention, predisposing factors and signs and symptoms of drug use disorder. Psychologists should also provide psychotherapeutic interventions for victims of Boko Haram to enable them deal with their psychological distress, and to also provide therapeutic services to victims of drug abuse in their cessation efforts. Furthermore, psychologists should assist in caring for IDPs who are drugs addicts in the camps, host communities and the study area at large.

Government and non-governmental organizations should adopt preventive strategies of drug abuse. Federal, state, and local governments should ensure the enforcement of drug use laws in IDP camps and host communities. These various agencies should establish drug treatment centers in IDP camps and host communities.

REFERENCES

Adepelumi, P.A. (2018). Psychological consequences of the Boko Haram insurgency for Nigerian children. Walden Dissertations and Doctoral Studies Collection. Retrieved from https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=6430&context=dissertations on 29/11/2018.

Agwogie, M.O. (2010). *An investigation into the Nature and predisposing factors related to drug abuse in Kano and Lagos State*. Unpublished M.ED. Thesis A.B.U. Zaria.

Eneh, A., & Stantey, P. (2004). Pattern of substance use among secondary school students in Rivers State, Nigeria. *Journal of Medicine, 13*(1), 85-87.

Ezard, et al., (2011). Six rapid assessments of alcohol and other substance use in populations displaced by conflict. *Conflict and Health* http://www.conflictandhealth.com/content/5/1/1

Haddad, M.M. (2015). *Prevalence and patterns of psycho active substance use among senior secondary school students in Dala Local Government Area of Kano State, Nigeria*. A thesis submitted to the Post Graduate School, Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu campus.

Hanson, J. (2010). When the death makes you smoke: A terror management perspective on the effectiveness of cigarette on-pack warnings. *Journal of experimental social psychology, 46*(1), 226-228.

Hines, D., & Balletto, R. (2002). *Assessment of needs of Internally Displaced Persons in Colombia, Working Paper 189*. Overseas Development Institute111 Westminster Bridge Road-LondonSE1 7JDUK

Karch, A.M. (2005). *Lippincott's nursing drug guide*. Baltimore: Lippincott Williams & Wilkins.

Kett, M. (2005). Displaced populations and long term humanitarian assistance. *BMJ, 331*:98-100.

Mamman, H., Othman, A.T., &Lian, L.H. (2014). Adolescent's and Drugs Abuse in Nigeria. *Journal of Biology, Agriculture and Healthcare, 4*(1), 5-9.

Norwegian Refugee Council (2016). *IDMC. Global report on internal displacement* (GRID). p. 8,13.

Oetting, E.R., & Beauvais, F. (1986). Peer cluster theory: Drugs and the adolescent. *Journal of Counseling and Development, 65*(1), 17-22.

Oetting, E.R., Edwards, R.W., Kelly, K., & Beauvais, F. (1997). Risk and protective factors for drug use among rural American youth. *NIDA Research Monograph, 168*, 90-130

Ola, A. (2016). *Boko Haram: Nigerian agency laments increase in cocaine, illicit drug use in IDP camps*. Premium Times

Omono, E. (2016). What you need to know about the new threat facing Borno IDP camps.

Owoaje, E.T., Uchendu, O.C., Ajayi, T.O., & Cadmus, E.O. (2017). A review of the health problems of the internally displaced persons in Africa. *Niger Post-graduate Medical Journal, 23*:161-71.

Plan International (2017). A child protection and education needs assessment in selected communities of Adamawa and Borno states

UNICEF/International Alert. (2016). Bad blood: Perceptions of women and girls associated with JAS and children born out of sexual violence Nigeria: *UNICEF/International Alert*.

UNICEF (2017). Perceptions and experiences of children associated with armed groups in Northeast Nigeria. Research Report. Retrieved from http://www.nsrp-nigeria.org/wp-content/uploads/2017/03/Research-Report-Children-Associated-with-Armed-Groups.pdf on 20/8/2018

UN OCHA. (2016). *Analysis of and action on gender and SGBV in North-East Nigeria, A discussion paper*. Nigeria: UN OCHA.

United Nations Commission on Human Rights (1998). Report of the Representative of the Secretary-General on internally displaced persons: *Guiding principles on internal displacement UN Doc. E/CN.4/1998/53/ Add.2,* 11 February 1998.

WFP (World Food Programme) (2000). *Reaching people in situations of displacement, discussion paper presented to March 16, 2000*. Executive Board Consultation – Situations of Displacement: Issues and Experiences, Rome, Italy: WFP.

African Journal of Drug & Alcohol Studies, 18(1), 2019

PSYCHOACTIVE SUBSTANCE USE AND LEVEL OF RISK AMONG A GERIATRIC POPULATION ACCESSING THREE PRIMARY CARE FACILITIES IN NIGERIA

Ayodele L. Fela-Thomas, Sunday O. Olotu, & Adeagbo Osundina

Federal Neuropsychiatric Hospital
Benin-City, Nigeria

ABSTRACT

We aimed to assess the prevalence, correlates of psychoactive substance use including misuse of prescription medications and its associated harm among a group of elderly patients attending three primary care facilities in Benin-city, Edo state, Nigeria. The WHO ASSIST was administered to assess for psychoactive substance use and level of risk of some elderly participants. Lifetime prevalence and current prevalence of substance use was obtained. Among participants, 12.7% demonstrated moderate risk to alcohol use while 2.9% demonstrated high risk to its use. Fifteen percent (15%) demonstrated moderate risk to stimulant use while 1.2% demonstrated high risk to its use. Twenty-eight percent (28.3%) demonstrated moderate risk to opioid analgesic use while 0.6% demonstrated high risk to its use. Male gender was associated with a higher risk of tobacco use, alcohol use and stimulant use. Female gender was associated with a higher risk of sedative use. Only 3(1.7%) of these participants had received previous treatment for a substance use disorder.

Keywords: Elderly, primary care, substance use, prescription medication, level of risk

INTRODUCTION

The elderly are prone to some conditions which may predispose them to misuse of prescription drugs, alcohol and psychoactive substances (Kamel & Gammack, 2006; Pateinakis, Amygdalas, Pateinaki, & Pyrpasopoulou, 2013). A survey among persons 50 years and above in the US revealed that in the past year about 60% of their respondents had used alcohol, 2.6% marijuana and 0.6% cocaine (Blazer & Wu, 2009a) In another national survey of drug use conducted in the U.S, the authors reported a 12 months prevalence of 1.4% for non - prescription use of prescription pain killers among those aged 50 years and above. Among this

Corresponding Author: Ayodele L. Fela-Thomas, Federal Neuropsychiatric Hospital, Benin-City, Edo state, Nigeria. Email: ayoth2001f@yahoo.com; Tel: +234 805 162 9414.

subset, 1.7% met the criteria for abuse while 7.6% were dependent on these drugs (Blazer & Wu, 2009b). Furthermore, a review reported that the number of elderly seeking treatment for disorders related to substance use and misuse of prescription medications has increased in recent times (Wang & Andrade, 2013).

The burden of disease attributable to alcohol among those aged 70 years and above was estimated at 3.7% (Rehm, Mathers, Popova et al., 2009). This is of medical importance because the elderly are predisposed to comorbid medical conditions, necessitating prescription of several medications which may react adversely when used with some of these substances (Moore et al., 2006).

The aims of the study were to determine the prevalence of, and level of risk associated with psychoactive substance use and misuse of prescribed medications-, the socio demographic correlates of psychoactive substance use and misuse of prescribed medications and the treatment needs of elderly participants attending three primary health care facilities in Benin-City, Edo state, Nigeria.

METHOD

Setting and population

This is part of a larger study which aimed to ascertain the prevalence of psychoactive substance use and the level of risk associated with the use of psychoactive substances among adolescents and adult outpatient attendees of three primary care facilities in Benin-City, Edo state. This study was conducted from August 2016- April, 2017.

It was a descriptive cross sectional study conducted at three primary health care facilities in Benin-City namely: The General Practice Clinic (GPC), University of Benin Teaching Hospital (UBTH), the Medical Clinic (MC), Federal Neuropsychiatric Hospital (FNPH), and the General Out-Patient Department (GOPD) of the General Hospital, Benin City (GH).

The GPC unit (UBTH) which has a daily turnout of 220 patients, the MC unit of the FNPH which attends to about 10-15 patients per day and the GOPD section of the GH which all provide primary care services were utilized for the study.

For the purpose of this study, data only for those aged 60 years and above were analysed.

Eligibility: Patients aged 60years and above were recruited into the study.

Those with severe physical or mental illness, too intoxicated or those who have severe cognitive impairment that may impede questionnaire administration were excluded.

Participants were recruited at each center by systematic random sampling method.

Ethical consideration

Ethical approval was obtained from the Research and Ethical Committee of the Federal Neuropsychiatric Hospital, Benin City and the Ethics and Research Committee, University of Benin Teaching Hospital, Benin City. Additionally, permission was sought from the Director of Hospital services before patients were recruited from the State General Hospital.

Informed consent (both verbal and written) was obtained from participants before being recruited.

Confidentiality was maintained by obtaining data anonymously using serial numbers which were stored in a place inaccessible to those not involved in

the study. Participants were informed of their right to withdraw from the study at any point and that refusal to participate would not interfere adversely with their treatment. All participants were given appropriate intervention during the interview.

Measures

A clinician designed semi structured questionnaire to assess socio-demographic variables of participants and a history of previous treatment was utilized for the study**.** The variables were age, gender, religion, level of education, occupation, marital status and a previous treatment for substance use.

Misuse of prescription drug determined as medications taken for reasons other than prescription, or taken them more frequently or at higher doses than prescribed (WHO ASSIST Working Group, 2002)

The Alcohol, Smoking, Substance Involvement Screening Test (ASSIST)(WHO ASSIST Working Group, 2002).

An interviewer administered questionnaire that screens for all levels of problems or risky substance use. It obtains information about lifetime use of substances and use of substance with associated problems in the last three months. A risk score is provided for each substance and scores are grouped into low, moderate or high risk. A score of 0-3 depicts low risk for all substances except alcohol where a score of 0-10 depicts low risk and requires no intervention. A score of 4-26 depicts moderate risk with the exception of alcohol in which a score of 11-26 depicts moderate risk, requiring brief intervention. For all substances, a score greater than 26 shows high risk which requires intensive treatment according to the ASSIST algorithm. Moderate risk scores depict harmful or hazardous use while high risk scores suggest a risk of dependence. This instrument has undergone testing in three phases to ensure feasibility, validity and reliability. Internal consistency (Cronbach's α) was above 0.80 for most domains of the ASSIST. Similarly, the ASSIST demonstrated good concurrent, construct and divergent validity with similar instruments (Humeniuk & Ali, 2006; Humeniuk et al., 2008) A pilot study was conducted prior to the main study. The participants employed in the pilot study were excluded from the main study. The results showed that the questionnaire was easy to administer and adaptable to the participants. An average administration time of about 10 minutes was observed for each interview which made its administration acceptable to the participants.

Procedure

Two research assistants trained on the administration of the ASSIST by Ayodele Fela-Thomas (A.F.T) administered questionnaire. Inter rater reliability was good with a value of 0.7 for (Cohen's kappa). Eligible participants were selected using systematic random sampling technique at the general outpatient hall while waiting to see the doctor. Interview was conducted in a secluded room within the outpatient clinic for privacy. All participants were given the appropriate treatment after discussing their scores with them at point of data collection. The attending physician was also informed of those who needed referral for intensive treatment.

Data analysis

Analysis was done using the Statistical Package for Social Sciences (SPSS) version 20. To explore the data, descriptive

statistics (frequency, mean, standard deviation) was utilized. Categorized ASSIST scores were used to categorize the level of risk and cross tabulated with the socio-demographic variables for chi square test of association. Fisher's exact test/ Bonferroni correction was implemented where appropriate. A significance level of <0.05 was set.

RESULTS

A total of 173 participants aged 60 years and above were recruited from the three primary care facilities. The socio-demographic variables of the participants are as shown in Table 1. Only 3 (1.7%) had received previous treatment for a substance use disorder.

Prevalence of Substance Use

Lifetime use

The most common ever used substance by these elderly participants was alcohol, with a lifetime prevalence of 70.5%. The least ever used substance was marijuana with a lifetime prevalence of 1.2%. (See Table 2.)

Current Use

The most commonly used psychoactive substance in the past three months by the

Table 1. Socio-demographic and clinical characteristics of participants

Variables N=173	N	%
GENDER		
Male	90	52
Female	83	48
AGE		
60-69	118	68.2
70-79	42	24.3
80-89	11	6.4
EDUCATION		
Nil Formal	19	11.0
Primary	88	50.9
Secondary	42	24.3
Tertiary	12	6.9
RELIGION		
Christian	160	92.5
Muslim	2	1.2
Atheism	1	0.6
Traditional	4	2.3
TRIBE		
Edo	126	72.3
Igbo	9	5.2
Yoruba	1	0.6
Others	15	8.7
PREVIOUS TREATMENT		
Yes	3	1.7
No	170	98.3

participants was opioid analgesics, with a point prevalence of 34.7%. The least used substance currently was marijuana with a prevalence of 0.6%. (See Table 2.)

Use in past three months

Among participants, 8(4.6%) used tobacco weekly (1-4 times per week) or daily while 24(13.9%) drank alcohol weekly or daily in the last three months. Similarly, 21(12.1%) of the participants used opioid pain medications weekly or daily in the past three months while 14(8.1%) used stimulants weekly or daily in the past three months. (Table not shown.)

Level of risk and treatment needs

Of the 173 elderly participants, 2.9% (n=5) demonstrated high risk of alcohol use requiring intensive treatment while 12.7% (n=22) demonstrated moderate risk (hazardous use) to alcohol use requiring brief intervention. Two (1.2%) demonstrated a high risk of use to stimulants, requiring more intensive treatment while 15.0% (n=26) were observed to be at moderate risk (hazardous use) of stimulant use, requiring brief intervention. One (0.6%) demonstrated high risk to tobacco and opioid pain medication use respectively thus requiring intensive treatment. (See Table 3).

Socio-demographics and level of risk

Males demonstrated a higher risk to tobacco use (p<0.001), alcohol use (p<0.001) and stimulant use (p=0.014) compared to the females. Those with secondary level of education were more likely to have a high risk of tobacco use (p=0.011) and alcohol use (7.1%, p=0.004) compared to those with other levels of education.

A high risk of sedative use was associated with the female gender (p=0.020). (Table not shown).

Pattern of use and level of risk

Alcohol

All five participants whom demonstrated high risk to alcohol use had taken alcohol weekly (1-4 times per week) or daily in the past three months while 8 (36.4%) out of the 22 participants with moderate risk of alcohol use had consumed alcohol

Table 2. Lifetime and current psychoactive substance use

Variables (N=173)	Lifetime use				Current use			
	YES		NO		YES		NO	
	n	%	n	%	n	%	n	%
Tobacco	59	34.1	114	65.9	13	7.5	160	92.5
Alcohol	122	70.5	51	29.5	59	34.1	113	65.3
Marijuana	2	1.2	171	98.8	1	0.6	172	99.4
Cocaine	-	-	173	100	-	-	173	100
Stimulant	77	44.5	96	55.5	39	22.5	134	77.5
Inhalant	-	-	173	100	-	-	173	100
Sedatives	28	16.2	145	83.8	18	10.4	155	89.6
Hallucinogens	-	-	173	100	-	-	173	100
Heroine	73	42.2	100	57.8	60	34.7	113	65.3
Others		-	173	100	-	-	173	100

Table 3. Level of risk of psychoactive substance use (substance use related harm)

Variable (N=173)	Low risk		Moderate risk		High risk	
	N	%	n	%	N	%
Tobacco	156	90.2	16	9.2	1	0.6
Alcohol	146	84.4	22	12.7	5	2.9
Marijuana	171	98.8	2	1.2	-	-
Cocaine	173	100.0	-	-	-	-
Stimulants	145	83.8	26	15.0	2	1.2%
Inhalant	173	100	-	-	-	-
Sedative	162	93.6	11	6.4	-	-
Hallucinogen	173	100	-	-	-	-
Heroine/opioid pain medication	123	71.1	49	28.3	1	0.6
Others	173	100	-	-	-	-

weekly or daily in the past three months (p=0.016). Similarly, all two participants (14.3%) who were observed to be at high risk of stimulant use consumed stimulants daily or weekly (1-4 times per week) in the past three months. (See Table 3).

DISCUSSION

The most commonly ever used psychoactive substances among the elderly participants in descending order were alcohol, stimulant (kolanut), opioid pain medications, tobacco, sedatives and marijuana. The most commonly used psychoactive substances in the past three months in descending order were opioid pain medications, alcohol, stimulants, sedatives, tobacco and marijuana. None of the participants reported the use of cocaine, inhalants and hallucinogens. Among participants, 2.9% demonstrated high risk for alcohol use while 12.7% demonstrated moderate risk for its use. High risk for stimulant use was demonstrated by 1.2% while 15% demonstrated moderate risk for its use. Similarly, 0.6% demonstrated high risk for opioid analgesic use while 28.3% demonstrated moderate risk for its use. Regarding tobacco use, 0.6% of the participants demonstrated high risk while 9.2% demonstrated moderate risk for its use.

We observed that opioid analgesics and the use of sedatives was common among the participants, with a current prevalence of 34.7% and 10.4% respectively. This result is in line with the results reported in an epidemiological survey on the prevalence of benzodiazepine use conducted among those aged 65 years and older in Quebec, Canada (Voyer, Préville, Cohen, Berbiche, & Béland, 2010); however, differs from the findings of other studies, where lower prevalence rates of prescription pain medications were reported (Blazer & Wu, 2009b; Moore et al., 2009). The dissimilarity in findings may be due to methodological differences. For instance, the two studies were community surveys, whereas, ours was a sample of hospital outpatients that are more likely to have been prescribed medications at some time, or present with problems that may predispose them to abuse these medications (Boudreau et al., 2009; Simoni-Wastila & Yang, 2006). Again, methods

of assessment of outcomes of the studies differ, thus the findings may not be comparable.

We also reported that alcohol and tobacco use was common with a current prevalence of 34.1% and 7.5% respectively among participants. These values are quite smaller than the values reported in one study in which they found a prevalence of 45% and 14% respectively for both alcohol and tobacco use among their community based respondents (Moore et al., 2009). A plausible explanation for this discrepancy in findings may be due to the diagnostic criteria used in both studies. For instance, current prevalence was assessed in the past three months in this study as compared to the referenced one which was assessed in the last 12 months.

The wide acceptability of alcohol and the perceived health benefits albeit erroneously associated with its use may account for its common use among this cohort (Fillmore, Stockwell, Chikritzhs, Bostrom, & Kerr, 2007; Schmidt, Mäkelä, Rehm, & Room, 2010).

We observed that a significant number of these elderly participants exhibited hazardous use of alcohol (12.7%) and a smaller number were seen to be at a high risk of dependence (2.9%). These findings are comparable to the results obtained from other studies (Blazer & Wu, 2011; Reid, Fiellin, & O'connor, 1999). Some factors associated with the ageing process have been reported as risks for problematic drinking in later life (Dar, 2006). This is of significant health implication because of the effects of alcohol on the ageing body. In the elderly, alcohol reaches higher blood levels due to a decrease in body water and mass. Moreover, the rate of metabolism for alcohol is also reduced with age. Therefore, it accumulates in the body leading to intoxication even with lower amounts of intake (Caputo et al., 2012).

Male gender was significantly associated with the risk of alcohol, tobacco and stimulant use, a finding similar to reports from other studies (Teixidó-Compañó et al., 2018; Wilsnack, Wilsnack, Kristjanson, Vogeltanz-Holm, & Gmel, 2009).

It has been postulated that an interaction between biological, environmental and psychosocial factors may explain the preponderance of males indulging in psychoactive substance use as compared to females (Becker, McClellan, & Reed, 2017). Moreover, the physiological response of the female body to these substances, the clinical harm attributable to these drugs in females as compared to males and low societal tolerance for their use among the female gender may well explain their low level of use of psychoactive substances (Tuchman, 2010).

We reported that female gender was associated with a risk of sedative use, a result similar to that reported by other studies (Olfson, King, & Schoenbaum, 2015; Teixidó-Compañó et al., 2018). However, is in dissonance with the results obtained from a study among elderly patients in San Francisco. Contrary to our finding, their results showed that 16% of men and 9% of women reported misuse of sedatives in the last 30 days and female gender was not predictive of a risk of sedative misuse (Satre, Sterling, Mackin, & Weisner, 2011).

Regarding the association between female gender and increased risk of sedative use, this may be explained by the fact that females are more likely to present at health facilities with chronic medical conditions or other medical complaints which may in ardvertently affect sleep,

thus they are more likely to be prescribed these medications which may predispose them to the risk of misuse of such medications(Linnet et al., 2016).

Even though, a large number of the participants demonstrated low risk to most psychoactive substance use, a substantial number demonstrated hazardous and high risk use to some psychoactive substances. For instance, all five participants who demonstrated high risk to alcohol use consumed alcohol weekly or daily in the past three months, yet only 1.7% of the total participants had received treatment for their use of psychoactive substances prior to this study. This is similar to the findings of Compton et al, in a survey of drug abuse in the U.S. They noted that those seeking treatment for substance use disorder was still low (Compton, Thomas, Stinson, & Grant, 2007).

Currently, treatment provisions for substance use disorders in the elderly are scarce and few. Asides this, most treatment strategies are designed to cater for the younger ones with little or no provision for the elderly patients with psychoactive substance use disorders (Schultz, Arndt, & Liesveld, 2003). This is quite important for policy formulation as these individuals even though detected may not receive any intervention due to constraints associated with referrals to a specialized treatment facility. More so, that the effects of these substances are particularly detrimental in the elderly.

Limitations and strengths

The study had several limitations and some strengths. In terms of limitations, the sample size was small and it was of a cross sectional design. Also, the subjective method (self-report) of assessing psychoactive substance use may not represent the true extent of use by these elderly participants due to social desirability bias or minimization. There is also a lack of validation of the ASSIST questionnaire among the elderly population.

In terms of strengths, to the best of our knowledge, there exists no current study on psychoactive substance use and its risk of use among the elderly in the Nigerian environment. Also being a multicenter study, the results can be generalized.

CONCLUSION

We reported alcohol as the most commonly ever used substance among this cohort. The least used substance was marijuana. The most currently used substance was opioid analgesics. Among participants, 2.9% demonstrated high risk for alcohol use, 1.2% demonstrated high risk for stimulant use while 0.6% demonstrated high risk for opioids use.

Male gender was significantly associated with a higher risk of tobacco, alcohol and stimulant use. Female gender was associated with a higher risk of sedative use. Only 3(1.7%) of these participants had received previous treatment for a substance use disorder in the past.

Clinicians should routinely assess the elderly for psychoactive substance use, and adequate intervention given to those diagnosed with psychoactive substance use disorder. Health institutions, Mental health and Addiction therapy policy makers should consider making national policies for treatment of elderly persons with psychoactive substance disorders for a healthier life. Future studies with larger sample sizes are recommended.

CONFLICT OF INTEREST

Authors report no conflict of interest.

AUTHORS' ROLES

A. Fela-Thomas: designed study, supervised data collection, analyzed data and assisted in writing manuscript.

S. Olotu, was involved in study design, data collection and manuscript write up.

A. Osundina assisted with data collection and was involved with manuscript write up.

ACKNOWLEDGEMENTS

Oni Majesty and I. O. Iyayi for assistance with data collection.

REFERENCES

Becker, J. B., McClellan, M. L., & Reed, B. G. (2017). Sex differences, gender and addiction. *Journal of neuroscience research, 95*(1-2), 136-147.

Blazer, D. G., & Wu, L.-T. (2009). The epidemiology of substance use and disorders among middle aged and elderly community adults: national survey on drug use and health. *The American Journal of Geriatric Psychiatry, 17*(3), 237-245.

Blazer, D. G., & Wu, L.-T. (2011). The epidemiology of alcohol use disorders and subthreshold dependence in a middle-aged and elderly community sample. *The American Journal of Geriatric Psychiatry, 19*(8), 685-694.

Blazer, D. G., & Wu, L. T. (2009). Nonprescription Use of Pain Relievers by Middle-Aged and Elderly Community-Living Adults: National Survey on Drug Use and Health. *Journal of the American Geriatrics Society, 57*(7), 1252-1257.

Boudreau, D., Von Korff, M., Rutter, C. M., Saunders, K., Ray, G. T., Sullivan, M. D., . . . Weisner, C. (2009). Trends in De-facto Long-term Opioid Therapy for Chronic Non-Cancer Pain. *Pharmacoepidemiology and Drug Safety, 18*(12), 1166-1175. doi:10.1002/pds.1833

Caputo, F., Vignoli, T., Leggio, L., Addolorato, G., Zoli, G., & Bernardi, M. (2012). Alcohol use disorders in the elderly: a brief overview from epidemiology to treatment options. *Experimental gerontology, 47*(6), 411-416.

Compton, W. M., Thomas, Y. F., Stinson, F. S., & Grant, B. F. (2007). Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States: results from the national epidemiologic survey on alcohol and related conditions. *Archives of general psychiatry, 64*(5), 566-576.

Dar, K. (2006). Alcohol use disorders in elderly people: fact or fiction? *Advances in Psychiatric Treatment, 12*(3), 173-181.

Fillmore, K. M., Stockwell, T., Chikritzhs, T., Bostrom, A., & Kerr, W. (2007). Moderate alcohol use and reduced mortality risk: systematic error in prospective studies and new hypotheses. *Annals of epidemiology, 17*(5), S16-S23.

Humeniuk, R., & Ali, R. (2006). Validation of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and pilot brief intervention: a technical report of phase II findings of the WHO ASSIST Project *Validation of*

the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and pilot brief intervention: a technical report of phase II findings of the WHO ASSIST Project.

Humeniuk, R., Ali, R., Babor, T. F., Farrell, M., Formigoni, M. L., Jittiwutikarn, J., . . . Monteiro, M. (2008). Validation of the alcohol, smoking and substance involvement screening test (ASSIST). *Addiction, 103*(6), 1039-1047.

Humeniuk, R., Ali, R., Organization, W. H., & Group, A. P. I. S. (2006). Validation of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and pilot brief intervention [electronic resource]: A technical report of phase II findings of the WHO ASSIST Project.

Kamel, N. S., & Gammack, J. K. (2006). Insomnia in the elderly: cause, approach, and treatment. *The American journal of medicine, 119*(6), 463-469.

Linnet, K., Gudmundsson, L. S., Birgisdottir, F. G., Sigurdsson, E. L., Johannsson, M., Tomasdottir, M. O., & Sigurdsson, J. A. (2016). Multimorbidity and use of hypnotic and anxiolytic drugs: cross-sectional and follow-up study in primary healthcare in Iceland. *BMC family practice, 17*(1), 69.

Moore, A. A., Giuli, L., Gould, R., Hu, P., Zhou, K., Reuben, D., . . . Karlamangla, A. (2006). Alcohol use, comorbidity, and mortality. *Journal of the American Geriatrics Society, 54*(5), 757-762.

Moore, A. A., Karno, M. P., Grella, C. E., Lin, J. C., Warda, U., Liao, D. H., & Hu, P. (2009). Alcohol, tobacco, and nonmedical drug use in older US adults: Data from the 2001/02 National Epidemiologic Survey of Alcohol and Related Conditions. *Journal of the American Geriatrics Society, 57*(12), 2275-2281.

Olfson, M., King, M., & Schoenbaum, M. (2015). Benzodiazepine use in the United States. *JAMA psychiatry, 72*(2), 136-142.

Pateinakis, P., Amygdalas, S., Pateinaki, M., & Pyrpasopoulou, A. (2013). Chronic pain in the elderly. *OA Elderly Medicine, 1*(1), 4.

Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y., & Patra, J. (2009). Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *The Lancet, 373*(9682), 2223-2233.

Reid, M. C., Fiellin, D. A., & O'connor, P. G. (1999). Hazardous and harmful alcohol consumption in primary care. *Archives of internal medicine, 159*(15), 1681-1689.

Satre, D. D., Sterling, S. A., Mackin, R. S., & Weisner, C. (2011). Patterns of alcohol and drug use among depressed older adults seeking outpatient psychiatric services. *The American Journal of Geriatric Psychiatry, 19*(8), 695-703.

Schmidt, L. A., Mäkelä, P., Rehm, J., & Room, R. (2010). Alcohol: equity and social determinants. *Equity, social determinants and public health programmes, 11*, 30.

Schultz, S. K., Arndt, S., & Liesveld, J. (2003). Locations of facilities with special programs for older substance abuse clients in the US. *International Journal of Geriatric Psychiatry, 18*(9), 839-843.

Simoni-Wastila, L., & Yang, H. K. (2006). Psychoactive drug abuse in older adults. *The American Journal of Geriatric Pharmacotherapy, 4*(4), 380-394. doi:https://doi.org/10.1016/j.amjopharm.2006.10.002

Teixidó-Compañó, E., Espelt, A., Sordo, L., Bravo, M. J., Sarasa-Renedo, A., Indave, B. I., . . . Brugal, M. T. (2018). Differences between men and women in substance use: the role of educational level and employment status. *Gaceta sanitaria, 32*(1), 41-47. doi:https://doi.org/10.1016/j.gaceta.2016.12.017

Tuchman, E. (2010). Women and addiction: the importance of gender issues in substance abuse research. *Journal of addictive diseases, 29*(2), 127-138.

Voyer, P., Préville, M., Cohen, D., Berbiche, D., & Béland, S.-G. (2010). The prevalence of benzodiazepine dependence among community-dwelling older adult users in Quebec according to typical and atypical criteria. *Canadian Journal on Aging/La revue canadienne du vieillissement, 29*(2), 205-213.

Wang, Y.-P., & Andrade, L. H. (2013). Epidemiology of alcohol and drug use in the elderly. *Current opinion in psychiatry, 26*(4), 343-348.

WHO ASSIST Working Group. (2002). The alcohol, smoking and substance involvement screening test (ASSIST): development, reliability and feasibility. *Addiction, 97*(9), 1183-1194.

Wilsnack, R. W., Wilsnack, S. C., Kristjanson, A. F., Vogeltanz-Holm, N. D., & Gmel, G. (2009). Gender and alcohol consumption: patterns from the multinational GENACIS project. *Addiction, 104*(9), 1487-1500.

African Journal of Drug & Alcohol Studies, 18(1), 2019

MANUFACTURING HOMEMADE ALCOHOL IN THE CITY OF TSHWANE, SOUTH AFRICA

Mukhethwa Londani[1*] Neo K Morojele[1,2,3] Elmarie Nel[1] Charles DH Parry[4,5]

[1]Alcohol, Tobacco & Other Drug Research Unit, South African Medical Research Council, Pretoria, South Africa; [2]School of Public Health, University of the Witwatersrand, Johannesburg, South Africa; [3]School of Public Health and Family Medicine, University of Cape Town, South Africa; [4]Alcohol, Tobacco & Other Drug Research Unit, South African Medical Research Council, Cape Town, South Africa; [5]Department of Psychiatry, Stellenbosch University, Cape Town, South Africa.

ABSTRACT

This study aimed to determine the prevalence of home-based manufacturing of alcoholic beverages in townships/peri-urban households and to examine whether certain characteristics (such as household, demographics and drinking behaviour of participants who reported brewing of alcohol in their homes) predicted home brewing of alcohol. The study utilized data from South African arm of International Alcohol Control study conducted in the city of Tshwane. A household survey used multi-stage stratified cluster random sampling. Homemade alcohol was defined as participants who reported home-based alcohol brewing at their homes. Stata Version 14.0 was used for analyses. Nine percent of the sample reported brewing of alcohol in their households. Race, employment of the main income earners and number of eligible members in the household have predicted home-based alcohol brewing. The study raised important questions about the prevalence of home brewing of alcohol in the city of Tshwane as it might be a common practice in other cities.

Keywords: Homemade alcohol, alcohol brewing, South Africa

INTRODUCTION

Brewing and consumption of alcohol in Southern Africa started during the pre-colonial period, long before the arrival of European settlers (Gumede, 1995; François Lyumugabe, Gros, Nzungize, Bajyana, & Thonart, 2012; Simatende, Gadaga, Nkambule, & Siwela, 2015). As part of traditional cultural practices alcohol has been used to celebrate military victories, to show hospitality, for joy and pleasure,

Corresponding Author: Mukhethwa Londani, Alcohol, Tobacco & Other Drug Research Unit, South African Medical Research Council, Private Bag X385, Pretoria, 0001, South Africa. E-mail: Mukhethwa.londani@mrc.ac.za; Phone: +27-12-339-8537.

to commemorate the dead, to celebrate births, and to "seal" a business deal (Bobrova, 2012). Currently it is difficult to imagine any special occasion without consumption of alcohol in South Africa.

Almost every South African ethnic group has found a way to manufacture alcohol. The type of alcohol brewed for consumption during cultural and traditional activities is mostly African traditional beer known as "Umqombothi". This beer is often brewed using locally grown foods such as maize, sorghum and yeast, and it takes about four to 14 days to manufacture (Manganyi, 2015; Setlalentoa, Pisa, Thekisho, Ryke, & Loots Du, 2010). The level of potent in traditional beer depends on fermentation period and no one knows level of absolute alcohol it has (Madlala, 2016). Also,lack of monitoring during fermentation process could lead to alcohol being contaminated (Morris, Levine, Goodridge, Luo, & Ashley, 2006). The World Health Organisation (WHO) as well has asserted that the tools used for preparing home-brewed alcohol are often not sterilised (Pitso, 2007; WHO, 2004).

Homemade distilling of alcohol for sale without a license is unlawful in South Africa. However, many who carry out this activity ignore these regulations to provide for themselves and their families in a context where jobs in the formal sector are scarce. Manufacturing alcohol for sale is therefore mostly carried out by poor, disadvantaged people (Makhubele, 2012). Consumers of home-brewed alcohol, on the other hand, purchase it as an alternative to buying expensive alcohol or sometimes due to personal preference. The price difference between commercially manufactured, branded alcohol and homemade alcohol is often substantial (Fieldgate et al., 2013).

Homemade alcohol is mostly harmful, especially in areas where brewers are inexperienced and use harmful ingredients when manufacturing. Reports about illnesses caused by home-brewed alcohol have been published in many countries. In some instances, home-brewed alcohol caused liver damage, feeling unwell, vomiting, blindness and even death. The harmful effects of consuming home-brewed alcohol fall more on the powerless sectors of society as well as older members of society who tend to be more likely to consume such products (Collins, 2013; Dadpour, Bagheri-Moghaddam, R., Arabi, & Tamijani, 2016; Radaev, 2015), and in South Africa among Black Africans (Laher, Goldstein, Wells, Dufourq, & Moodley, 2013).

The World Health Organization estimated that a quarter of all alcohol consumed globally is unrecorded, and manufactured or sold without government control (Makhubele, 2012; WHO, 2004, 2014a). In 2014 the World Health Assembly approved the WHO Global Strategy to Reduce the Harmful Use of Alcohol (WHO, 2014b). Among the strategies proposed was reducing the public health impact of illegal alcohol and informally produced alcohol. The long-term plan includes; to legalize unrecorded alcohol, with subsequent quality control and to instruct the producers of unrecorded alcohol on how to avoid the problems arising from manufacturing (WHO, 2010).

In many South African rural areas, women who are aged between 20 to 51 and more, have been found to be the manufacturers of homemade alcohol (Manganyi, 2015). Homemade alcohol is produced in needy rural villages and homes, prompting researchers to conclude that most manufacturers are

illiterate and without formal education (Manganyi, 2015). Mostly, studies have focused on the use of homemade alcohol in rural areas of South Africa (Manganyi, 2015; Onya, Tessera, Myers, & Flisher, 2012; WHO, 2010), while such practices in townships and peri-urban and urban areas have received less attention. Unrecorded and non-commercial alcohol, however, remains a concern that needs special attention because of large number of the population believed to consume such alcohol, and the harms associated with the use of such products that surface periodically (Platt, 1955). The purpose of this study was to determine the prevalence of home-based manufacturing of alcoholic beverages in townships/peri-urban households and to examine whether certain characteristics (such as household, demographics and drinking behaviour of participants who reported brewing of alcohol in their homes) predicted home brewing of alcohol.

METHOD

Sample

The data used in this study is from the South African arm of the multi-country International Alcohol Control (IAC) study (Casswell et al., 2012). This cross-sectional study was conducted in 2014 in the City of Tshwane Metropolitan Municipality, located around South Africa's executive capital. The study used a multi-stage stratified cluster random sampling design, which involved selecting communities, i.e. wards (municipal voting districts) consisting of formal communities, informal communities, and townships; census enumeration areas (EAs) within selected communities; and then households within selected EAs. From the selected households, we randomly selected one adult. Eligible, participants had to have consumed alcohol in the past 6 months and be 18 to 65 years old. When no participants were available at the randomly selected households, the households were replaced with the next available one. The target sample size of adults was determined by the IAC study (Casswell et al., 2012). The overall response rate was 78% (Parry, Trangenstein, Lombard, Jernigan, & Morojele, 2018).

Measures

The IAC survey (Casswell et al., 2012) was adapted for use in South Africa. The standard English IAC questionnaire was translated into the most commonly spoken languages (seTswana and Afrikaans) in the city of Tshwane (Parry et al., 2018). This paper used the following measures:

Home-based manufacturing of alcohol:

In addition to the core questions in the IAC questionnaire, various supplementary questions about behaviours that are important for South Africans were included. Supplementary questions relevant to this study was: "Do you or anyone else in your household manufacture/brew your/their own alcohol beverages?" Some items (such as "don't know" or "refused to answer") were deleted. The dichotomous variable (yes/no) was analysed.

Demographics of participants who reported alcohol brewing in their homes:

Demographic characteristics included: *Gender:* male or female. *Age:* participants' ages were categorized as '18-19', '20-24', '25-34', '35-44', '45-54', and '55-65' years. *Marital status:* marital status included categories such as 'never married',

'married' and 'marital status other' (cohabiting, divorced, separated, widowed).

Drinking behaviour of participants who reported alcohol brewing in their homes:

Primary drinking location: The primary drinking location was defined as the location that the participants had reported drinking most regularly. For the participants who reported drinking in more than one location with the same maximum frequency, the location where the participant consumed a greater quantity of absolute alcohol was selected. Due to low participants' response and a lack of participants drinking at theaters, on planes, at workplaces, hotels, or sports events primarily, the locations were categorized into alcohol consumption at own home; someone else's home, nightclub, outdoors, bars/pubs/taverns and other locations.

Primary beverage: The primary beverage was defined as alcoholic beverages which were consumed at the primary drinking location. The beverage types were selected by determining the beverage that the participant drank with maximum quantity of absolute alcohol at the primary drinking location. The primary beverage variable had 13 beverage types: beer; low alcohol beer; home brew beer; stout; wine; spirits; cocktails; liqueur; shooters; sherry, port, or vermouth; cider; and alcopops. Given the low response for some beverage types, primary beverage types were categorized into beer, wine, spirits, cider and other drinks.

Beverage container size: Beverage container size is defined as the usual container size of the primary beverage at the primary drinking location, and was categorized into below average, average and above average. Average container size was defined as the container size closest to a standard drink (i.e., 330 ml for beer; 330 ml for low alcohol beer; 500 ml for home brew beer; 330 ml for stout; 150 ml for wine; 30 ml for spirits; 30 ml for cocktails; 50 ml for liqueur; 25 ml for shooters; 50 ml for sherry, port, or vermouth; 330 ml for cider; 330 ml for alcopops; and 330 ml for other alcohols) (Trangenstein, Morojele, Lombard, Jernigan, & Parry, 2018).

Household characteristics predicting home brewing of alcohol:

Race: South African official race categories were used: 'black African' (of African descent), 'White' (of European descent), and 'Coloured' (mix of African, European and/or Asian descent).

Total annual household income: total annual household income was categorized into 'low' (R30,000 or less), 'medium' (greater than R30,000 but less than or equal to R200,000), and 'high' (greater than R200,000) (1 US dollar is approximately 15 South African Rands).

Employment status of main income earner: Employment status of main income earner was categorized as 'employed' (any paid employment), 'self-employed' (any self-employment) and 'unemployed' (unemployed, students, pensioner/retired).

Number of eligible members in the household: all household members who were eligible to participate in the survey (aged 18-65 years old, and consumed alcohol in the last six months).

Procedures

After obtaining informed consent, participants were interviewed in their homes

by trained interviewers. This approach was adopted due to the complexity of the questionnaire.

Interviews were administered on a tablet. After the interview, participants received a resource card for alcohol-related problems as well as a shopping or a cellular recharge voucher worth R30 ($2). The Research Ethics Committee of the South African Medical Research Council approved the study protocol, measures and procedures.

Survey Design and Analysis

Data were weighted to consider the complex sampling design. At Stage 1, wards were the primary sampling unit of the survey. Wards were stratified by region and majority race group and this resulted in three strata and selected proportional to the population size (18 to 65 years) within each stratum. The population information from the 2011 census was used.

Post hoc stratification weighting was therefore applied to have the approximate census distribution in the sum of the weights across the 16 strata plus the total weight approximately equal to the census population of 2.9 million people of the Tshwane study area. Finite sampling correction information for each stage was setup for the survey design to improve precision.

Taylor series linearization approximations (Wolter, 2007) were used to account for the complex multi-stage sampling as implemented in the "svy" prefix in Stata version 14.0 (StataCorp, 2015). Bivariate analyses were performed using cross-tabulation and chi-squared tests to assess percentages and the significance of differences between participants/ households who reported brewing their own alcohol and those who did not. Variables which were found in bivariate analyses to be significantly associated (at $p<0.05$) with home-based alcohol brewing were entered into multiple logistic regression. This was done in order to identify associations between all selected variables (demographics, drinking behaviour and household characteristics) and home-brewed alcohol. The multivariate approach was chosen to allow us to examine the specific effects of single predictors when others were controlled for (Møller, Haustein, & Prato, 2015). Multicollinearity was assessed by examining correlations between predictors. No two predictors had a correlation of more than 0.5. P-values less than 0.05 were considered statistically significant.

RESULTS

Sample characteristics

The sample included 1918 adults. The mean age was 33 years (SD = 12). Nine percent (95% CI: 7.8%, 10.3%) of participants aged 18 - 65 years (n=174) had reported the brewing of alcohol in their homes. A greater proportion of participants who reported brewing of alcohol at their homes were more likely to be single (never married) as compared to those who did not report brewing (72.8 vs. 53.8). Beer was a primary beverage for participants who reported alcohol brewing at their household (44.1%). In terms of racial breakdown, a large proportion of households that brewed alcohol were of black African descent (98.3%) (See Table 1), and the majority of main income earners in such households were employed (78.2%). Forty-seven percent

of the alcohol-brewing households had 3 to 4 members who were eligible to participate in the survey. Alcohol brewing did not differ by gender (X^2=1.0, p=0.602), age (X^2=18.4, p=0.075), primary drinking location (X^2=21.5, p=0.192), beverage container size (X^2=13.0, p=0.124) and total annual household income (X^2=7.5, p=0.322).

Multiple logistic regression

Table 2 summarizes the results from multiple logistic regressions, i.e. the odds of alcohol manufacturing on various variables related to demographics, drinking behaviour and household characteristics while controlling for other variables included in the model. Participants who drank other drinks (such as low alcohol

Table 1. Manufacturing of homemade alcohol by demographics

	Manufacture Homemade alcohol	
	(n=174) N (%)	**(P-Value) (F-statistic)**
Gender		(p=0.602)
Male	111 (59.0)	(F=0.28)
Female	63 (41.0)	
Age		(p=0.075)
18-19	9 (5.8)	(F=2.19)
20-24	44 (32.8)	
25-34	55 (30.3)	
35-44	32 (17.3)	
5-54	18 (6.8)	
55-65	16 (7.1)	
Race/Ethnicity		(p<0.001)
Black African	165 (98.3)	(F=16.90)
Coloured	6 (0.8)	
White	3 (0.9)	
Marital Status		(p=0.002)
Married	45 (22.3)	(F=8.68)
Never married	8 (3.1)	
Marital status other	116 (74.6)	
Total Annual Personal Income		(p=0.311)
Low	117(71.3)	(F=1.14)
Medium	30 (24.2)	
High	6 (4.5)	
Education		(p=0.439)
Primary	25 (9.1)	(F=0.83)
Secondary	101 (72.2)	
Tertiary	27 (18.8)	
Occupation		(p=0.062)
Unemployed	79 (48.5)	(F=3.06)
Students	20 (13.3)	
Employed	75 (38.2)	

Table 2. Multiple logistic regression of homemade manufacturing of alcohol

	Homemade Alcohol Manufacture			
	AOR	**Test statistic**	**95% CI**	**P-Value**
Gender				
Male	(ref)	-	-	-
Female	0.89	-0.22	0.32, 2.52	0.827
Age				
18-19	4.84	1.50	0.53, 44.06	0.151
20-24	0.84	-0.29	0.24, 2.90	0.774
25-34	0.72	-0.54	0.20, 2.57	0.595
35-44	0.84	-0.31	0.25, 2.79	0.761
45-54	0.14	-2.77	0.03, 0.62	0.012
55-65	(ref)	-	-	-
Race/Ethnicity				
Black African	(ref)	-	-	-
Coloured	0.16	-3.12	0.05, 0.55	0.006
White	0.04	-3.16	0.01, 0.34	0.005
Marital Status				
Married	(ref)	-	-	-
Never married	1.97	1.38	0.71, 5.52	0.182
Marital status other	1.69	0.83	0.45, 6.35	0.415
Total Annual Personal Income				
Low	(ref)	-	-	-
Middle	1.90	1.60	0.82, 4.39	0.125
High	1.40	0.46	0.30, 6.50	0.648
Education				
Primary	(ref)	-	-	-
Secondary	0.91	-0.21	0.38, 2.19	0.833
Tertiary	1.15	0.29	0.42, 3.14	0.774
Occupation				
Students	(ref)	-	-	-
Employed	0.36	-2.00	0.12, 1.05	0.060
Unemployed	0.50	-1.35	0.17, 1.47	0.193
Primary Location				
Home	(ref)	-	-	-
Someone Else's Home	0.47	-1.11	0.11, 1.96	0.282
Nightclub	0.29	-1.36	0.04, 1.95	0.189
Outdoors	8.71	2.44	1.56, 55.85	0.025
Pub	0.47	-1.39	0.15, 1.47	0.180
Other locations	0.22	-1.62	0.03, 1.55	0.122
Primary Beverage				
Beer	(ref)	-	-	-
Wine	1.27	0.22	0.13, 12.28	0.831
Spirits	0.16	-2.18	0.03, 0.93	0.042
Cider	2.22	1.66	0.81, 6.06	0.113
Other drinks	4.06	2.74	1.39, 11.85	0.013
Primary Container				
Below Average	(ref)	-	-	-
Average	0.24	-2.21	0.06, 0.93	0.039
Above Average	0.65	-0.77	0.21, 2.07	0.451
Frequency of Drinking				
Daily drinking	(ref)	-	-	-
More than daily	1.10	0.26	0.51, 2.40	0.797
Heavy Drinking				
No	(ref)	-	-	-
Yes	1.63	1.32	0.75, 3.51	0.202
Symptoms of Alcohol Problems				
No	(ref)	-	-	-
Yes	1.06	0.16	0.47, 2.41	0.878

beer, home brew beer, stout, cocktail, shooters, sherry/port/vermouth and alcopops) were 4 times more likely to report alcohol brewing in their homes as compared to participants who drank beer (AOR: 4.33; 95% CI: 1.08-17.35; p=0.040). Being coloured and being white was less likely to be associated with alcohol brewing as compared to being black African (AOR: 0.11; 95% CI: 0.03-0.37; p = 0.001), (AOR: 0.03; 95% CI: 0.00-0.33; p=0.006). Unemployed main income earners were also predictive of home-based alcohol brewing, as compared to employed main income earners (AOR: 2.47; 95% CI: 0.99-6.20; p=0.049). The households with 5 or more members who were eligible to participate in the survey were 5 times more likely to brew alcohol, as compared to households with 1 to 2 eligible members. Marital status was not significantly associated with home-based brewing of alcohol.

DISCUSSION

Brewing of alcohol in South African peri-urban and township households is under researched, and there is larger proportion of the total sample who reported such practice in their homes (9%). Studies show that home-brewing of alcohol is a very important activity throughout Africa and is a key aspect of some households' economies (François Lyumugabe et al., 2012; Simatende et al., 2015). However, many African brewers have used unorthodox and poisonous ingredients to fasten fermentation and to make their brews more potent, without taking into consideration the health aspects of the consumers (Makhubele, 2012; Pitso, 2007). Our study investigated prevalence of home-based brewing of alcohol in general, without looking at the production, type of alcohol and people who consume them.

More specifically, our findings show that Whites and Coloureds had lower odds of reporting home-based brewing of alcohol, as compared to black African. This finding mirrors previous research which demonstrate the prevalence of brewing alcoholic beverages by black Africans in South African rural areas. Over 90% percent of households in Bushbuckridge (Limpopo province) have collected marula fruit mainly to make homemade beer (Shackleton & Shackleton, 2002). "Umqombothi" is also commonly made in many black African communities in South Africa (Katongole, 2008; Novellie, 1966). The only distinguishing characteristics of these products are the differences in the quality of ingredients, utensils used, and preparation times (Simatende et al., 2015). In this study, the dominance of black South African brewers is also seen in townships/peri-urban areas.

There are many reasons for brewing alcohol in black South African communities, lack of jobs, money and poverty are the key elements affecting the whole country (Makhubele, 2012). Our results confirm that unemployed main income earner had higher odds of reporting alcohol brewing than employed main income earner in the household. Manganyi (2015) indicated that brewers of home-based alcohol have been in the forefront in pushing back the boundaries of poverty lines within their communities (Manganyi, 2015). Additionally, poverty could lead to certain attitudes, behaviours, and life conditions which contribute to home-based alcohol production.

In a systematic review, Lyumugabe et al. (2012) identified eighty studies that

looked at main African traditional sorghum beers and how they are brewed (François Lyumugabe et al., 2012). These traditional beers were "Ikigage" from Rwanda (F. Lyumugabe, Kamaliza, Bajyana, & Thonart, 2010), "Tchokoutou" from Benin (Polycarpe Kayodé, Adegbidi, Hounhouigan, Linnemann, & Robert Nout, 2005), "Bili bili/Amgba" from Chad (Maoura, Mbaiguinam, Nguyen, Gaillardin, & Pourquie, 2005), "Burkutu" from Nigeria and Ghana (van der Aa Kühle, Jesperen, Glover, Diawara, & Jakobsen, 2001), "Pito" from Ghana (Sefa-Dedeh, Sanni, Tetteh, & Sakyi-Dawson, 1999), "Dolo" from Burkina Faso (Sawadogo-Lingani et al., 2007), and "Doro/Chibuku" from Zimbabwe (Jespersen, 2003; Togo, Feresu, & Mutukumira, 2002). Even though most African countries have similar way of brewing alcohol, the difference is on the type sorghum and the microorganisms involved in the fermentation. None of the studies have looked at the specific reasons for brewing, however, this serves as an evidence that various African countries are brewing their own traditional beers. Contrary to other studies, our results have shown that households with five or more members (18-65 years old) are more likely to brew alcohol than households with fewer members. Also, this suggests that home-brewed alcohol might be manufactured for supporting family members (through selling).

This study had various limitations. The data are specific to the Tshwane Metropolis, and it is unknown whether the findings are generalizable to other South African cities. It is possible that there are some households brewing homemade alcohol, but the interviewed participants were afraid to disclose. Therefore, the data may not represent all persons who manufactured alcohol and thus our findings could under-estimate the true extent of home-based brewing of alcohol. We also did not include people who are over 65 years old in the study and thus our findings may not be representative of all brewers of alcohol. Furthermore, survey questions about home-brewed alcohol did not cover the types of alcohol brewed, and also did not look at the content quality or possible contaminants. Such assessment should be a topic for future research, directly evaluating the home-brewed products to assess their alcohol levels and contaminants.

CONCLUSION

This was one of the first studies in South Africa to investigate home-brewing of alcohol in townships/urban households. It showed that unemployment of the main income earners and number of household members can be associated with home-based alcohol brewing. Importantly, it raises questions about the percentage of households believed to brew alcohol. In the present study, a single question assessment was used to ask home-based brewing of alcohol and further research is needed to investigate the types and consumers of such alcohol. Furthermore, it also showed that black Africans were more likely to brew alcohol at their homes. The intervention of government in terms of poverty reduction (through job creation) could possibly reduce the need for black Africans to be involved in the illegal practice such as home-brewing of alcohol. Alternatively, the government should review its alcohol laws and determine whether other interventions are needed to ensure that there

are certain safeguards in place. This study raises important questions about the prevalence of home brewing of alcohol in the city of Tshwane as it might be a common practice in other cities.

ACKNOWLEDGEMENTS

Funding for the study was made available by the International Development Research Centre (IDRC), Canada (Grant number 107198-001). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the IDRC. We thank the project assistants (Naledi Kitleli, Frans Masango, Shirley Hlope and Chantal Graca-Correia), as well as all the field supervisors and interviewers for their role in the data collection. In addition, we are grateful to Natasha Morris and Ndabezitha Shezi for preparing the maps for sampling purposes and Dr. Catherine O. Egbe for her comments on a draft of this manuscript. Finally, we express our appreciation to all the participants who gave of their time to take part in this survey and also to the South African Medical Research Council whose funding supported the write up of this paper.

CONFLICT OF INTEREST

Nil.

REFERENCES

Bobrova, N. (2012). *Alcohol and hazardous drinking in Russia: a mixed design study.* UCL (University College London),

Casswell, S., Meier, P., MacKintosh, A. M., Brown, A., Hastings, G., Thamarangsi, T., . . . You, R. Q. (2012). The International Alcohol Control (IAC) study-evaluating the impact of alcohol policies. *Alcohol Clin Exp Res, 36*(8), 1462-1467. doi:10.1111/j.1530-0277.2012.01738.x

Collins, B. (2013). Methanol poisoning: the dangers of distilling spirits at home. Retrieved from http://www.abc.net.au/local/audio/2013/06/13/3781104.htm.

Dadpour, B., Bagheri-Moghaddam, A., R., D.-K. V., Arabi, M. Z. S., & Tamijani, A. H. (2016). Simultaneous Events and Subsequent Disabilities of Homemade Alcohol Consumption: A Case Report. *Journal of Biology and Today's World, 5*(4), 62-64.

Fieldgate, I., Jeffrey, R., Madinane, M., Ebrahim, Y., Soobyah, L., & Jordaan, J. (2013). Economic Impact of An Advertising Ban on Alcoholic Beverages. *Johannesburg: Econometrix (Pty) Ltd*.

Gumede, M. (1995). *Alcohol use & abuse in South Africa: a socio-medical problem*: Reach Out Publishers.

Jespersen, L. (2003). Occurrence and taxonomic characteristics of strains of Saccharomyces cerevisiae predominant in African indigenous fermented foods and beverages. *FEMS yeast research, 3*(2), 191-200.

Katongole, J. N. (2008). *The microbial succession in indigenous fermented maize products.* University of the Free State,

Laher, A., Goldstein, L., Wells, M., Dufourq, N., & Moodley, P. (2013). Unwell after drinking homemade alcohol–A case of ethylene glycol poisoning. *African Journal of Emergency Medicine, 3*(2), 71-74.

Lyumugabe, F., Gros, J., Nzungize, J., Bajyana, E., & Thonart, P. (2012). Characteristics of African traditional

beers brewed with sorghum malt: a review. *Biotechnology, Agronomy, Society and Environment, 16*(4), 509-530.

Lyumugabe, F., Kamaliza, G., Bajyana, E., & Thonart, P. H. (2010). Microbiological and physico-chemical characteristic of Rwandese traditional beer "Ikigage". *African Journal of Biotechnology, 9*(27), 4241-4246.

Madlala, N. (2016). Understanding the alcohol effect in umqombothi-Soweto Gold Brewmaster (702). Retrieved from http://www.702.co.za/articles/14124/understanding-the-alcohol-effect-in-umqombothi.

Makhubele, J. (2012). Social exclusion as a contributing factor for the addition of harmful substances to home-made alcohol: The case of Mopani District in Limpopo Province, South Africa. *African Journal of Drug and Alcohol Studies, 11*(1).

Manganyi, M. R. (2015). *Home-brewed alcohol as a public health problem in Greater Tzaneen Municipality, Mopani District of Limpopo Province: A social work perspective.* University of Limpopo,

Maoura, N., Mbaiguinam, M., Nguyen, H. V., Gaillardin, C., & Pourquie, J. (2005). Identification and typing of the yeast strains isolated from bili bili, a traditional sorghum beer of Chad. *African Journal of Biotechnology, 4*(7), 646-656.

Møller, M., Haustein, S., & Prato, C. G. (2015). Profiling drunk driving recidivists in Denmark. *Accident Analysis & Prevention, 83*, 125-131.

Morris, C. N., Levine, B., Goodridge, G., Luo, N., & Ashley, J. (2006). Three-country assessment of alcohol-HIV related policy and programmatic responses in Africa. *African Journal of Drug and Alcohol Studies, 5*(2), 169-184.

Novellie, L. (1966). *Bantu beer-popular drink in South Africa*: CSIR.

Onya, H., Tessera, A., Myers, B., & Flisher, A. (2012). Community influences on adolescents' use of home-brewed alcohol in rural South Africa. *BMC public health, 12*(1), 642.

Parry, C. D., Trangenstein, P., Lombard, C., Jernigan, D. H., & Morojele, N. K. (2018). Support for alcohol policies from drinkers in the City of Tshwane, South Africa: Data from the International Alcohol Control study. *Drug and alcohol review, 37*, S210-S217.

Pitso, J. (2007). Field tales of hazardous home brewed alcoholic beverages: The case of Selebi Phikwe, Botswana. *African Journal of Drug and Alcohol Studies, 6*(2), 89-103.

Platt, B. S. (1955). Some traditional alcoholic beverages and their importance in indigenous African communities. *Proceedings of the Nutrition Society, 14*(2), 115-124.

Polycarpe Kayodé, A. P., Adegbidi, A., Hounhouigan, J. D., Linnemann, A. R., & Robert Nout, M. J. (2005). Quality of farmers' varieties of sorghum and derived foods as perceived by consumers in Benin. *Ecology of food and Nutrition, 44*(4), 271-294.

Radaev, V. (2015). Impact of a new alcohol policy on homemade alcohol consumption and sales in Russia. *Alcohol Alcohol, 50*(3), 365-372. doi:10.1093/alcalc/agv008

Sawadogo-Lingani, H., Lei, V., Diawara, B., Nielsen, D. S., Møller, P. L., Traore, A., & Jakobsen, M. (2007). The biodiversity of predominant lactic acid bacteria in dolo and pito wort for the production of sorghum beer. *Journal of Applied Microbiology, 103*(4), 765-777.

Sefa-Dedeh, S., Sanni, A., Tetteh, G., & Sakyi-Dawson, E. (1999). Yeasts in the traditional brewing of pito in Ghana. *World Journal of Microbiology and Biotechnology, 15*(5), 593-597.

Setlalentoa, B., Pisa, P., Thekisho, G., Ryke, E., & Loots Du, T. (2010). The social aspects of alcohol misuse/abuse in South Africa. *South African Journal of Clinical Nutrition, 23*(sup2), 11-15.

Shackleton, S., & Shackleton, C. (2002). Use of marula products for domestic and commercial purposes by households in the Bushbuckridge district, Limpopo Province, South Africa. *Unpublished report, Rhodes University, Grahamstown*.

Simatende, P., Gadaga, T. H., Nkambule, S. J., & Siwela, M. (2015). Methods of preparation of Swazi traditional fermented foods. *Journal of Ethnic Foods, 2*(3), 119-125.

StataCorp, L. (2015). Stata Statistical Software: Release 14.[computer program]. *StataCorp LP*.

Togo, C. A., Feresu, S. B., & Mutukumira, A. N. (2002). Identification of lactic acid bacteria isolated from opaque beer (Chibuku) for potential use as a starter culture.

Trangenstein, P. J., Morojele, N. K., Lombard, C., Jernigan, D. H., & Parry, C. D. (2018). Heavy drinking and contextual risk factors among adults in South Africa: findings from the International Alcohol Control study. *Substance abuse treatment, prevention, and policy, 13*(1), 43.

van der Aa Kühle, A., Jesperen, L., Glover, R. L., Diawara, B., & Jakobsen, M. (2001). Identification and characterization of Saccharomyces cerevisiae strains isolated from West African sorghum beer. *Yeast, 18*(11), 1069-1079.

WHO. (2004). *Global status report: alcohol policy*: World Health Organization.

WHO. (2010). *Global strategy to reduce the harmful use of alcohol*: World Health Organization.

WHO. (2014a). *Global status report on alcohol and health*: World Health Organization.

WHO. (2014b). *Reducing the public health impact of illicit alcohol and informally produced alcohol*: World Health Organization.

Wolter, K. (2007). *Introduction to variance estimation*: Springer Science & Business Media.

African Journal of Drug & Alcohol Studies, 18(1), 2019

FAMILY BACKGROUND AND SOCIO-DEMOGRAPHIC CORRELATES OF CANNABIS USE: A CROSS-SECTIONAL SURVEY OF UNIVERSITY STUDENTS IN BOTSWANA

Kooneeng Maboo Angela Toteng[1], Kennedy Amone-P'Olak[2]

[1]Department of Psychology, University of Botswana, Gaborone, Botswana
[2]Department of Psychology, University of the Witwatersrand, Johannesburg, South Africa

ABSTRACT

Globally, cannabis use is widespread, especially among young adults. Because it is linked to current and future health problems, cannabis use is a public health concern. Yet, little is known about the background of users. This study aims to assess familial and socio-demographic correlates of cannabis use in young adults. A cross-sectional survey of 371 students (mean age=21.8; ±1.76; 18-25; 56% female) was conducted at a university in Botswana. Data on socio-demographic characteristics, cannabis use, familial characteristics (drug and substance use and mental health problems) and norms were collected using self-report measures. Descriptive statistics, t-tests and regression analyses were performed to compute socio-demographic characteristics, sub-population differences, and the extent to which the different familial and socio-demographic correlates predicted cannabis use. Past month, past year and lifetime prevalence of cannabis use were 13.8%, 20.4%, 32.6%, respectively. Male students significantly used more cannabis than their female peers. Similarly, cannabis use was significantly more prevalent and widespread among tobacco and alcohol users than nonusers and among participants and peers who approved of cannabis use. Gender, alcohol and cigarette smoking, personal and peer approval, personal history of mental health problems, and sibling's use of cannabis significantly and uniquely predicted cannabis use. Cannabis use is widespread among young adults, especially among alcohol and cigarette smokers and in dysfunctional family contexts fraught with drug and substance abuse and mental health problems. The government and other stakeholders should prioritise a holistic public health approach that targets vulnerable families and prevailing norms among young adults. Improvement in health services to meet education, screening and treatment needs is recommended.

Keywords: Cannabis use; young adults; familial factors; norms; Botswana

Corresponding Author: Kennedy Amone-P'Olak, PhD, Department of Psychology, School of Human and Community Development, University of the Witwatersrand, Private Bag 3, 2050. Johannesburg, South Africa Tel: +27 11 717 4520 (Office); Email: Kennedy.Amone@wits.ac.za

INTRODUCTION

Cannabis (also known as marijuana or dagga), is the most frequently used illicit drug, especially among young people in high schools and tertiary education institutions (Macleod, Oakes, Copello, et al., 2004; Peacock, Leung, Larney, et al., 2018; UNODC, 2018). Although cannabis is the preferred drug of choice for leisure activities among young adults, its long-term use is associated with significant impairments and forms the basis for immediate and later physical and mental health problems (Bechtold, Simpson, White, & Pardini, 2015; Macleod, Oakes, Copello, et al., 2004; Peacock, Leung, Larney , et al., 2018; UNODC, 2018; Volkow, Swanson, Evins, et al., 2016). The physical and health problems linked to long-term cannabis use include cancer, respiratory problems, high blood pressure and metabolic problems (British Lung Foundation, 2012; Tashkin, 2013; Sidney, 2002; Vidot et al., 2015). For mental health, cannabis use has been linked to poor cognition, particularly slow learning and poor memory, attention, and working memory problems (Volkow, Swanson, Evins, et al., 2016). Other studies have also linked cannabis use to smaller brain volumes in the prefrontal cortex and the hippocampus, brain regions responsible for cognitive function (Squeglia, Jacobus, & Tapert, 2009). Similarly, due to its effects such as perceptual alterations and cognitive distortions (Green, Kavanagh, Young, 2003), high doses of cannabis may result in psychotic symptoms like delusion and hallucinations, also known as cannabis-induced psychosis (Moore, Zammit, Lingford-Hughes, et al., 2007).

Despite the widespread use of cannabis and its harmful health effects, only a few studies have been conducted to quantify its use and assess the background of young adult users in low- and middle-income countries such as Botswana. Early adulthood is a critical developmental stage, during which many lifestyle habits are developed and established. Moreover, unhealthy lifestyle habits such as drinking, smoking, and illicit drug use start at this stage more than at any other developmental stages. The few studies carried out in Botswana have documented widespread use among adolescents and young adults in secondary schools and universities (Kgatitswe & Amone-P'Olak, 2017; Ludick & Amone-P'Olak, 2016; Riva, Allen-Taylor, Schupmann, et al., 2018). Over the years, the Botswana Police Service has seized enormous quantities of cannabis (UNODC, 2018) and concentrated much of its efforts on the supply side of cannabis without considering the demand side. This study aims to assess the background characteristics of cannabis users to design prevention programs to stem the use of cannabis, especially among adolescents and young adults. Despite the widespread use of cannabis in low- and middle-income countries, interventions to prevent and treat cannabis dependence and addiction are nearly non-existent.

Drug and substance use often occur within the context of a confluence of risk factors that young adults are exposed to from early on in life (Felitti et al., 2019; Mongale & Amone-P'Olak, 2019). For example, family backgrounds such as having adult family members (e.g., parents or siblings) who use drugs and substances (Ewing et al., 2015). Young adults may use cannabis to cope with stressful life events or mental illness (El Ansari, Sebena, & Labeeb, 2015; Hetolang & Amone-P'Olak, 2018; Kgatitswe & Amone-P'Olak, 2017;

Moitlakgola & Amone-P'Olak, 2015; Mongale & Amone-P'Olak, 2019).

Based on the gateway hypothesis (Kandel & Kandel, 2015), the use of alcohol and cigarette are known to precede the use of illicit drugs (Kandel, Yamaguchi, & Klein, 2006). Similarly, the social norms theory, commonly applied in drug and substance use studies, postulates that personal, peer, and family approvals of certain behaviours have a direct influence on drug and substance use behaviours (Berkley-Patton, Prosser, McCluskey-Fawcett, & Towns, 2003; Neighbors, Geisner, & Lee, 2008; Perkins, 2003). Therefore, drug and substance use thrive in dysfunctional family environments where adult members use drugs and substances and in family situations fraught with stress and conflicts, mental illness and enabling norms that promote drug and substance use. Grounded on both the gateway hypothesis and social norms theory, this study will test two hypo heses:

(i) Alcohol and cigarette smoking are associated with increased cannabis use.
(ii) Familial drug and substance use, history of mental health problems and norms that promote drug and substance use would be associated with increased cannabis use.

The present study assessed cannabis use among young adults at a university in Botswana. Specifically, the following objectives were pursued:

a) To determine the past month, past year and lifetime prevalence of cannabis use.
b) To examine the demographic characteristics (e.g., gender, age, etc.) and their associations with cannabis use.
c) To assess familial drug and substance use (maternal, paternal, and sibling drug use) and their associations with cannabis use.
d) To examine the familial history of mental health problems and their associations with cannabis use.
e) To examine norms (personal, peer, and parental norms) and their associations with cannabis use.

METHODOLOGY

Research Design and sample

The current study utilised a cross-sectional design. A sample of undergraduate students registered for various academic programs at a university in Botswana was conveniently drawn to participate in the study. In total, 371 young adults (56% females) aged between 18 and 25 years took part in the survey.

Data collection and ethical considerations

A questionnaire was used to collect data from lecture rooms with permission from lecturers who were earlier on contacted through the different faculty administrators. Two research assistants distributed 389 copies of questionnaire to students. Eighteen questionnaires were discarded because of incomplete information. The two research assistants stayed in the lecture rooms to respond to any queries from the respondents. The respondents took about 10 minutes to fill in the questionnaire. Before distributing the questionnaire, the research assistants explained the purpose of the study to respondents and their rights to withdraw at any time from participating in the study. Next, the respondents were guaranteed

anonymity and confidentiality before signing informed consent forms. After the respondents completed the forms, they were debriefed and informed of available psychological support services at the Psychology Clinic and the University Counselling Centre, should they require such support. Both the Psychology Clinic and the University Counselling Centre are located within the university. Permission to conduct this study was granted by the Institutional Review Board of the University of Botswana.

Measures

In this study, three different measures were used: first, a self-developed measure to assess socio-demographic characteristics (e.g., age, gender, academic performance using cumulative grade point average (CGPA), secondary school attended, parental educational attainment, etc.). Second, the prevalence of cannabis use (in the past month, past year and lifetime), familial drug and substance use (mother, father and sibling), familial history of mental health problems (family member and personal), and norms (individual, peer, and parental norms) were measured by one question each. Third and finally, daily cannabis use was assessed by the revised version of the Cannabis Used Disorder Identification Test (CUDIT-R: Adamson et al. 2010).

Socio-demographic characteristics: Participants were asked to report their gender, age, year of study, secondary school attended, CGPA, educational background of the mother and father.

CUDIT-R: The revised 8-item CUDIT-R scale was used to assess cannabis use. The scale consisted of items related to consumption, dependence, cannabis-related problems and psychological issues. CUDIT-R is a brief and easy-to-use scale often used to assess cannabis use in the past six months. Some of the items included: "How often do you use cannabis?" or "Have you ever thought of cutting down, or stopping your use of cannabis?" Responses to the questions were categorised as 0= "never" through to 4= "daily or almost daily" use. This questionnaire was designed for self-administration and is scored by adding each of the eight items: questions 1-7 are scored on a 0-4 scale, and question 8 is scored 0, 2 or 4. A score of 8 or more indicates hazardous cannabis use, while ratings of 12 or more indicate a possible cannabis use disorder for which further intervention may be required. The CUDIT-R showed good internal consistency and concurrent validity with other cannabis-related outcome measures, including DSM-5 criteria. In this study, the Cronbach Alpha reliability was acceptable at α=0.87.

Prevalence of cannabis use: prevalence of cannabis use was measured using three questions: "have you used cannabis (also known as marijuana or dagga) in the past 30 day", "have you used cannabis (also known as marijuana or dagga) in the past year" and "have you used cannabis (also known as marijuana or dagga) in your lifetime". All the questions were dichotomously scored "yes" (=1) for the occurrence or "no" (=0) for non-occurrence. Prevalence of cannabis use was indicated by the frequency counts for occurrence in the past 30 days, past year and lifetime.

Familial drug and substance use: Three questions were used to assess familial drug and substance use: 1) "Did any of

your siblings (brother and or sister) use cannabis (also known as marijuana or dagga), alcohol, or cigarette? 2) Did your father or male guardian use cannabis (also known as marijuana or dagga), alcohol, or cigarette? 3) Did your mother or female guardian use cannabis (also known as marijuana or dagga), alcohol, or cigarette? All the questions were dichotomously scored "yes" (=1) for the occurrence or "no" (=0) for non-occurrence. Familial drug and substance use were indicated by frequency counts for use of cannabis, alcohol and cigarette.

Familial history of mental health problems: To assess the familial history of mental health problems, we used two questions: "Is there or was there anyone in your family with a history of mental health problem" and "Have you ever had a history of a mental health problem? Again, both questions were dichotomously scored "yes" (=1) for occurrence or "no" (=0) for non-occurrence. Familial history of mental health problems was indicated by frequency counts of family and personal history of mental health problems. A score of one (1) or more was indicative of familial history or mental health problems.

Alcohol use: Alcohol use was measured with a single question: "Do you drink alcohol?" This question was also dichotomously scored "yes" (=1) for the occurrence or "no" (=0) for non-occurrence. Alcohol use was indicated by frequency counts for use and a score or one (1) was indicative of alcohol use.

Cigarette smoking: Cigarette use was measured with a single question: "Do you smoke cigarettes?" This question was also dichotomously scored "yes" (=1) for occurrence or "no" (=0) for non-occurrence. Cigarette smoking was indicated by frequency counts for use and a score or one (1) was indicative of cigarette smoking.

Norms: norms was assessed using three questions: "I disapprove peers of my age trying cannabis (also known as marijuana or dagga) once or twice", "Peers of my age disapprove of me trying cannabis (also known as marijuana or dagga) once or twice?" and "My parents or guardian disapprove of my trying cannabis (also known as marijuana or dagga) once or twice". This question was also dichotomously scored "yes" (=1) for occurrence or "no" (=0) for non-occurrence. A score of one (1) for each type of norm (personal disapproval, peer disapproval and parental disapproval) was indicative of each type of norm.

Statistical analyses

Descriptive statistics (e.g., mean, standard deviation and ranges) were used to compute the socio-demographic characteristics and the prevalence of cannabis use and familial characteristics. To assess gender differences, a t-test was used, and the results tabulated. To determine the relationship between cannabis use and family factors and background characteristics, univariable regression analyses were used. Next, multivariable regression analysis was performed to assess the unique influence of the socio-demographic, familial and personal background characteristics, and norms on cannabis use. Association between variables was statistically significant at a ***p***-value less than 0.05. All statistical analyses were carried out using IBM SPSS statistical software, version 26.0 (IBM Corp. Released 2019).

RESULTS

Socio-demographic characteristics

The socio-demographic characteristics of the study population are presented in Table 1. A total of 371 students (mean age =21.8; SD ± 1.76; 18-25; 56% female) participated in the study. Most of the participants grew up mainly in rural areas (45%, n=168) and the majority (54%, n=195) were in the second-class lower division of cumulative grade point average (CGPA). Similarly, most of the respondents indicated that they attended a public school (69%, n=257) with most of their parents having attended mostly tertiary education (Table 1).

Prevalence of cannabis use and drug and substance use

The past month, past year and lifetime prevalence of cannabis use was 13.8%, 20.4%, 32.6%, respectively (Table 2). Among those who use cannabis, about half use it hazardously (Table 2). Male students used cannabis significantly more than their female peers in the past month, past year, lifetime and on the CUDIT-R score (Table 2). Female participants reported more personal, peer and parental disapproval of cannabis use than their male counterparts while there was no gender difference in reporting personal and family history of mental health (Table 2). Again, familial drug and substance use (sibling, mother, and father) was reported by more male than female participants (Table 2). Similarly, cannabis use was significantly more prevalent and widespread among cigarette smokers and alcohol users than nonusers and among participants and peers who approved of cannabis use.

Table 1. Demographic characteristics of the study population

Variables	Total (*N*=371)
Age (M, SD, min, max)	21.8; ±1.76; 18-25
Gender	
Male	160 (43.6%)
Female	207 (56.4%)
Place of upbringing	
Cattle post	8 (2.2%)
Village	168 (45.4%)
Town	87 (23.5%)
City	107 (28.9%)
CGPA	
2.00-2.99	102 (28.1%)
3.00-3.99	195 (53.7%)
4.00-4.69	50 (13.8%)
4.70-5.00	16 (4.4%)
School attended	
Public	257 (69.3%)
Private	56 (15.1%)
Both	58 (15.6%)

M=mean; N=total sample; SD= standard deviation; min=minimum; max=maximum; %= per cent

Table 2. Sociodemographic characteristics of respondents and bivariate relations between variables in the study

Variables	Total		Male		Female		t-test
	M, N or *n*	*SD* or %	*M, N* or *n*	*SD* or %	*M, N* or *n*	*SD* or %	(df=370)
Age	22.15	2.55	22.69	2.53	21.69	2.44	**3.75*** **
Alcohol use	137	35.4	66	39.1	69	32.7	**ns**
Cigarette smoking	51	13.2	35	20.8	16	7.5	**3.66*** **
Cannabis use							
Past 30 days	53	13.8	31	58.5	22	41.5	**2.27***
Past year	78	20.4	47	60.3	31	39.7	**3.11** **
Lifetime	126	32.6	66	52.4	60	47.6	**2.23***
CUDIT-R scores							**5.23*** **
Score < 8	26	49.1	12	46.2	14	53.8	
Score ≥ 8 (hazardous use)	27	50.9	19	70.4	8	29.6	
Norms							
Personal disapproval	0.58	±0.49	0.53	±0.50	0.63	±0.48	**2.01***
Peer disapproval	0.59	±0.49	0.50	±0.50	0.66	±0.48	**3.14** **
Parental disapproval	0.81	±0.39	0.77	±0.43	0.86	±0.35	**2.25** **
Mental health problems (MHP)							
Family history of MHP	84	21.9	41	48.8	43	51.2	**ns**
Personal history of MHP	37	9.8	17	45.9	20	54.1	**ns**
Familial use of drugs							
Maternal use	63	16.4	37	58.7	26	41.3	**2.68** **
Paternal use	123	32.6	66	53.7	57	46.3	**2.61** **
Sibling use	103	27.3	62	60.2	41	39.8	**3.82*** **

Key: M=mean; N=total sample; n=subpopulation; SD= standard deviation; %= per cent; CUDIT-R= revised version of the Cannabis Use Disorder Identification Tool; ns=not significant; MHP= mental health problems; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Familial and socio-demographic predictors of cannabis use

The results of the univariable regression analyses of the influence of demographic factors (e.g., age, gender) and familial factors (drug and substance use, mental health and norms) are presented in Table 3. Overall, gender, personal history of mental health, familial drug and substance use, alcohol and cigarette smoking, and personal and peer norms of personal and peer disapproval significantly predicted cannabis use (Table 3). Each regression coefficient represents the number of standard deviation (*SD*) change in the dependent variable per *SD* change of the independent variable. For example, the regression of cannabis use on smoking cigarettes indicates that a change of 1 *SD* is associated with a 0.41 *SD* change in cannabis use. The regression model fits were significant and ranged from $R^2 = 0.02$ ($F_{(2, 370)} = 47.41$, $p < .05$) for personal history of mental health to $R^2 = 0.17$ ($F_{(2, 370)} = 78.64$, $p < .001$) for cigarette smoking. Cigarette smoking was the most significant predictor of cannabis use with the largest effect size (η^2=0.17).

Table 3. Results of univariable regression analyses (*N*=371)

Variables	β	95 % (CI)	η^2
Age	0.01	(-0.10, 0.13)	0.00
Gender	**0.26**	**(-0.36, -0.16)**	**0.07**
Maternal educational attainment	-0.03	(-0.13, 0.07)	0.00
Paternal educational attainment	0.06	(-0.04, 0.17)	0.00
Family history of mental health problems	0.05	(-0.16, 0.07)	0.00
Personal history of mental health problems	**0.12**	**(0.02, 0.22)**	**0.01**
Sibling use of cannabis	**0.22**	**(0.12, 0.32)**	**0.05**
Father's use of drugs and alcohol	**0.20**	**(0.10, 0.30)**	**0.04**
Mother's use of drugs and alcohol	**0.23**	**(0.13, 0.33)**	**0.05**
Drinking alcohol	**0.31**	**(0.21, 0.40)**	**0.10**
Cigarette smoking	**0.41**	**(0.32, 0.51)**	**0.17**
Personal disapproval of cannabis use	**-0.17**	**(-0.27, -0.07)**	**0.03**
Peer disapproval of cannabis use	**-0.16**	**(-0.26, -0.06)**	**0.03**
Parental disapproval of cannabis use	-0.05	(-0.15, 0.06)	0.00

Key: **β**: standardized beta; **CI**: confidence interval, **η^2**: eta squared (a measure of effect size). All significant associations are in bold.

Multivariable regression results of the influence of familial and socio-demographic correlates on cannabis use

The results of the multivariable regression models to assess the correlates that independently and uniquely predicted cannabis use in the multivariable regression models are presented in Table 4. The results indicated that 'female (relative to male) gender', 'alcohol use', 'cigarette smoking', maternal use of drugs and substances', 'peer approval', 'personal history of mental health', and 'sibling's use of drugs and substances' uniquely predicted depression (Table 4). The regression model yielded a significant fit at $R^2 = 0.26$ ($F_{(9, 363)} = 13.27$, $p < .001$) helping to explain 26% of the variance in cannabis use (**η^2**=0.26).

DISCUSSION

The current study examined family and socio-demographic correlates of cannabis users in a sample of young adult students at a university in Botswana. Cannabis use was significantly more common

Table 4. Multivariable regression analyses

Variables	β	95 % (CI)	η^2
Gender	0.19	(0.09, 0.29)	0.26
Alcohol use	0.19	(0.09, 0.28)	
Cigarette smoking	0.26	(0.16, 0.35)	
Peer disapproval	-0.12	(-0.23, -0.02)	
Personal history of mental health	0.11	(0.01, 0.21)	
Siblings use of cannabis	0.13	(0.02, 0.23)	

Key: **β=** beta, **CI**= Confidence Interval, **%**= per cent

and widespread among male students, cigarette and alcohol users, students with a personal history of mental health and family contexts where drug and substance use are rife (Table 3). Norms such as individual and peer disapproval of drug and substance use negatively predicted cannabis use. In the end, male (relative to the female) gender, alcohol use, cigarette smoking, peer disapproval, personal history of mental health problems, and sibling's use of cannabis, uniquely and significantly predicted cannabis use (Table 4). Cigarette smoking and alcohol us, both gateway drugs, were associated with increased cannabis use in consonant with the gateway hypothesis (Kandel & Kandel, 2015; Kandel, Yamaguchi, & Klein, 2006). Similarly, familial drug and substance use, history of mental health problems and norms that promote drug and substance use were associated with increased cannabis use just as postulated by the social norms' theory (Berkley-Patton, Prosser, McCluskey-Fawcett, & Towns, 2003; Neighbors, Geisner, & Lee, 2008; Perkins, 2003).

The possible practical, policy and research implications of the findings of cannabis use are discussed below. Cannabis use was significantly more widespread among cigarette and alcohol users compared to nonusers. For example, the prevalence of cannabis use in the past month among current alcohol users was 25%, nearly four times more than that in nonusers at 7%. Similarly, the prevalence of cannabis use in the past month was 10% among non-cigarette smokers but 39% in cigarette smokers. This finding is consistent with the gateway hypothesis (Kandel & Kandel, 2015; Kandel, Yamaguchi, & Klein, 2006) where the use of alcohol and cigarette precedes the use of other illicit drugs such as cannabis. As cigarettes and alcohol become more expensive, and the global trend to legalise cannabis gain momentum around the world, its use, especially among young adults, will become even more popular. This trend is particularly concerning because 10% of regular cannabis use leads to dependence, doubles the risk of school drop-out and later cognitive impairment and psychoses (Hall, 2015; Moore, Zammit, Lingford-Hughes, et al., 2007). Similarly, cannabis use increases the risk of later cardiovascular disease in adulthood (Jouanjus et al., 2014; Thomas, Kloner, & Rezkalla, 2014). Given these elevated health risks associated with cannabis use, health-care practitioners should consider expanding infrastructure for diagnosis and treatment of cannabis dependence and addiction besides training more social workers and addiction experts to tackle the creeping cannabis epidemic, especially in low- and middle-income countries.

The finding that personal history of mental health problems was associated with cannabis use corroborates previous findings (Bechtold, Simpson, White, & Pardini, 2015; Hall, 2015; Kgatitswe & Amone-P'Olak, 2017) and underscores the importance of tackling mental health problems during adolescence and early adulthood. Moreover, most of the young adults who indulge in cannabis use come from dysfunctional family backgrounds where drug and substance use thrive (Chivandire & January, 2016) and where there is a high density of stressors. These stressors may include poverty, domestic violence, sexual abuse, and single-parent families (Maundeni, 2000; Mokoodi, 2004; Philip & Amone-P'Olak, 2019). Consequently, to tackle cannabis dependence and addiction, practitioners should

consider family-based therapy (Horigian, Anderson, & Szapocznik, 2016). The findings regarding the norms lend support to the social norms' theory where personal, peer and family disapprovals directly influence on drug and substance use behaviours (Berkley-Patton, Prosser, McCluskey-Fawcett, & Towns, 2003; Neighbors, Geisner, & Lee, 2008; Perkins, 2003). The family, especially parents and older siblings, play a vital role in preventing or exacerbating cannabis use among young adults.

Future longitudinal research should be considered to disentangle and clarify relationships among various familial and socio-demographic correlates of cannabis use. Policies that help to support and strengthen the family, such as employing social workers to work in rural settings, youth clubs to engage the youth in sporting activities and talent development, are critically important. The legalisation of cannabis for medical use should also be handled with care as many adolescents, and young adults may not easily differentiate between medical use and recreational use of cannabis. Further education may help to distinguish the various usages of cannabis.

Several limitations should be considered before making inferences about the findings of this study. First, the use of cross-sectional survey in this study does not allow causal inferences. Future studies should consider using longitudinal designs to determine the trajectory of cannabis use in adolescents and young adulthood. A social ecology model that considers personal, peer, family, community, and societal contextual factors should be considered (Bronfenbrenner, 1979). Second, participants in this study were conveniently drawn from a sample of university students who may be subculturally different from out-of-school youth. As a result, the findings cannot be extrapolated to out-of-school adolescents and young people, who often come from more poverty-stricken and dysfunctional family backgrounds than their counterparts who study at the universities. Convenient sampling might have also introduced some bias in the study. Finally, data for this study were obtained using self-report measures which are often prone to bias such as over-reporting, under-reporting or social desirability. This might have influenced the integrity of our results. Notwithstanding the limitations outlined above, the findings of this study is a precursor to further studies on the correlates of cannabis use, particularly among young adults.

CONCLUSIONS

The results of this study indicate that cannabis use is widespread, especially among alcohol and cigarette smokers and in family contexts fraught with mental health and drug and substance abuse problems (Mongale & Amone-P'Olak, 2019) besides holding norms that promote cannabis use. Compared to non-cigarette and non-alcohol users, cannabis users are more than three times as likely to use cannabis. Drug and substance use among adolescents and young adults should be an important public health priority considering its persistent associations with risky sexual behaviours, aggression, traffic accidents and injury, and other health conditions (Shisana et al., 2014). Because cannabis use is associated with poly-drug use, efforts to reduce its use should have a holistic public

health approach that targets vulnerable families and sub-population of adolescents and young adults with norms that promote the use of other drugs such as cigarettes and alcohol. Government and other stakeholders such as universities, should prioritise programmes to improve health services to meet education, screening, and treatment needs of vulnerable young adults, particularly those from dysfunctional family backgrounds. The findings in this study suggest that it is imperative to address mental health problems during adolescence and early adulthood along with efforts to reduce drug and substance use in the subpopulations of adolescence and early adulthood. Further studies are urgently required on the effects of cannabis use on other domains of adolescent and early adult life such as cognitive functioning, changes in brain function and structure, academic and work-related failure, mental health, violent and criminal behaviour, motor vehicle accidents, and suicidal behaviours.

REFERENCES

Adamson, S. J., Kay-Lambkin, F. J., Baker, A. L., Lewin, T. J., Thornton, L., Kelly, B. J., & Sellman, J. D. (2010). An improved brief measure of cannabis misuse: the Cannabis Use Disorders Identification Test-Revised (CUDIT-R). *Drug & Alcohol Dependence*, *110*(1), 137-143.

Bechtold, J., Simpson, T., White, H. R., & Pardini, D. (2015). Chronic adolescent marijuana use as a risk factor for physical and mental health problems in young adult men. *Psychology of Addictive Behaviors*, *29*(3), 552.

Berkley-Patton, J. Y., Prosser, E. C., McCluskey-Fawcett, K. A., & Towns, C. (2003). A social norm approach to reducing alcohol consumption among college freshmen. *NASPA Journal*, *40*(4), 24-37.

British Lung Foundation. (2012). *The impact of cannabis on your lungs*. London, UK: Author.

Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard university press.

Chivandire, C. T., & January, J. (2016). Correlates of cannabis use among high school students in Shamva District, Zimbabwe: A descriptive cross-sectional study. *Malawi Medical Journal*, *28*(2), 53-56.

El Ansari, W., Sebena, R., & Labeeb, S. (2015). Multiple risk factors: prevalence and correlates of alcohol, tobacco and other drugs (ATOD) use among university students in Egypt. Journal of Substance Use, 20(6), 380-388.

Ewing, B. A., Osilla, K. C., Pedersen, E. R., Hunter, S. B., Miles, J. N., & D'Amico, E. J. (2015). Longitudinal family effects on substance use among an at-risk adolescent sample. *Addictive Behaviors*, *41*, 185-191.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... & Marks, J. S. (2019). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American journal of preventive medicine*, *56*(6), 774-786.

Green, B. O. B., Kavanagh, D., & Young, R. (2003). Being stoned: A review of self-reported cannabis effects. *Drug and Alcohol Review*, 22(4), 453-460.

Hall, W. (2015). What has research over the past two decades revealed about the adverse health effects of recreational cannabis use? *Addiction*, *110*(1), 19-35.

Hetolang, L. T., & Amone-P'Olak, K. (2018). The associations between stressful life events and depression among students in a university in Botswana. *South African Journal of Psychology, 48*(2) 255–267.

Horigian, V. E., Anderson, A. R., & Szapocznik, J. (2016). Family-based treatments for adolescent substance use. *Child and Adolescent Psychiatric Clinics*, *25*(4), 603-628.

Jouanjus, E., Lapeyre-Mestre, M., Micallef, J., & French Association of the Regional Abuse and Dependence Monitoring Centres (CEIP-A) Working Group on Cannabis Complications*. (2014). Cannabis use: a signal of increasing risk of serious cardiovascular disorders. *Journal of the American Heart Association*, *3*(2), e000638.

Kandel, D., & Kandel, E. (2015). The Gateway Hypothesis of substance abuse: developmental, biological and societal perspectives. *Acta Paediatrica*, *104*(2), 130-137.

Kandel, D.B., Yamaguchi, K., & Klein, L.C. (2006). Testing the Gateway Hypothesis. *Addiction*, 101(4):474–476.

Kgatitswe, B.M., & Amone-P'Olak, K. (2017). Motivation to use cannabis among young adults at a University in Botswana. *African Journal of Drug and Alcohol Studies, 16*(2), 83-94.

Ludick, W.K. & Amone-P'Olak, K. (2016). Temperament and the risk of alcohol, tobacco, and cannabis use among university students in Botswana. *African Journal of Drug & Alcohol Studies, 15(1), 21-35.*

Macleod, J., Oakes, R., Copello, A., Crome, I., Egger, M., Hickman, M., ... & Smith, G. D. (2004). Psychological and social sequelae of cannabis and other illicit drug use by young people: a systematic review of longitudinal, general population studies. *The Lancet*, *363*(9421), 1579-1588.

Maundeni, T. (2000). The Consequences of Parental Separation and Divorce for the Economic, Social and Emotional Circumstances of Children in Botswana. *Childhood*, *7* (2), pp.213-223.

Moitlakgola, K .K. & Amone-P'Olak, K. (2015). Stressful life events and alcohol use among university students in Botswana. *African Journal of Drug & Alcohol Studies, 14(2) 81-93*.

Mongale, N., & Amone-P'Olak, K. (2019). Childhood family environment and depression in early adulthood in Botswana. *South African Journal of Social Work and Social Development, 31*(3); #6176; 18 pages. https://doi.org/10.25159/2415-5829/6176.

Mookodi, G. (2004). Male violence against women in Botswana: A discussion of gendered uncertainties in a rapidly changing environment. *African Sociological Review/Revue Africaine de Sociologie*, *8*(1), 118-138.

Moore, T. H., Zammit, S., Lingford-Hughes, A., Barnes, T. R., Jones, P. B., Burke, M., & Lewis, G. (2007). Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review. *The Lancet*, 370(9584), 319-328.

Neighbours, C., Geisner, I. M., & Lee, C. M. (2008). Perceived marijuana norms and social expectancies among entering college student marijuana users. *Psychology of Addictive Behaviors, 22,* 433–438. http://dx.doi.org/10.1037/0893-164X.22.3.433

Peacock, A., Leung, J., Larney, S., Colledge, S., Hickman, M., Rehm, J., ... & Ali, R. (2018). Global statistics on alcohol, tobacco and illicit drug use: 2017 status report. *Addiction*, *113*(10), 1905-1926.

Perkins, H. W. (2003). The emergence and evolution of the social norms approach to substance abuse prevention. In C. R. Sunstein (Ed.), *The social norms approach to preventing school and college-age substance abuse: A handbook for educators, counsellors, and clinicians* (pp. 3–17). New York, NY: Wiley.

Phillip, O., & Amone-P'Olak, K. (2019). The influence Sof self-reported childhood sexual abuse on psychological and behavioural risks in young adults at a university in Botswana. *South African Journal of Psychology*. 49(3) 353–363.

Riva, K., Allen-Taylor, L., Schupmann, W. D., … Lowenthal, E. D. (2018). Prevalence and predictors of alcohol and drug use among secondary school students in Botswana: a cross-sectional study. *BMC Public Health*, *18*(1), 1396.

Shisana O, Rehle T, Simbayi L, et al. (2014) South African National HIV Prevalence, Incidence and Behaviour Survey, 2012. Cape Town, South Africa: HSRC Press.

Sidney, S. (2002). Cardiovascular consequences of marijuana use. *Journal of Clinical Pharmacology*, 42(Suppl.), 64S–70S. http://dx.doi.org/ 10.1002/ j.1552-4604.2002.tb06005.x

Squeglia, L. M., Jacobus, J., & Tapert, S. F. (2009). The influence of substance use on adolescent brain development. *Clinical EEG and Neuroscience*, *40*(1), 31-38.

Tashkin, D. P. (2013). Effects of marijuana smoking on the lung. *Annals of the American Thoracic Society*, 10, 239-247. http://dx.doi.org/10.1513/ AnnalsATS.201212-127FR

Thomas, G., Kloner, R. A., & Rezkalla, S. (2014). Adverse cardiovascular, cerebrovascular, and peripheral vascular effects of marijuana inhalation: what cardiologists need to know. *The American Journal of Cardiology*, *113*(1), 187-190.

United Nations Office on Drugs and Crime (UNODC), 2018. *World Drug Report, 2018*. Vienna: UNODC.

Vidot, D. C., Arheart, K. L., Prado, G., Hlaing, W. M., Acheampong, A., & Messiah, S. E. (2015). Current marijuana use and cardio-metabolic disease risk in the United States emerging adults, 2005–2010. *Drug and Alcohol Dependence*, 146, e11. http:// dx.doi.org/10.1016/j.drugalcdep .2014.09.712

Volkow, N. D., Swanson, J. M., Evins, A. E., DeLisi, L. E., Meier, M. H., Gonzalez, R., ... & Baler, R. (2016). Effects of cannabis use on human behaviour, including cognition, motivation, and psychosis: a review. *JAMA Psychiatry*, *73*(3), 292-297.

INSTRUCTIONS TO CONTRIBUTORS

Manuscripts. AJDAS solicits manuscripts on these and other aspects of substance use: epidemiology, prevention, treatment, psychopharmacology, health and socio-economic issues, drug trafficking, and drug law and policy. The Journal is particularly interested in manuscripts that report an association between substance use and other social and health-related problems, e.g., HIV/AIDS, crime and violence, injury, accidents, physical and mental health problems. The journal audience includes researchers, practitioners, policy makers, students and educated members of the public interested in alcohol and drug issues. Hence, whether reporting data from an empirical study or reviewing a particular research issue, authors should have in mind this diverse group of readers.

Preparing manuscripts. Authors are required to prepare manuscripts in accordance with the *Publication Manual of the American Psychological Association* (6th Edition). All components of the manuscript should be double-spaced, including title page, abstract, references, author note, acknowledgement, and appendixes. Authors are encouraged to keep manuscripts as concise as possible, with a length of 15 pages or less, including tables, figures, and references. Unless it is absolutely necessary, tables and figure should not be more than four. Every manuscript must include an abstract containing a maximum of 120 words, typed on a separate page. The full name, address, telephone number and e-mail address of the corresponding author should be shown on the cover page.

Please refer to the Manual for specific instructions on preparing abstracts, figures, matrices, tables, and references. References should be cited in the text by author(s) and dates with multiple references in alphabetical order. Each in-text citation should be listed in the reference sec on. Here are examples of how articles and books should be referenced:

Journal article:
Dumbili, E. W., & Onyima, B. N. (2018). Beyond leisure: The role of alcohol in the lives of Nigerian university students. *Substance Use & Misuse, 53(8)*, 1361-1571.

Book chapter:
Tumwesigye, N. M., & Kasirye, R. (2005). Gender and the major consequences of alcohol consumption in Uganda. In I. S. Obot & R. Room (eds.), *Alcohol, gender and drinking problems* (pp. 189-208). Geneva: World Health Organization.

Book:
MacAllister, W.B. (2000). *Drug diplomacy in the twentieth century.* London: Routledge.

Website:
Include the date of access.

Submission of manuscript. All manuscripts should be submitted by e-mail to ajdas@crisaafrica.org or directly to the Editors-in-chief (obotis@gmail.com and girejt@gmail.com). You can also submit your manuscript to the editor responsible for the region to which you belong.

Cover Letter. Every manuscript must be accompanied by a cover letter stating unequivocally that the manuscript and data have not been published previously or concurrently submitted elsewhere for consideration. In addition, authors must state that the participants in their study were treated in accordance with ethical standards. In the case of manuscripts with multiple authors, the corresponding/lead author must state that all listed authors contributed in significant ways to the work. Any conflict of interest must also be declared.

Reprints. The journal does not produce reprints for authors, instead the lead author will receive a copy of the journal in which his or her article appears. You can also have access to your through ajol.info or crisaafrica.org.

Postal address: Nigeria: *African Journal of Drug and Alcohol Studies*, CRISA, P. O. Box 4230, University Post Office, Uyo, Nigeria; USA: CRISA, 10 Sandview Court, Baltimore, MD 21209, USA.

Subscription information: Requests for information on individual or institutional subscriptions should be sent to ajdas@crisaafrica.org.

AFRICAN JOURNAL

of DRUG *and* ALCOHOL STUDIES

VOLUME 18 NUMBER 1 2019

CONTENTS

ISSN 1531-4065

PUBLISHED BY

CRISA Centre for Research and Information on Substance Abuse