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"It's like a counselling session … but you don't need to say anything:" Exercise program outcomes for youth within a drug and alcohol treatment service

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ABSTRACT

Objectives: Evidence for exercise as an adjunct therapy in youth substance use disorder (SUD) treatment is scarce, despite support for its efficacy among adult populations. In this study, youth undergoing residential treatment for SUDs were provided with twice-weekly exercise sessions, with the aim of examining their perceptions about the outcomes associated with regular exercise participation during their recovery.
Design: Qualitative – interpretivist approach.
Method: Qualitative (i.e., focus group) methods were employed to capture the experiences of 27 youth and 10 staff members employed in the facility, and content analytic procedures were employed to understand the outcomes (i.e., exercise perceptions, recovery-specific outcomes, and other health outcomes) associated with exercise participation during recovery.
Results: Within three broad themes (i.e., exercise perceptions, recovery-specific outcomes, other health outcomes), youth and staff reported that, among other things, regular exercise contributed to the establishment of a healthy routine, more positive perceptions about one's appearance, improved sleep and interpersonal relationships, cathartic effects, and a sense of accomplishment.
Conclusions: Based on the 'lived experiences' of youth and staff, the results of this study indicated that participation in regular, structured, and personalized exercise may be an important part of successful SUD treatment. The benefits of exercise align with a range of important outcomes including exercise perceptions (i.e., barriers to exercise participation, exercise motivation), recovery factors (e.g., cravings and withdrawals, routine), and health outcomes (e.g., self-esteem and mental health, physical health) among youth undergoing SUD treatment.

Adolescence is characterized by marked physical and psychological changes and is often accompanied by increased experimentation and risk-taking behavior (Loxley, 2004). One potential consequence of this propensity for experimentation and risk-taking is a greater susceptibility to substance misuse, including illicit drug and alcohol consumption (Paglia-Boak, Adlaf, & Mann, 2011). A number of risk factors may predispose youth to substance misuse, including, but not limited to, their socio-economic status, ethnicity, genetics, family and peer relationships, mental health status, and leisure-time activities (Australian Institute of Health and Welfare, 2014; Spanner, 2012). Alongside damaging economic and social costs, a range of physical and mental health problems accompany substance misuse, including depression, anxiety, violence, and trauma (Paglia-Boak et al., 2011; Terry-McElrath, O'Malley, & Johnston, 2011). In addition, from a longer-term perspective, earlier onset of substance use is associated with heavier, more problematic use in adulthood (Paglia-Boak et al., 2011). Substance use disorders (SUDs) are recognized as a mental health disorder and occur in cases when substance use becomes habitual resulting in a cluster of cognitive, behavioral, and physiological symptoms; SUDs are diagnosed based on evidence of impaired control, social impairment, risky use, and pharmacological criteria (DSM-5, 2013). SUDs among youth are a commonly reported mental health disorder; for example, it is estimated that 12% of Australian youth (aged 12–17 years) have a SUD (Mission Australia, 2015). This prevalence of SUDs among youth is mirrored in the United Kingdom (Crawford, Lombardo, Thomson, Visintin, & Wright, 2015), and in the United States it has been described

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that youth substance abuse has reached “epidemic proportion”, accounting for severe long-term health consequences and in excess of $65 billion (USD) in annual healthcare costs (National Centre on Addiction and Substance Abuse (US), 2011). Additionally, comorbidity of SUDs and other mental health disorders is common, with researchers reporting that 93% of youth with a SUD experience co-occurring mental health disorders (Lichtenstein, Spirito, & Zimmermann, 2010).

SUD treatment modalities for youth are commonly modelled on adult therapies; however, there is little consistency in terms of specific approaches (Gilvarry, 2000; Knudsen, Ducharme, Roman, & Johnson, 2008). The US National Institute on Drug Abuse (2016) states that in order to be effective, SUD treatment should be readily accessible, attend to needs of the individual, address comorbid psychological concerns (e.g., stress, depression), and be multi-faceted, including group and individual therapy in combination with other approaches such as pharmacotherapy. Exercise participation—which can be low-cost, readily accessible, tailored to participants' preferences, and performed without damaging side effects (Brellenthin & Koltyn, 2016)—has shown promise as an adjunct therapy within adult SUD treatment. Some of the proposed mechanisms through which exercise-induced benefits may occur include behavioral factors (e.g., substituting exercise for unhealthy behaviors such as substance use; Weinstock, Farney, Elrod, Henderson, & Weiss, 2017), psychological factors (e.g., improved well-being; Penedo & Dahn, 2005), and neurobiological factors (e.g. activation of reward pathways in the brain; Linke & Ussher, 2015) (for a comprehensive overview of these and other factors, see More et al., 2017). Furthermore, when included within multidisciplinary treatment for adults with SUDs, exercise interventions have been shown to be feasible and efficacious in terms of physical and mental health benefits (e.g., Giesen, Deimel, & Bloch, 2015; Muller & Clausen, 2015; Wang, Wang, Wang, Li, & Zhou, 2014). However, given the differences that exist between adult and youth SUDs (e.g., developmental stage, symptom manifestation, reward sensitivity, social environment, trajectories of use; Miller, 2013), it is important to examine the impact of exercise specifically within a youth cohort and not to assume that exercise may ‘operate’ in a similar manner for this population.

The potential benefits of exercise align with SUD treatment program goals relating to substance-related abstinence, harm minimization, and addressing the concurrent physiological, psychological, and social problems faced by those with SUDs (Kremer, Malkin, & Benshoff, 1995; Weinstock et al., 2017). At present though, and despite the increasing prevalence of SUDs among youth (Paglia-Boak et al., 2011), empirical evidence regarding the outcomes of exercise participation within this cohort is limited with the majority of exercise-based research focusing on community-dwelling youth (Collingwood, Reynolds, Kohl, Smith, & Sloan, 1991; Simonton, Young, & Johnson, 2018; Spanner, 2012). The sequelae of impairments in youth with SUDs—which may be exacerbated by a younger age of initiation (National Centre on Addiction and Substance Abuse, 2011) and poly-drug use (e.g. Mutter, Ali, & Strashny, 2015)—highlight the need for early and effective treatment programs that are specific to youth cohorts. It is possible, and in fact, it is recommended (for a review, see More et al., 2017) that such programs might incorporate exercise or physical activity participation, and it is crucial, therefore, that investigators develop an evidence base regarding the effects of exercise as an adjunct treatment modality in youth with SUDs. Encouraging findings have been reported previously regarding adults' perceptions about the value of exercise within SUD treatment (e.g., Abrantes et al., 2011; Stoutenberg, Warne, Vidot, Jimenez, & Read, 2015). However, despite their different developmental stage and the potential for differences in processes relating to the development of and recovery from SUDs (e.g., Gilvarry, 2000; Miller, 2013; More et al., 2017), there exists little empirical evidence at present regarding the feasibility and efficacy of tailored exercise programs within (what is often considered) ‘traditional’ youth SUD rehabilitation.

In line with recent calls for research in this area and the need for formative work in this field (see More et al., 2017), the aim of this study was to investigate the health- (i.e., physical and psychological), recovery-, and exercise-related outcomes associated with—a structured, 1-h, twice-weekly exercise program for youth within a residential drug and alcohol treatment service. In doing so, we sought to not only capture the lived experiences of youth who were participating in an exercise program, but also obtain insight from the staff members who support the youth in their residential treatment program.

Guided by our goal of understanding the ‘lived experiences’ of youth and staff involved in the exercise program, we adopted an interpretivist approach to enquiry. The interpretivist paradigm is based on concepts of relative ontology and constructionism; that is, the notion that multiple realities exist, and that knowledge and meaning are socially constructed. An interpretivist approach is, therefore, ideally suited to appreciating and understanding different individuals' unique perspectives and experiences (see Lincoln, Lynham, & Guba, 2011; Schwandt, 2000). Consistent with this philosophical approach, we adopted a qualitative (i.e., focus group) approach to enquiry, in order to allow youth and staff members to (a) describe the full range of health-, recovery-, and exercise-related outcomes experienced by the youth participants, (b) play an active role in shaping the direction of discussions, and (c) be able to address both positive and negative experiences associated with the program (Creswell, 2013).

1. Method

1.1. Participants

Youth were recruited from a continuous, live-in, 24-h, residential treatment program that incorporated twice-weekly, supervised, and tailored exercise sessions as part of youth recovery plans. Individual treatment plans incorporated a range of services including, but not limited to, counselling, case management and support, medical reviews, clinical psychology, family therapy, mentoring, and opiate and alcohol pharmacotherapy. Youth progress in the service is evaluated in consultation with case managers, primary health care providers, and family/legal guardians (for more information about the treatment service, see supplementary material). The tailored exercise program was provided over a six-month period, and in that time, 51 youth (34 males, 17 females, M age = 18.2, SD = 1.5, range 15–21) and 10 staff members (5 males, 5 females, M age = 34.9, SD = 11.7, range 22–48) met the study inclusion criteria. Youth inclusion criteria for the research component of the work were that (a) they had been enrolled in the exercise program for at least two weeks (medical clearance and pre-exercise screening was mandatory for youth participants), (b) written consent was provided, and (c) parent/guardian written consent was provided for those under 16. One youth participant was excluded from the program on medical grounds, and a further 23 youth participants were ineligible for the study due to their early withdrawal from the SUD treatment (and exercise) program. A final sample of 27 youth (18 males, 9 females, M age = 18.2, SD = 1.6, range = 15–21) participated in focus groups/interviews. A more comprehensive overview of characteristics for these 27 youth (including age of first substance use, referral pathway, primary and secondary dependence, and co-occurring mental health disorders) is presented in Table 1. Ten staff participated in focus groups/interviews after it had been established that they met the following inclusion criteria: (a) they had been working in the DAYS service for at least two months, (b) had attended exercise sessions, and (c) provided written consent. On average, participating staff had worked in the treatment service for 2.98 years (SD = 3.86, range = 3.5 months to 10 years).

1.2. Exercise program

Youth participants took part in 60-min, twice-weekly exercise sessions throughout their (intended) 12-week SUD treatment period. The