The Process of Recovery From Nyaope Addiction Among Youths in Alexandra Township, South Africa

Katlego Morare

https://orcid.org/0000-0001-5629-2784 University of the Witwatersrand, South Africa

Malose Langa

https://orcid.org/0000-0002-2086-0564 University of the Witwatersrand, South Africa Malose.Langa@wits.ac.za

Nomhle Ndimande-Khoza

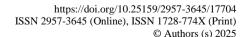
https://orcid.org/0000-0003-1312-7783 Wits RHI, University of the Witwatersrand, South Africa

Abstract

This study explored the experiences of youths recovering from nyaope addiction in the Alexandra township, South Africa. Eight Black male participants, aged 19 to 34 years, were recruited by using purposive and snowball sampling methods. These individuals had faced significant challenges as active nyaope users, and in-depth interviews were conducted to examine the factors influencing both their addiction and recovery journeys. Interpretative phenomenological analysis was employed to analyse the data, which provided a detailed understanding of each participant's lived experiences within the context of addiction recovery. The study identified several challenges associated with professional treatment, including lengthy administrative procedures, extended waiting times for treatment registration, and difficulties managing withdrawal symptoms during the process. These barriers often led some individuals struggling with addiction to seek alternative recovery pathways outside of formal treatment frameworks.

Keywords: nyaope addiction, recovery, youths, Black males, professional treatment, natural recovery







Introduction

In 2020, approximately 5.6% of individuals aged 15 to 64, globally, reported to have used drugs in the past 12 months, which reflects a 26% increase since 2010, with opioids and marijuana being the most commonly used substances (Degenhardt et al., 2018; UNODC, 2022, as cited in Mutai et al., 2024). In sub-Saharan Africa, the agestandardised prevalence of opioid and marijuana use was estimated at 377 and 204 per 100 000 people, respectively, in 2016 (Degenhardt et al. as cited in Mutai et al., 2024). In South Africa, drug consumption is nearly double the global average, which makes it the highest in Africa (Charlton et al. as cited in Lefoka & Netangaheni, 2022). Marijuana is the most widely used drug, followed by methamphetamine, heroin and cocaine (Nzaumvila et al., 2023). Researchers agree that nyaope use, in particular, has increased dramatically (Mphahlele et al., 2022; Mthembi et al., 2018; Nkosi, 2017; Nzaumvila et al., 2023), with its impact being most pronounced among Black youths in townships (Masombuka & Qalinge, 2020).

Nyaope is a South African street drug that is a combination of low-grade heroin, cannabis, antiretroviral drugs and other substances (Mthembi et al., 2018). Nyaope use is particularly concerning because of its highly addictive nature and dangerous combination of ingredients. These ingredients may include a combination of cocaine, rat poison and antiretroviral medication, with low-grade heroin being the most common component. These factors make it exceptionally difficult for individuals struggling with nyaope addiction to quit (Fernandes & Mokwena, 2020; Masombuka & Qalinge, 2020). With regard to addictive effects, nyaope is reported to be more potent and addictive than commonly consumed substances such as marijuana, methamphetamine and cocaine (Varshney et al., 2022).

Nyaope is predominantly found in townships owing to its affordability, costing between R20 and R30 per packet, which increases its accessibility and high prevalence (Mthembi et al., 2018; Tyree et al., 2020). According to the South African Community Epidemiology Network on Drug Use (SACENDU), nyaope use has risen significantly in Gauteng and KwaZulu-Natal compared to other provinces, with 20% of users in KwaZulu-Natal and 10% in Gauteng identifying it as their primary drug of choice (SACENDU, 2019). The drug's consumption has been linked to criminal behaviour, as many users are financially disadvantaged and resort to theft to sustain their addiction (Nzaumvila et al., 2023). In addition, because antiretroviral medication is often used in nyaope production, reports indicate that these drugs are often stolen from health professionals, and illegally sold by corrupt government employees and HIV-infected patients to drug manufacturers (Mthembi et al., 2018). This criminal behaviour has led to instances of mob justice, where users accused of theft and other crimes have been attacked, beaten, stoned, and even necklaced by community members (Dastille & Mpuru, 2021). Consequently, family members of users experience anxiety over their loved ones' actions, which leads to frequent conflicts when attempting to warn them about the consequences of their addiction (Zabeko, 2020). These ongoing disputes disrupt family communication, and cause non-users to withdraw owing to feelings of hurt and frustration (Radebe, 2015). Ultimately, this withdrawal contributes to family instability and the breakdown of family structures (Radebe, 2015).

Problem Statement and Rationale

Unfortunately, despite the widespread consumption of nyaope and its associated social ills, government treatment options in South Africa remain limited, while private rehabilitation services are often unaffordable owing to high unemployment rates (Mokwena, 2016; Nyashanu & Visser, 2022). This is particularly concerning given the high unemployment rates among Black youths in South Africa (Nkhumeleni et al., 2022), which leaves many struggling with addiction unable to access the treatment that they need (Mpanza et al., 2022). In addition, the demand for treatment has increased over the years (Fernandes & Mokwena, 2016), further straining already inadequate treatment services.

Although extensive research has highlighted the limitations and challenges of existing treatment services (Nyashanu & Visser, 2022), less attention has been given to individuals who have successfully overcome addiction without professional assistance. This study aimed to address this gap by exploring the recovery journeys of individuals who have not utilised treatment centres or mutual support groups (White, 2004, as cited in Khumalo, 2020). By focusing on the lived experiences of individuals struggling with nyaope addiction, the study sought to provide insight into the challenges and successes of self-directed recovery. This insight contributes to a more comprehensive understanding of nyaope addiction and recovery, particularly in low-income communities where options for formal treatment are scarce.

It is anticipated that increasing knowledge and understanding of the factors and processes involved in natural recovery will encourage government and other relevant institutions to direct resources towards strengthening and facilitating self-recovery efforts, as well as expanding formal treatment services. A key focus of the study was to investigate how some individuals relied on personal strategies to recover from nyaope addiction, such as self-isolation, medical interventions such as clinic drips, and physical exercise. By highlighting these experiences, the study contributes valuable insights to the existing body of research on recovery, which has often overlooked individuals who recover without professional assistance. In doing so, it expands our understanding of the diverse paths to recovery and the factors that may influence them.

Nyaope Addiction Recovery

Government drug rehabilitation services in South Africa are reported to be scarce, which exacerbates the prevalence of nyaope addiction (Ephraim, 2014; Ho, 2013, as cited in Mokwena, 2016). Studies confirm that the number of rehabilitation centres is limited, with long waiting lists for admission due to the growing demand for treatment among

young people (Fernandes & Mokwena, 2016; Myers et al., 2010. According to Fernandes and Mokwena (2016), unemployment further hinders access to treatment, as most available services are private and prohibitively expensive. This financial barrier disproportionately affects Black and Coloured individuals, who remain disadvantaged owing to systemic inequities rooted in the apartheid era (Myers et al., 2010). Consequently, many Black and Coloured individuals faced with addiction are excluded from formal treatment, which leaves them without appropriate recourse. This has resulted in some youths afflicted with nyaope addiction resorting to self-imposed methods of withdrawal, such as isolating themselves in communal spaces to avoid the negative social environments that perpetuate their struggles with addiction (Stuurman, 2014, as cited in Mokwena, 2016).

It is reported that the recovery process involves the growth of what is termed recovery capital. Recovery capital is defined as a combination of factors that facilitate recovery, including personal resilience, support from friends and family, and resources available in the community such as job opportunities and adequate shelter (Cano et al., 2017). It is stated that persons who possess more resilience are more likely than those with lower resilience levels to display a desire to overcome challenges, which helps them to remain committed to their set goals (Fadardi et al., 2010). This is supported by another study which reports that resilient individuals have the capacity to cope and direct attention, which enables them to carry out and complete tasks with success (Alim et al., 2012). This may be an indication that individuals with high resilience may be more likely to adhere to treatment processes, both professional and otherwise. This highlights the potential benefit of incorporating resilience-building strategies into treatment approaches to support a faster and complete recovery. Given this, the relationship between resilience and the treatment of nyaope addiction may need to be explored further.

Several studies have explored the relationship between locus of control orientation and drug addiction outcomes (Ashfaq, 2023; Ersche et al., 2012; Gachara et al., 2018). Fernandes and Mokwena (2016) found that possessing an internal locus of control was highly related to one's readiness to take responsibility for one's nyaope addiction and to seeking treatment. This finding is significant as it focuses on youths struggling with nyaope addiction. However, further research is needed to better understand the connection between locus of control orientation and recovery outcomes among active users of nyaope.

Perceived family support has been shown to play a critical role in treatment adherence, which highlights the importance of family involvement in the recovery process (Mahlangu & Geyer, 2018). Similarly, a study on active drug users undergoing treatment found that family support significantly contributed to their ability to navigate the challenging journey of recovery (Ghazalli et al., 2017). Excluding recovering individuals from meaningful connections with significant others has been found to hinder recovery, and may even lead to a relapse (Baharudin et al., 2012). This finding

therefore underscores the need for families of those undergoing self-treatment for nyaope addiction to adopt effective coping strategies and to provide both emotional and material support to facilitate the recovery process (Mzolo, 2015).

Personal resilience, a key component of recovery capital, aligns with the concept of a growth mindset, which posits that attributes such as intelligence or addiction are not fixed and can change over time (Sridharan et al., 2019). Research has indicated that adopting a growth mindset can yield positive outcomes, such as mitigating the negative effects of drug use on reasoning abilities (Wang et al., 2017), and encouraging the use of self-determined strategies such as seeking help and reframing situations (Burnette et al., 2020).

Methodology

Interpretative phenomenological analysis (IPA) was selected for this study owing to its focus on exploring individuals' lived experiences in depth (Smith & Osborn, 2015). IPA is a participant-centred approach with two primary aims: to understand participants' perspectives and contexts and to examine how they interpret their experiences (Alase, 2017). This method was particularly appropriate for this study, as it sought to explore the lived experiences of individuals affected by nyaope addiction and the challenges that they encountered.

The study employed individual in-depth interviews to explore the participants' lived experiences. Eight Black men, aged 19 to 34 years, were purposively sampled from local youth organisations in the Alexandra township. Purposive sampling was chosen because the researchers were familiar with these organisations. Snowball sampling was also used when the participants from the youth organisations referred the researchers to additional potential participants in the community.

Ethical clearance was obtained from the University of the Witwatersrand. Participation was voluntary, with the participants providing written consent for both the interviews and audio recordings. Confidentiality was maintained, and pseudonyms were used to protect the participants' anonymity. The principle of no harm was strictly adhered to, which ensured that participation would not cause harm, and that the benefits of involvement outweighed any potential risks.

In cases where the participants might have experienced discomfort due to sensitive questions, they were advised to discontinue participation. In addition, they were provided with the contact details for the South African Depression and Anxiety Group to access free telephonic counselling services.

The interviews were conducted in English and Sepedi, and the transcripts were transcribed and translated into English. The transcripts were manually coded and analysed to generate themes that addressed the research questions. IPA, which was

employed to analyse the collected information, is governed by principles which transcend conventional thematic analyses because of its flexible, iterative and multidirectional nature (Noon, 2018). Guided by the principles espoused by Noon (2018), the researchers began the analysis with reading and rereading each transcript and annotating accordingly. The researchers followed this process by documenting emerging themes and connecting these via conceptual similarities. Following this, the researchers carried out the final step of the process and produced a final table of themes, where subthemes were grouped into superordinate themes. As guided by the principles provided by Noon (2018) with regard to IPA, the researchers applied a similar process to each subsequent transcript. Working from this theoretical perspective, the researchers were able to capture the experiences of a group of individuals who have sought to recover from nyaope addiction. The researchers captured the participants' thoughts on what processes were facilitative to recovery, as well as the processes that were detrimental to recovery.

The study was mainly centred on understanding the lived experiences of a group of individuals who had, owing to struggles with nyaope addiction, been exposed to various experiences. The exploration of these lived experiences pertained to the participant questions and aims that were included in the study. In this regard, the aim of the researchers was not to make predictions about human behaviour, but to gain a better understanding of such behaviour. Since interpretation was carried out from the personal points of view of the researchers, reflexivity, which is an active act of self-evaluation, was practiced to acknowledge how potential biases and prejudice influenced the analysis (Clancy, 2013).

Findings and Discussion

This section presents the participants' experiences relating to their nyaope use, and includes their attempts to discontinue use through non-professional rehabilitation processes. Specifically, the section focuses on the following areas: life as an active user, experiences of seeking help, factors that aided recovery, steps taken towards recovery, and life after recovery.

In an effort to maintain a sense of equality and respect with regard to the participants and their experiences, non-stigmatising language that reflects an accurate understanding and that is consistent with the researchers' professional roles has been used. The term "active user(s)" has been used in place of the term "addict(s)".

Participants' Description

As noted earlier, eight young Black men aged 19–34 years participated in the study (Table 1). They were all from the Alexandra township. The majority of them (seven out of eight) were unemployed. Their years of active use ranged from 5–16 years. On average, the young men had been in recovery for less than five years. However, two

participants had not been successful in achieving recovery, although they had previously made attempts to do so.

Table 1: Participant demographics

Pseudonym	Age	Employment status	Race
Bucks	30	Unemployed	Black
Star	34	Self-employed	Black
Cyrus	25	Unemployed	Black
Psyfo	29	Unemployed	Black
Tiger	19	Unemployed	Black
Vusi	28	Unemployed	Black
Siya	33	Unemployed	Black
Alex	24	Unemployed	Black

Life as an Active User

Each of the participants had been actively using nyaope for at least five years. The duration of each participant's stage of active use was as follows:

I was an addict for 16 years. (Bucks)

I used nyaope from the age of 22 to the age of 29. (Star)

I got addicted in grade 9 when I was 15 years old. I could not live without it until the age of 23. (Cyrus)

My guy, I was addicted for 9 years straight. (Psyfo)

Drug addiction is often described as a chronic condition characterised by compulsive drug-seeking behaviour and an increasing consumption pattern over time (Wang et al., 2017). The participants in this study reported a progressive need to consume larger quantities of nyaope as their addiction deepened. This escalation is linked to the development of tolerance, where the drug's effects diminish with repeated use, and compel users to increase their dosage to achieve the desired effect (Mokwena, 2016; Siegel, 2005). As a result, the rising consumption of nyaope placed a greater financial burden on the participants, which made it increasingly difficult for them to sustain their addiction. In their own words, the participants shared the following experiences:

I never stopped or decreased. My dosage kept on going higher and higher. (Tiger)

I started, then began smoking two daily, then three. (Cyrus)

Truly, you must start from the first step and then increase over time. I started with two puffs, then it went to a joint, my own joint, then it escalated to a bag, a full bag of it. A

R25 bag, a small plastic bag, then from that one plastic bag a day, it escalated to two plastic bags a day then three. The urge increases. It wants you to use it more. (Psyfo)

Consistent with these findings, previous research indicates that the average cost of a bag of nyaope ranges from R25 to R30 (Mokwena, 2016; Hosken, 2009, as cited in Nkosi, 2017). This translates to a minimum daily expenditure of approximately R75 to sustain regular use. The financial strain of addiction was further highlighted by a participant who explained:

So I ended up buying 12 bags a day. (Bucks)

Based on the estimates, the participants would have spent approximately R330 per day on nyaope, despite being unemployed. They described the financial struggles they faced and the extreme measures they took to sustain their addiction, often resorting to criminal activities. Bucks shared, "When you hustle, you have to do some other weird things just to have that gwap [money]." Psyfo added, "Then, you start to steal from the neighbours and the community at large." These accounts align with findings from other studies, in which the caregivers of active nyaope users reported that their children frequently engaged in theft to support their addiction. This often resulted in financial strain for the caregivers and conflicts with neighbours whose belongings had been stolen by nyaope users (Masombuka & Qalinge, 2020).

Experiences of Seeking Help

The process of seeking professional rehabilitation services was challenging for the participants, and made it difficult for them to access treatment, as reflected in the following excerpts:

I was required to join a long queue. I did not have time for that. So, it was difficult for me, do you understand? It was tough. (Psyfo)

I could not do the western kind. I signed up, but the problem was that I did not have the patience to be waiting in the sign-up queue because the abdominal pains were becoming unbearable, and there was a lot of us. (Cyrus)

The queue is usually until around 4 PM, and I cannot queue the whole day. So, I could not bear it. (Star)

It is because every time, he is looking for a fix. There's nothing more important than a fix in his life. (Star)

It is a matter of having that fix. So, even if someone feels like going to seek help, the withdrawal symptoms can make it look like that person does not want to get better. Those are severe, unimaginable pains, and you do not know when they will stop. (Bucks)

The above quotes highlight the unbearable nature of withdrawal symptoms experienced during active drug use. These symptoms present a significant barrier to recovery, and are exacerbated by the lack of accessible treatment services and the inefficiencies in existing rehabilitation programmes. The participants perceived professional treatment centres as failing them owing to the lengthy and bureaucratic sign-up process. This aligns with reports indicating that government-funded substance use treatment facilities in South Africa are limited (Ephraim, 2014; Ho, 2013, as cited in Mokwena, 2016).

The scarcity of treatment facilities is particularly concerning when considering Cyrus's previous statement about the long queues at treatment centres. In addition, as Psyfo noted, the process often involves being sent to numerous locations for different procedures, further complicating access to care. Research supports these frustrations by indicating that existing services are insufficient due to poor coordination and weak administrative processes, making it difficult for individuals to register and begin treatment (Nyashanu & Visser, 2022). Long queues during registration reflect the overwhelming demand for rehabilitation services, and contribute to extensive waiting lists (Mpanza & Govender, 2017).

For instance, the De Novo Treatment Centre in the Western Cape, with a capacity to accommodate only 80 individuals, required users to wait between six weeks and five months before admission (Lutchman, 2015). As Lutchman (2015) further notes – and as Bucks emphasised in his statement, "the withdrawal symptoms can make it look like a person does not want to get better" – the prolonged waiting period often leads individuals to relapse and abandon their attempts at seeking treatment.

The severity of withdrawal symptoms described by the participants is consistent with previous research. For example, one study found that nyaope users suffered from extreme abdominal pain, which was deemed intolerable by many individuals (Khine & Mokwena, 2016).

The participants' experiences of extended waiting times further highlight the inadequacies of the current system in addressing the urgent needs of nyaope users (Nyashanu & Visser, 2022). The bureaucratic hurdles involved in obtaining professional treatment led some individuals to opt for non-professional recovery. In support of this, Bucks stated, "that's why some people end up locking themselves up." This statement serves as a reminder that Bucks initially attempted natural recovery by isolating himself at home before adopting a different strategy, which is explored further under the theme factors that aided the journey towards recovery. His experience suggests that he abandoned professional treatment owing to systemic failures, including poor service availability and administrative inefficiencies.

For those who attempted self-treatment by isolating themselves, the withdrawal symptoms remained a significant obstacle, as they lacked alternative coping

mechanisms to manage the associated pain. The following quotes illustrate the challenges they encountered:

I could not bear the withdrawal symptoms. I would roll all over the floor, sweating profusely and vomiting. I would break the locks and go out. (Tiger)

I got sick the whole night and couldn't sleep. (Bucks)

I was starting to feel hot and cold at the same time. So, because those were situations that I was not used to, they would push me to go out and smoke. Those were things that would pressurise me because I would change all at once. (Psyfo)

The above quotes highlight the intense pain and difficulty experienced during self-treatment using the initial coping strategy. As a result, some participants sought alternative recovery approaches, while others attempted to find treatment centres with shorter admission processes. These experiences underscore the urgent need for significant improvements in resource allocation, coordination and service delivery to ensure more effective treatment options for young people seeking professional help.

Thus far, the discussion has primarily focused on recovery experiences outside of professional treatment centres. The focus will now shift to the challenges encountered in these facilities. The participants reported difficulties in relating to certain aspects of the treatment process, while other challenges stemmed from interactions with others who were also in recovery at a given treatment centre.

Experiences in Treatment Centres

Some participants expressed concerns about the perceived lack of expertise among rehabilitation centre staff, particularly regarding their ability to address the unique challenges associated with nyaope addiction and recovery.

So, it felt as if I was being made a fool of, and those things tend to make you not want to learn more. At the first stage, you ask, 'have you ever smoked?', and then that person tells you that 'No, I have a diploma'. 'Oh, diploma, you studied about this, you did not smoke.' You are just thinking about when you are leaving. (Bucks)

Coming out of those places, I felt cheated. I felt that I was not done with it. I was telling myself that I was going to smoke more just to show them that they were wrong. (Psyfo)

The participants felt that counsellors with firsthand experience of nyaope addiction would have been more relatable and effective in supporting their recovery. Research supports this perspective, suggesting that substance abuse counsellors who have undergone recovery themselves often feel more connected to their work, demonstrate high levels of dedication, and view their contributions as integral to their identity (Curtis & Eby, 2010). This aligns with the identity theory (IT), which posits that an individual's

sense of identity is shaped by the roles that they occupy rather than the groups they belong to (Hogg et al., 1995; Stets & Burke, 2000, as cited in Curtis & Eby, 2010).

According to the IT, identity is formed by classifying oneself in a specific role and internalising its meaning, responsibilities and expected behaviours (Stets & Burke, 2000). Based on this framework, an addiction counsellor who is also in recovery may be more effective in building positive relationships with clients and fostering mutual understanding. However, research also indicates that some addiction counsellors may lack sufficient knowledge about certain addictions, which might result in a misalignment between their personal experiences, formal training and the specific needs of people struggling with substance use (Yates et al., 2017).

Another key challenge raised by the participants was the presence of individuals in treatment centres who were not genuinely committed to quitting nyaope use. Cyrus, for example, encountered individuals who were undergoing rehabilitation, but openly expressed their lack of readiness to quit. Although this did not lead him to relapse, he found it meaningful to be surrounded by individuals who were genuinely committed to recovery. Reflecting on his experience, he stated:

There are those who are not willing to quit completely. Some would even say, 'I'm taking some time off, but as soon as I leave, I'm going to smoke again.'

This quote can be understood through the transtheoretical model of behaviour change, which consists of three key stages: precontemplation, contemplation and action (Opsal et al., 2019). This model, which is closely linked to motivation in substance use, suggests that individuals move along a continuum when attempting to change their behaviours. Based on this model, the individuals that Cyrus encountered – who expressed their unwillingness to quit nyaope – were likely still in the precontemplation stage, where they had not yet recognised the harmful nature of their substance use. Research by Opsal et al. (2019) further suggests that, while some individuals admitted into treatment involuntarily may develop motivation to change, others remain resistant to quitting. It is likely that some of the individuals whom Cyrus encountered had been admitted to rehabilitation without their full willingness, which contributed to their lack of commitment to recovery.

To further illustrate his desire to be surrounded by individuals committed to recovery, Cyrus intentionally went to the treatment centre alone, without anyone he knew. He explained:

Starting alone is better. As friends, there would be one who would persuade us to do something else, and influence us to leave and continue smoking.

The above quotes indicate that some individuals want to progress towards recovery and need to be surrounded by like-minded individuals as a source of motivation. Being in an environment with others who are committed to quitting can reinforce positive

behavioural change and provide essential emotional support during the recovery process.

Factors that Aided the Journey Towards Recovery

Willpower to overcome addiction was identified as a crucial element in progressing towards recovery (Kemp et al., 2015). Before pursuing self-treatment or a professional intervention, the participants displayed a strong commitment to achieving recovery. This involved acknowledging the challenges that lay ahead. They recognised that recovery required reliance on inner strength and maintaining a positive mindset, along with the determination and willingness to confront and overcome these obstacles.

For one to quit drugs, it requires your heart. You must tell yourself that you do not want this anymore. (Cyrus)

It is all in your mind if you want to change or not. (Siya)

It's the heart. Hence, I'm saying, it comes from the heart to say I don't want it anymore. (Alex)

The participants' growth mindset played a vital role in their recovery process, which enabled them to recognise their potential for change and personal growth. They believed that their addiction was not permanent and that they possessed the inner strength and resources needed to overcome it (Sridharan et al., 2019). As part of their recovery journey, they took proactive steps, which included limiting their exposure to nyaope by avoiding places associated with its use.

Limiting Access to Nyaope as Part of Self-discipline

I asked them to lock me up in the house. (Tiger)

Firstly, I told myself that I wanted to stay home for a day and see what would happen. (Psyfo)

I've tried to stay at home to quit on my own. (Bucks)

The participants' strategies, as described above, align with findings by Mokwena (2016), which highlight that individuals who are attempting to recover often engage in isolation strategies, such as confining themselves to their homes and avoiding contact with active users. These approaches demonstrate the participants' commitment to overcome their addiction. However, these strategies were insufficient to manage the intense and painful withdrawal symptoms associated with attempts at quitting. Research confirms that individuals attempting to quit often experience severe symptoms, such as stomach cramps, joint pain, hallucinations and insomnia (Ngcobo, 2019; Varshney et al., 2022).

Despite these challenges, the participants remained determined to progress towards recovery, and drew upon their mental and internal resources to resist the temptation to relapse. Their willpower was instrumental in discouraging a return to active use. However, the intensity of the withdrawal symptoms led some participants to explore alternative strategies for relief. For instance, one participant substituted nyaope with alcohol as a way to alleviate the pain associated with his withdrawal symptoms.

I used alcohol. (Star)

The above account demonstrates that Star employed substitution as a strategy to move towards recovery. Substitution is often used as a compensatory strategy when a primary substance has been quit, with the new substance expected to provide certain benefits (Sinclair et al., 2021). In the context of opioid maintenance treatment, substitution involves the use of medically prescribed substances, such as methadone or buprenorphine, to reduce harm associated with opioid use (Shapira et al., 2020). However, Shapira et al. (2020) also note that individuals often engage in non-medically approved substitution behaviours, which are initiated independently of professional treatment.

In this case, Star adopted a self-initiated substitution strategy by using alcohol. He justified this behaviour by stating that alcohol was a better alternative to nyaope. Ultimately, Star managed to quit, and it appeared that alcohol had served as a temporary measure, as he discontinued its use shortly after overcoming his active use. Although this may not be the case for everyone in recovery, Star, reflecting on this experience, stated:

I stopped smoking completely. With beer, I stopped maybe after 5 weeks. (Star)

In addition, some participants reported using alternative methods to manage their withdrawal symptoms, such as drinking plenty of water and consuming soft foods. According to their personal accounts, these strategies provided some relief from the physical discomfort associated with the withdrawal symptoms.

A drip does make a person not feel those severe withdrawal symptoms because, to tell you something, if you listened to me when I was counting those withdrawal symptoms like stomach aches, sweating, joint pains, tiredness, feeling as if you do not have energy. So, taking water in to your immune system, you must know that water is life. (Bucks)

You must eat soft foods. I would eat a lot of porridge. You beat nyaope in the body by eating and drinking lots of water. (Tiger)

Following a healthy diet for individuals in recovery is essential as the liver and kidneys were previously strained from working to remove toxins from the body (Peeke, 2006). In addition, drug addiction often disrupts healthy eating habits and can lead to poor nutrition (Mahboub et al., 2021). A nutritious diet can support the body's healing

processes and provide essential nutrients for overall health and well-being. For the participants in this study, consuming plenty of water and eating healthily may have assisted their digestive systems to recover, which also helped to reduce the intensity of their withdrawal symptoms.

Tiger also spoke about exercising regularly to alleviate any withdrawal symptoms:

We also danced and sweated a lot. Nyaope is mostly eliminated from the body through sweating. That's the trick, exercise and sweat a lot.

Here, physical activity positively influenced the recovery process (Castillo-Viera et al., 2022; Thompson et al., 2018). Exercise has been shown to not only alleviate withdrawal symptoms, but also to reduce anxiety and depressive symptoms, which can pose significant challenges to recovery (Castillo-Viera et al., 2022; Thompson et al., 2018). From a behavioural perspective, engaging in physical activity enables recovering individuals to avoid triggers that might lead to a relapse while offering a safe and rewarding alternative that diverts attention from cravings (Thompson et al., 2018).

The Use of Religious and Traditional Methods

For some of the participants, religious and traditional practices played a significant role in their recovery journeys as reflected in the quotes below:

I knelt down and prayed, and also used holy water. (Tiger)

I went to church and everything was going well. (Star)

I continued to learn about God, the higher power, which is something that I grew up with. (Bucks)

For the participants who relied heavily on religious practices, particularly prayer, research indicates that such spiritual engagement may activate brain regions associated with social cognition and self-reflection (Sussman et al., 2011). Previous studies have also found that a significant majority of individuals in recovery report using spiritual practices as part of their recovery process (Brown & Peterson, 1989, cited in Eliason et al., 2006). According to Eliason et al. (2006), these practices often involve cognitive methods such as acknowledging loss of control, developing trust in a higher power, and accepting one's current circumstances.

Spiritual awareness is also a core component of recovery groups such as Alcoholics Anonymous and Narcotics Anonymous, with many long-term members attributing their healing experience to their dedication to spiritual practice (Galanter et al., 2021). Research by Galanter et al. (2021) revealed that individuals who experienced a spiritual awakening were three times more likely to maintain abstinence. These findings highlight the significant role that spirituality can play in recovery, which aligns with the current study's participants' beliefs and experiences.

In addition to the religious practices, some participants spoke about other traditional methods as stated below:

I cleansed and used an enema. (Cyrus)

I used to use *isfutho* [steam inhalation], and I became okay. (Vusi)

As mentioned previously, individuals with an internal locus of control are reported to take responsibility for their addiction, and are internally driven towards quitting (Tajalli & Kheiri, 2010). With regard to an internal locus of control, some participants stated:

I got myself into this life, and it is my duty get myself out. (Cyrus)

I can't put the blame on my friends or family. It was all me. (Star)

As a man, you must hold yourself accountable for every action you take. (Siya)

The participants further indicated that the presence of family and friends played a facilitative role in the process towards their recovery. Accordingly, social support from family and friends has been identified as a key factor in recovery (Cano et al., 2017).

The lady that I work with has been my main support structure. I regard her as family. (Bucks)

My mother and brothers supported me financially and emotionally. (Cyrus)

My friends have supported me greatly. They would encourage and remind me of old times when I did not smoke. (Psyfo)

Many participants emphasised that their recovery would not have been possible without the support of their family members. The importance of family support is well-documented in various studies, which indicate that physical and emotional support from family can lead to a sense of contentment and stability in those attempting recovery (Cano et al., 2017; Shoodi et al., 2019). Emotional support involves fostering closeness and providing attention, which creates a sense of emotional security. Physical support, on the other hand, may include financial assistance and offering employment opportunities, both of which have a positive impact on an individual's mental state and aid in their recovery process (Sari et al., 2021).

Life Free of Nyaope

The participants' primary concern after overcoming addiction was securing employment as a critical step in rebuilding their lives. However, many faced significant challenges in finding work owing to a lack of skills and prior work experience.

I nearly got electrocuted last year stealing cable wires because I did not have a job, and it's hard to make ends meet. Look at my hands, they are pink from electric shock. (Vusi)

I don't work. I depend on R350 for the unemployed. (Cyrus)

I have a family to support, but I can't do that without a job. (Siya)

The lack of employment was a significant stressor for the participants, which posed the risk of a relapse for some if their situation remained unchanged. Recovery initiatives must prioritise reskilling former users to enhance their employability (Becton et al., 2020). Employment not only provides a means of survival, but also empowers individuals, fosters a sense of belonging and self-direction, and contributes to overall well-being (Becton et al., 2020). Research also indicates that individuals in recovery tend to be more productive and efficient at work, and are less likely to be absent (Sigurdsson et al., 2012). Despite these challenges, some participants possessed skills that made them readily employable.

Things become more difficult, especially if you do not have experience of something. Luckily, I have a trade and can make money through my hands. So, that made it easier for me to become financially okay and stuff like that. (Star)

I now work for Avon as a marketer and promoter. I also work at an NGO where I lead young men. (Bucks)

For some individuals in recovery, employment served as a protective factor, which provided a sense of purpose and goal-oriented focus. These individuals were highly motivated to prove themselves and show that they were "changed people". However, for others, the stigma associated with having been an active user remained a significant obstacle, and hindered their ability to secure and maintain employment.

Some people who can get me into working are hesitant because they feel that 'what if we take Psyfo and give him work and he steals?' So, people do not have trust in me yet. So, to find work, it is not easy. (Psyfo)

Some individuals in recovery face significant stigma and discrimination, which make it challenging to reintegrate into society and secure employment. Negative perceptions towards individuals in recovery often result in their being denied job opportunities, despite having achieved recovery. In addition, some struggle to find work owing to criminal records for offences committed during their active use stage (Eddie et al., 2020).

Strengths and Limitations of the Study

This study's primary strength lies in amplifying the voices of those who have used nyaope, particularly in the marginalised community of Alexandra. By doing so, it

highlighted the challenges these individuals faced when seeking professional treatment, and emphasised the need for increased access to treatment centres and streamlined admission processes. In addition, the study illuminated the role of individual willpower in recovery, and showcased the creative strategies some active users employ to heal outside of professional treatment settings. This perspective sheds light on alternative recovery pathways, and offers potential avenues for future research. Ultimately, the study highlighted recovery success stories achieved outside of traditional professional treatment processes.

However, the study had notable limitations. It was based on a small sample of young Black men in Alexandra Township, which restricts the generalisability of the findings to individuals of different genders, racial backgrounds and locations. Information triangulation was limited, as the study did not include interviews with other individuals who might have corroborated changes in the participants since they stopped using nyaope.

The richness of the data was also affected by one participant who provided brief and limited responses, which potentially affected the depth of the insights. Although the participants were required to have been abstinent for at least a year, two participants had not fully succeeded in achieving recovery, despite previous attempts to do so. As a result, some of their responses may have reflected their current thinking rather than their direct experiences of recovery.

Despite these limitations, the study offers valuable insights into how young men drew on their inner strength and support networks to work towards recovery.

Implications

To address the challenges faced by active nyaope users seeking treatment, the government must establish additional treatment centres, particularly in impoverished townships and areas predominantly inhabited by Black communities. Many young Black active users are unemployed and unable to afford private treatment or the cost of travelling long distances to government facilities. Increasing the number of treatment centres would enable improved access to care, and eliminate long waitlists for those willing to seek help. This expansion would also encourage professional treatment over non-professional recovery, which is often extremely challenging to achieve.

Treatment centres need to adopt inclusive policies that respect and accommodate diverse spiritual practices. While some centres focus on teaching spirituality, they should also consider integrating approaches that align specifically with African traditional spirituality and ancestral practices for individuals who resonate more with these traditions. To achieve this, professionals from both spiritual perspectives – those emphasising prayer to God and those facilitating traditional rituals – should be recruited

to ensure that treatment is inclusive and culturally sensitive, thereby aligning with the spiritual needs of all individuals seeking recovery.

Recommendations for Future Research

Future research may need to explore the impact of skills training at treatment centres on recovery outcomes. Future research may also need to look into employment outcomes for Black youths with varying levels of education who have come out of rehabilitation. This will provide insight into whether race or educational level play a significant role in employment outcomes for these recovering individuals. Future research may also need to look further into the effectiveness of the strategies of non-professional recovery that were used by the participants in this study.

Conclusion

This article has examined the lived experiences of young individuals striving to overcome nyaope addiction, a pervasive social crisis in South African townships that disproportionately affects poor, unemployed Black youths (Fernandes & Mokwena, 2020). Despite growing concerns about the rising use of nyaope and its devastating societal effects (Nzaumvila et al., 2023), government treatment services remain difficult to access (Machethe et al., 2022).

As a result, the participants in this study chose alternative paths to recovery, and pursued healing through self-initiated efforts without external assistance from professional treatment centres or mutual support groups (Khumalo, 2020). Their determination was evident in the diverse strategies that they employed to progress towards recovery. In this context, the study highlighted the critical role of willpower, and revealed the transformative capacity for change that may exist in individuals.

Ethical Approval

Ethical clearance (MASPR/22/08) for the study was provided by the School of Human and Community Development Ethics Committee of the University of the Witwatersrand.

Informed Consent

Verbal informed consent was obtained from each of the participants involved in the study.

Data Availability Statement

The data that support the findings of this study are available upon reasonable request.

References

- Alase, A. (2017). The interpretative phenomenological analysis (IPA): A guide to a good qualitative research approach. *International Journal of Education & Literacy Studies*, 5(2), 9–19. https://doi.org/10.7575/aiac.ijels.v.5n.2p.9.
- Alim, T. N., Lawson, W. B., Feder, A., & Iacoviello, B. M., Saxena, S., Bailey, C. R., Greene, A. M., & Neumeister, A. (2012). Resilience to meet the challenge of addiction: Psychobiology and clinical considerations. *Alcohol Research*, *34*(4), 506–515. https://pubmed.ncbi.nlm.nih.gov/23584116/.
- Ashfaq, Z. (2023). Role of drug related self esteem in relationships between drug related locus of control and depression among substance users. *International Journal of Drug Development and Research*, 15(2), 1–8.
- Baharudin, D. F., Zakaria, M. Z., Ahmad, Z. A., Hussin, A. H., Mohamed, S., Sumari, M., & Sawai, R. P. (2012, May). *The experience of family support by people in the recovery of drug addiction* [Conference presentation]. Asian Conference on the Social Sciences, Osaka, Japan.
- Becton, A. B., Chen, R. K., & Juarez, S. W. (2020). Hiring individuals in addiction recovery: characteristics, levels of concern and willingness. *Journal of Rehabilitation*, 86(2), 39–46.
- Burnette, J. L., Knouse, L. E., Vavra, D. T., O'Boyle, E., & Brooks, M. A. (2020). Growth mindsets and psychological distress: A meta-analysis. *Clinical Psychology Review*, 77, 1–13. https://doi.org/10.1016/j.cpr.2020.101816.
- Cano, I., Best, D., Edwards, M., & Lehman, J. (2017). Recovery capital pathways: Modelling the components of recovery wellbeing. *Drug and Alcohol Dependence*, *181*, 11–19. https://doi.org/10.1016/j.drugalcdep.2017.09.002.
- Castillo-Viera, E., Gago-Valiente, F. J., Giménez-Fuentes-Guerra, F. J., Abad-Robles, M. T., & Moreno-Sánchez, E. (2022). Physical activity programmes in the treatment of addictions: A systematic review. *Applied Sciences*, *12*(18), 1–14. https://doi.org/10.3390/app12189117.
- Clancy, M. (2013). Is reflexivity the key to minimising problems of interpretation in phenomenological research? *Nurse Researcher*, 20(6), 12–16. https://doi.org/10.7748/nr2013.07.20.6.12.e1209
- Curtis, S. L., & Eby, L. T. (2010). Recovery at work: The relationship between social identity and commitment among substance abuse counselors. *Journal of Substance Abuse Treatment*, 39(3), 248–254. https://doi.org/10.1016/j.jsat.2010.06.006.
- Dastille, N. P., & Mpuru, L. (2021). Gendered lived experiences' of victims of mob justice rleated incidents. *Gender and Behaviour*, 19(3), 1–11. https://www.ajol.info/index.php/gab/article/view/222294

- Degenhardt, L., Charlson, F., Ferrari, A., Santomauro, D., Erskine, H., Mantilla-Herrara, A., Whiteford, H., Leung, J., Naghavi, M., & Griswold, M. (2018). The global burden of disease attributable to alcohol and drug use in 195 countries and territories, 1990–2016: A systematic analysis for the Global Burden of Disease Study 2016. *Lancet Psychiatry*, 5(12), 987–1012. https://doi.org/10.1016/S2215-0366(18)30337-7
- Eddie, D., Vilsaint, C. L., Hoffman, L. A., Bergman, B. G., Kelly, J. F., & Hoeppner, B. B. (2020). From working on recovery to working in recovery: Employment status among a nationally representative U.S. sample of individuals who have resolved a significant alcohol or other drug problem. *Journal of Substance Abuse Treatment*, 113, 1–11. https://doi.org/10.1016/j.jsat.2020.108000.
- Eliason, M. J., Amodia, D. S., & Cano, C. (2006). Spirituality and alcohol and other drug treatment. *Alcoholism Treatment Quarterly*, 24(3), 121–141. https://doi.org/10.1300/J020v24n03_08.
- Ephraim, A. (2014, 3 July). Nyaope's deadly, and addictive, mix. *Mail & Guardian*. https://mg.co.za/article/2014-07-03-hook-line-and-sinker-thats-nyaope/
- Ersche, K. D., Turton, A. J., Croudace, T., & Štochl, J. (2012). Who do you think is in control in addiction? A pilot study on drug-related locus of control beliefs. *Addictive Disorders & Their Treatment*, 11(4), 195–205. https://doi.org/10.1097/ADT.0b013e31823da151.
- Fadardi, J. S., Azad, H., & Nemati, A. (2010). The relationship between resilience, motivational structure, and substance use. *Procedia Social and Behavioral Sciences*, 5, 1956–1960. https://doi.org/10.1016/j.sbspro.2010.07.395.
- Fernandes, L., & Mokwena, K. E. (2016). *The role of locus of control in nyaope addiction treatment*. *South African Family Practice*, *58*(4), 153–157. https://doi.org/10.1080/20786190.2016.1223794
- Fernandes, L., & Mokwena, K. E. (2020). Nyaope addiction: The despair of a lost generation. *African Journal of Drug and Alcohol Studies*, 19(1), 37–51. https://www.ajol.info/index.php/ajdas/article/view/203861.
- Gachara, E., Wasanga, C., & Olaly, W. (2018). Relationship between locus of control and abstinence among persons recovering from alcohol and drugs addiction in Kirinyaga County, Kenya. *Scholars Journal of Arts, Humanities and Social Sciences*, 6(4), 835–843.
- Galanter, M., Hansen, H., & Potenza, M. N. (2021). The role of spirituality in addiction medicine: A position statement from the spirituality interest group of the International Society of Addiction Medicine. *Substance Abuse & Addition Journal*, 42(3), 269–271. https://doi.org/10.1080/08897077.2021.1941514.
- Ghazalli, F. S., Ghani, N. A., Abdullah, B., Chik, W. M., & Mohd, Z. (2017, January). *Family support from the perspective of drug addicts* [Conference presentation]. International Conference on Ethics in Governance (ICONEG 2016).

- Hogg, M. A., Terry, D. J., White, K. M. (1995). A tale of two theories: A critical comparison of identity theory with social identity theory. *Social Psychology Quarterly*, 58(4), 255–269. https://doi.org/10.2307/2787127
- Kemp, R., Channer, K., & Zahn, A. (2015). Willpower building: A new element in relapse prevention. *Health Psychology Report*, 4(4), 281–293. https://doi.org/10.5114/hpr.2016.59887.
- Khine, A. A., & Mokwena, K. E. (2016). Drug interactions in the constituents of street drug mixture "nyaope" in South Africa: A mini-review. African Journal of Drug and Alcohol Studies, 15(2), 91–102. https://purerims.smu.ac.za/en/publications/drug-interactions-in-the-constituents-of-street-drug-mixture-nyao
- Khumalo, T. (2020). Addiction and recovery from whoonga: An interpretative phenomenological analysis of the lifeworld of youth from INK townships "in recovery" [PhD thesis, University of the Witwatersrand]. Wits Institutional Repository Environment on DSpace. https://researchspace.ukzn.ac.za/handle/10413/20203.
- Lefoka, M. H., & Netangaheni, R. T. (2022). Factors associated with smoking and transitioning to nyaope injection amongst women in the City of Tshwane Municipality: A self-report by women. *Health SA Gesondheid*, 27, 1–11. https://doi.org/10.4102/hsag.v27i0.1775.
- Lutchman, S. (2015). Insufficient access to substance abuse treatment centres for illicit drug users and its potential effect on a foetus: A breach of the right to access health care services. *Law, Democracy & Development*, 19, 65–78. https://www.ajol.info/index.php/ldd/article/view/122208/111690
- Machethe, P., Obioha, E., & Mofokeng, J. (2022). Community-based initiatives in preventing and combatting drug abuse in a South African township. *International Journal of Research in Business and Social Science*, 11(1), 209–220. https://doi.org/10.20525/ijrbs.v11i1.1555.
- Mahboub, N., Rizk, R., Karavetian, M., & De Vries, N. (2021). Nutritional status and eating habits of people who use drugs and/or are undergoing treatment for recovery: A narrative review. *Nutrition Reviews*, 79(6), 627–635. https://doi.org/10.1093/nutrit/nuaa095.
- Mahlangu, S., & Geyer, S. (2018). The aftercare needs of nyaope users and their significant others: Implications for aftercare and reintegration services. *Social Work/Maatskaplike Werk*, 54(3), 327–345. https://doi.org/10.15270/54-3-652.
- Masombuka, J., & Qalinge, L. (2020). Outcry and call for relief: Experiences and support needs of parents with nyaope users. *Social Work/Maatskaplike Werk*, 56(1), 51–62. https://doi.org/10.15270/56-1-789.
- Mokwena, K. (2016). "Consider our plight": A cry for help from nyaope users. *Health SA Gesondheid*, 21(1), 137–142. https://doi.org/10.4102/hsag.v21i0.944.

- Mpanza, D. M., & Govender, P. (2017). Rural realities in service provision for substance abuse: A qualitative study in uMkhanyakude district, KwaZulu-Natal, South Africa. *South African Family Practice*, *59*(3), 110–115. https://doi.org/10.1080/20786190.2016.1272232
- Mpanza, D. M., Govender, P., & Voce, A. (2022). Perspectives of service providers on aftercare service provision for persons with substance use disorders at a rural district in South Africa. *Substance Abuse Treatment, Prevention, and Policy*, *17*, 1–17. https://doi.org/10.1186/s13011-022-00471-5.
- Mphahlele, L. S., Setwaba, M., Nel, K., & Govender, I. (2022). Experience and behaviour(s) of students who use nyaope drug at a South African university. *Open Public Health Journal*, *15*, 1–9. https://doi.org/10.2174/18749445-v15-e221206-2022-94.
- Mthembi, P. M., Mwenesongole, E. M., & Cole, M. D. (2018). Chemical profiling of the street cocktail drug "nyaope" in South Africa using GC–MS I: Stability studies of components of "nyaope" in organic solvents. *Forensic Science International*, 292, 115–124. https://doi.org/10.1016/j.forsciint.2018.08.001.
- Mutai, K. K, Stone, J., Scheibe, A., Fraser, H., Johnson, L. F., & Vickerman, P. (2024). Trends and factors associated with illicit drug use in South Africa: Findings from multiple national population-based household surveys, 2002–2017. *International Journal of Drug Policy*, 125, 1–12. https://doi.org/10.1016/j.drugpo.2024.104352.
- Myers, B. J., Louw, J., & Pasche, S. C. (2010). Inequitable access to substance abuse treatment services in Cape Town, South Africa. *Substance Abuse Tratment, Prevention, and Policy*, 5(1), 1–11. https://doi.org/10.1186/1747-597X-5-28
- Mzolo, M. P. (2015). Exploring family support for adolescents after rehabilitation for drug abuse [Master's dissertation, University of South Africa]. http://uir.unisa.ac.za/bitstream/handle/10500/19840/dissertation_mzolo_mp.pdf;jsessionid=ADAD0B5E8B1900954E0480CB77AAE39B?sequence=1.
- Ngcobo, S. B. (2019). An exploration of the association between the whoonga/nyaope drug and criminality through the eyes of convicted drug offenders in three metropolitan cities of the Republic of South Africa [PhD dissertation, University of KwaZulu-Natal]. ResearchSpace. https://researchspace.ukzn.ac.za/handle/10413/18565.
- Nkhumeleni, M., Stiegler, S., & K. Ogujiuba. (2022). Interaction of unemployment, socioeconomic factors and demographic dividend in South Africa: Issues and policy options. *International Journal of Economics and Financial Issues*, *12*(5), 95–105. https://doi.org/10.32479/ijefi.13388.
- Nkosi, H. S. (2017). Effects of nyaope on families with a family member that is addicted to the drug nyaope. Research report, University of the Witwatersrand. Wits Institutional Repository Environment on DSpace.

- Noon, E. (2018). Interpretive phenomenological analysis: An appropriate methodology for educational research? *Journal of Perspectives in Applied Academic Practice*, 6(1), 75–83. https://doi.org/14297/jpaap.v6i1.304.
- Nyashanu, T., & Visser, M. (2022). Treatment barriers among young adults living with a substance use disorder in Tshwane, South Africa. *Substance Abuse Treatment, Prevention, and Policy*, 17, 1–11. https://doi.org/10.1186/s13011-022-00501-2.
- Nzaumvila, D. K., Mash, R., & Helliwell, T. (2023). Exploring the perspectives of community members on use of Nyaope in Tshwane, South Africa. *South African Family Practice*, 65(1), 1–10. https://doi.org/10.4102/safp.v65i1.5715.
- Opsal, A., Kristensen, O., & Clausen, T. (2019). Readiness to change among involuntarily and voluntarily admitted patients with substance use disorders. *Substance Abuse Treatment, Prevention, and Policy*, *14*(47), 1–10. https://doi.org/10.1186/s13011-019-0237-y
- Peeke, P. (2006). Lifestyle corner: Recovery: Tips for overcoming challenges. *National Women's Health Report*, 28(6), 1–8. https://www.proquest.com/openview/750c9c6b5fdf7cf06220db26e7d0bdbf/1?pq-origsite=gscholar&cbl=32526
- Radebe, N. G. (2015). Exploring the effects of substance abuse on the family in a selected eThekwini District [Master's thesis, University of KwaZulu-Natal]. ResearchSpace. http://hdl.handle.net/10413/14413.
- SACENDU. (2019, April). Research brief: Monitoring alcohol, tobacco and other drug use trends in South Africa. Alcohol, Tobacco and Other Drug Research Unit, South African Medical Research Council.
- Sari, D. M., Fatah, M. Z., & Nurmala, I. (2021). Family's role in helping drug abuser recovery process. *Indonesian Journal of Health Promotion and Health Education*, 9(1), 59–68. https://doi.org/10.20473/jpk.V9.I1.2021.59-68.
- Shapira, B., Rosca, P., Berkovitz, R., Gorjaltsan, I., & Neumark, Y. (2020). The switch from one substance-of-abuse to another: Illicit drug substitution behaviors in a sample of high-risk drug users. *Open Access Journal for Life and Environment Research*, *17*(8), 1–25. https://doi.org/10.7717/peerj.9461.
- Shoodi, M. F., Bakar, A. Y., Johari, K., Kari, D., & Ismail, N. 2019, January). *Family support system among recovering adolescent drug addicts: A case study* [Conference presentation]. First Progress in Social Science, Humanities and Education Research Symposium (PSSHERS 2019). https://doi.org/10.2991/assehr.k.200824.154.
- Siegel, S. (2005). Drug tolerance, drug addiction, and drug anticipation. *Current Directions in Psychological Science*, *14*(6), 296–300. https://doi.org/10.1111/j.0963-7214.2005.00384.x.

- Sigurdsson, S. O., Ring, B. M, O'Reilly, K., & Silverman, K. (2012). Barriers to employment among unemployed drug users: Age predicts severity. *American Journal of Alcohol and Drug Abuse*, *38*(6), 580–587. https://doi.org/10.3109/00952990.2011.643976.
- Sinclair, D. L., Sussman, S., De Schryver, M., Samyn, C., Adams, S., Florence, M., Savahl, S., & Vanderplasschen, W. (2021). Substitute behaviors following residential substance use treatment in the Western Cape, South Africa. *International Journal of Environmental Research and Public Health*, 18(23), 1–16. https://doi.org/10.3390/ijerph182312815.
- Smith, J. A., & Osborn, M. (2015). Interpretative phenomenological analysis as a useful methodology for research on the lived experience of pain. *British Journal of Pain*, 9(1), 41–83. https://doi.org/10.1177/2049463714541642.
- Sridharan, V., Shoda, Y., Heffner, J. L., & Bricker, J. (2019). Addiction mindsets and psychological processes of quitting smoking. *Substance Use & Misuse*, *54*(7), 1086–1095. https://doi.org/10.1080/10826084.2018.1555259.
- Stets, J. E., & Burke, P. J., (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, 63(3), 224–237. https://doi.org/10.2307/2695870.
- Sussman, S., Reynaud, M., Aubin, H. J., & Leventhal, A. M. (2011). Drug addiction, love, and the higher power. *Evaluation & the Health Professions*, *34*(3), 362–370. https://doi.org/10.1177/0163278711401002.
- Tajalli, F. B., & Kheiri, L. (2010). Locus of control in substance relateb and N.A. *Procedia Social and Behavioral Sciences*, 5, 1414–1417. https://doi.org/10.1016/j.sbspro.2010.07.298.
- Thompson, T. P., Taylor, A. H., Wanner, A., Husk, K., Wei, Y., Creanor, S., Kandiyali, R., Neale, J., Sinclair, J., Nasser, M., & Wallace, G. (2018). Physical activity and the prevention, reduction, and treatment of alcohol and/or substance use across the lifespan (the PHASE review): Protocol for a systematic review. *Systematic Reviews*, 7(9), 1–15. https://doi.org/10.1186/s13643-018-0674-0.
- Tyree, G. A., Mosery, N., Closson, E. F., Mabude, Z., Du Toit, C., Bangsberg, D. R., Safren, S. A., Mayer, K. H., Smit, J. A., Mimiaga, M. J., & Grelotti, D. J. (2020). Trajectories of initiation for the heroin-based drug *whoonga* Qualitative evidence from South Africa. *International Journal on Drug Policy*, 82, 1–16. https://doi.org/10.1016/j.drugpo.2020.102799.
- Varshney, K., Browning, S. D., Debnath, S. K., Shet, P., & Shet, D. (2022). A systematic review of risk factors and consequences of nyaope usage: The illicit street drug containing HIV antiretrovirals. *Aids and Behavior*, 27, 558–577. https://doi.org/10.1007/s10461-022-03791-6.

- Wang, Z. J., Martin, J. A., Gancarz, A. M., Adank, D. N., Fraser, J. S., & Dietz, D. M. (2017). Activin A is increased in the nucleus accumbens following a cocaine binge. *Scientific Reports*, 7, 1–8. https://doi.org/10.1038/srep43658.
- Yates, C. M., DeLeon, A., & Rapp, M. C. (2017). Exploring experiential learning through an abstinence assignment within an addictions counseling course. *Professional Counselor*, 7(4), 318–329. https://doi.org/10.15241/cmy.7.4.318.
- Zabeko, N. (2020). *Harmful use of nyaope among youth in Etwatwa: A South African pastoral challenge* [PhD thesis, University of Pretoria]. UPSpace Institutional Repository. https://repository.up.ac.za/handle/2263/87863.