



THE BENEFITS OF STRUCTURED EXERCISE FOR SUBSTANCE USE DISORDERS

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Substance use disorders (SUDs), including alcohol use disorder (AUD), are among the most prevalent mental health disorders. Globally, approximately 250,000 deaths per year are attributable to illicit drug use, and 2.25 million are attributable to alcohol use. Furthermore, individuals with SUDs face elevated risks of multiple co-occurrences of mental and physical health problems.

In recent years, exercise has been suggested as an adjunctive intervention to SUD treatment due to its well-documented and varied physical and mental health benefits. While exercise has many benefits for physical health it may also be utilised as a therapeutic measure in the rehabilitation of patients who have lifestyle conditions.

Regular physical activity presents a range of health benefits such as:

1. Improved sleep
2. Better endurance, energy boost
3. A sense of achievement
4. A healthy appetite
5. Stress relief, less tension, and mental fatigue
6. Improvement in mood, less anger or frustration
7. Focus in life and motivation
8. Increased energy and stamina
9. Reduced tiredness that can increase mental alertness
10. Weight reduction
11. Reduced cholesterol and improved cardiovascular fitness
12. Better social life

In general, physical exercise is characterised as a planned, organised, and repeated body movement that aims to promote or maintain physical fitness while improving mental wellness. Exercise is said to assist cognitive function and flexibility,

in the reduction of symptoms for depression and anxiety, through a process by which new nerve cells and neurons are generated. Depression and anxiety are prevalent to people with SUDs and AUD. Research reports that exercise has been found to alleviate symptoms such as low self-esteem and social withdrawal. It may serve as a mood enhancer, due to the release of endorphins and serotonin in the brain which provide the “feel good” feeling. It has also been reported to improve mental health by reducing anxiety, depression, and negative mood, and simultaneously improving self-esteem and cognitive function,

Of major concern in the South African context is also the growing problem of substance abuse among the youth (including children and adolescents), a challenge that is denying this population group

full participation in the socio-economic development of the country. Today's youth are experiencing greater exposure to illicit drugs and alcohol than previous generations. Compared with adults, youth are more likely to be poly-drug users and cite that such behaviour is driven by the desire to 'improve the effects' of another drug. Youth exposure to illicit drugs and alcohol may occur (a) in utero, genetically, or through the toxicity of substances during gestation, (b) environmentally, through family and community influences (including parental substance abuse), and/or (c) through their own exploratory drug and alcohol use.

Previous investigations in South Africa and other countries found that specific sociodemographic factors were associated with drug use, including male gender, younger age, specific population groups, lower income or not employed, and geo-locality such as urban areas. Further, it is reported that health risk behaviours such as common mental disorders, alcohol use disorders, HIV risk behaviours and criminal victimisation have been found to be associated with drug use. Table 1 reports the rates of admissions over a 6-year period, 2012-2017.

For the period 2012-2017, it was found that a continued and steady increase in youth (5 <

years) individuals were admitted to substance use treatment centres. Adolescence is marked by an increase in leisure-time and greater amounts of time spent with peers. As a correlate (in some instances) of the greater leisure-time that adolescents experience, boredom may prevail, and boredom has been cited as a primary reason as to why youth engage in substance use and later may subsequently develop SUDs, as well as relapse to use following a period of abstinence. Youth who report high levels of boredom tend to display greater involvement in risk-taking behaviours, extreme sensation activities and/or various forms of delinquency in an attempt to combat that boredom.

Sport is reported to be a solution to boredom and unstructured leisure-time, for youth. Authors, Wichstrom and Wichstrom (2009), investigated the impact of different types of sport on alcohol/drug use by comparing team vs. individual sport and skill involvement (technical sports vs. endurance sports vs. strength sports). It's reported that youth who participate in sports and physical activities are less likely to be illicit drug users, and that regular participation in physical exercise during adolescence provided a preventive effect on alcohol and illicit drug use in adulthood.



Additionally, there are a few publications that describe the relationship between exercise and various types of therapies for substance use disorders.

Patients who present with poly-drug use are reported to often develop more complicated symptoms related to the synergistic effect of drug-drug interaction on brain structures and function. Acute exercise produces positive effects on brain function, such as cognition, which is facilitated through long-term routine exercises, thus, leading to an improvement in memory and a reduction of perceived stress. The ideal would be for patients and clients to continue physical activity due to the changes experienced in arousal physiology, and the structural and durable changes

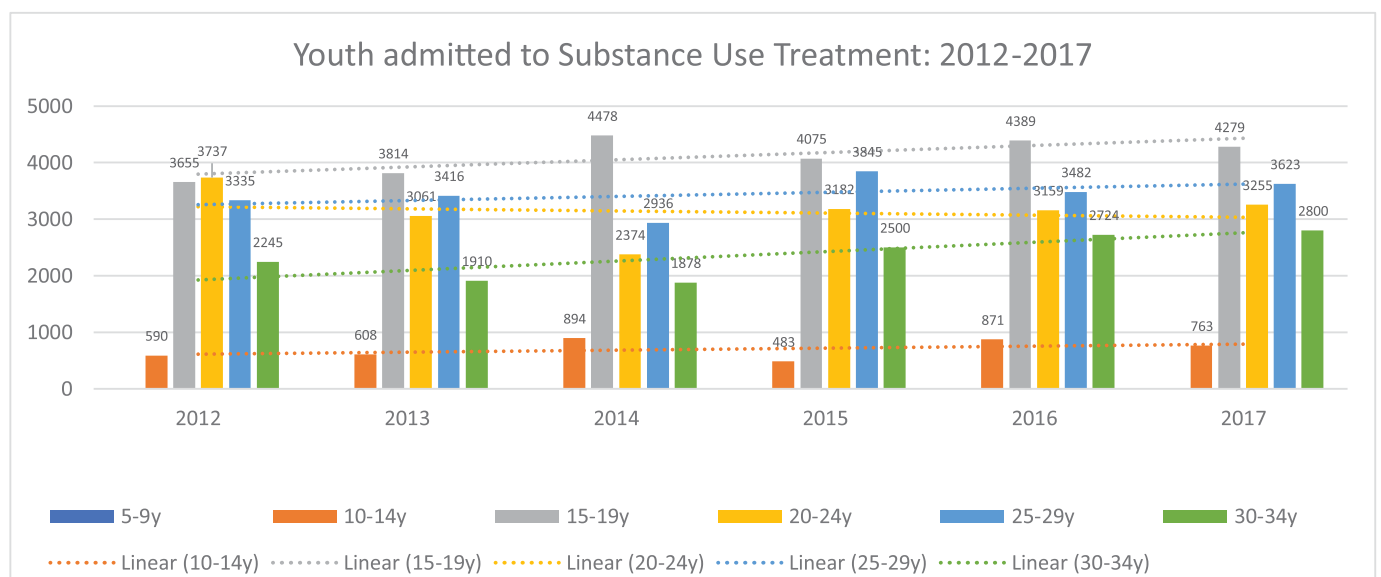


Table 1: Incidence of youth substance use patient admissions to treatment centres 2012-2017 (with permission from the SACENDU Research team, SA MRC, 2019).



experienced such as angiogenesis and neurogenesis, deriving benefits in terms of both general health/fitness and SUD recovery.

Exercise and sport are said to promote healthy social activities through physical activity, thus, structured and goal-oriented exercise is recommended to counter these risks by providing healthier alternatives to anti-social behaviours. Physical exercise has been recognised as a potential add-on treatment for SUD. Research has shown that exercise evokes reward pathways and neurochemicals in the brain that are similar to those induced by addictive substances, suggesting that exercise treatment effects may be due to a combination of behavioural and biological/physiological processes.

Treatment centre programmes rarely incorporate structured exercise, due to the clinical and psychological-focused approach to SUD treatment. On the other hand, the feasibility of incorporating structured exercise for patients with mental health

problems have not yet been investigated in South Africa. With the ever increasing burden on treatment centres, capacity to perform this investigation is minimal. Mental health service providers can provide effective, evidence-based physical activity interventions, with the help of exercise professionals (biokineticists, physiotherapists, coaches and personal trainers) for individuals suffering from SUD. Though, research to date is not entirely conclusive.

There is a shortage of important evidence in previously published meta-analyses of physical exercise as treatments in SUD, such as the effect of mind-body exercise or chronic physical exercise on substance addiction with one or poly-drugs. Further studies that include RCTs that measure the direct impact on physical, cognitive and socio-emotional wellness should also be conducted in order to understand the acceptability and applicability of exercise programmes in mental health treatment settings, as

well as to understand the impact of combining interventions that include exercise with traditional psychological, pharmacological and psychiatric treatment modalities for mental health illnesses. Future work must consider how changes in sport participation correspond with changing alcohol and drug use over time as well as the recommended dose and type of exercise for particular mental health conditions is needed before prescription of exercise.

It can't be left unsaid that the benefits of exercise far outweigh inactive lifestyles, as exercise can be easily accessible. Participating in exercise activities provide a break from the demands of daily life. Exercise, presents a goal to aim for and a sense of purpose through exploiting movements in each component of fitness. With the freedom to choose the exercise most desired, it can be concluded that physical activity can improve mental wellbeing. **MHM**

References available upon request