

WORKING OUT ADDICTION TREATMENT

Effects of acute exercise on drug craving, self-esteem, mood and affect in adults with poly-substance use: Feasibility and preliminary findings.

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Introduction

Novel treatments for illicit drug users are needed to help them deal better with mental challenges. Physical exercise is beneficial for people with anxiety and depression (1).

Studies suggest that acute bouts of exercise may reduce craving for tobacco (2), alcohol (3) and stimulants (4). However, studies exploring the effects of acute exercise among poly-substance illicit drug users remain scarce.



Moments. Photo: Victor Bezrukov Flickr/Creativ Commons

Aim

To examine short-term effects of two types of acute exercise on drug craving, self-esteem, mood and affect in poly-drug dependent inpatients.

Design and method

39 inpatients (6 women and 33 men, mean age 37) from three treatment centres participated in 45 min. of soccer, circuit training and educational (control) group. Using a cross-over design, changes were assessed at the start and end of each session, then at 1, 2 and 4h post-session, enabling patterns of change over time to be observed.

Preliminary results

Participants were willing and able to engage in different non-laboratory based exercises. No adverse events were reported.

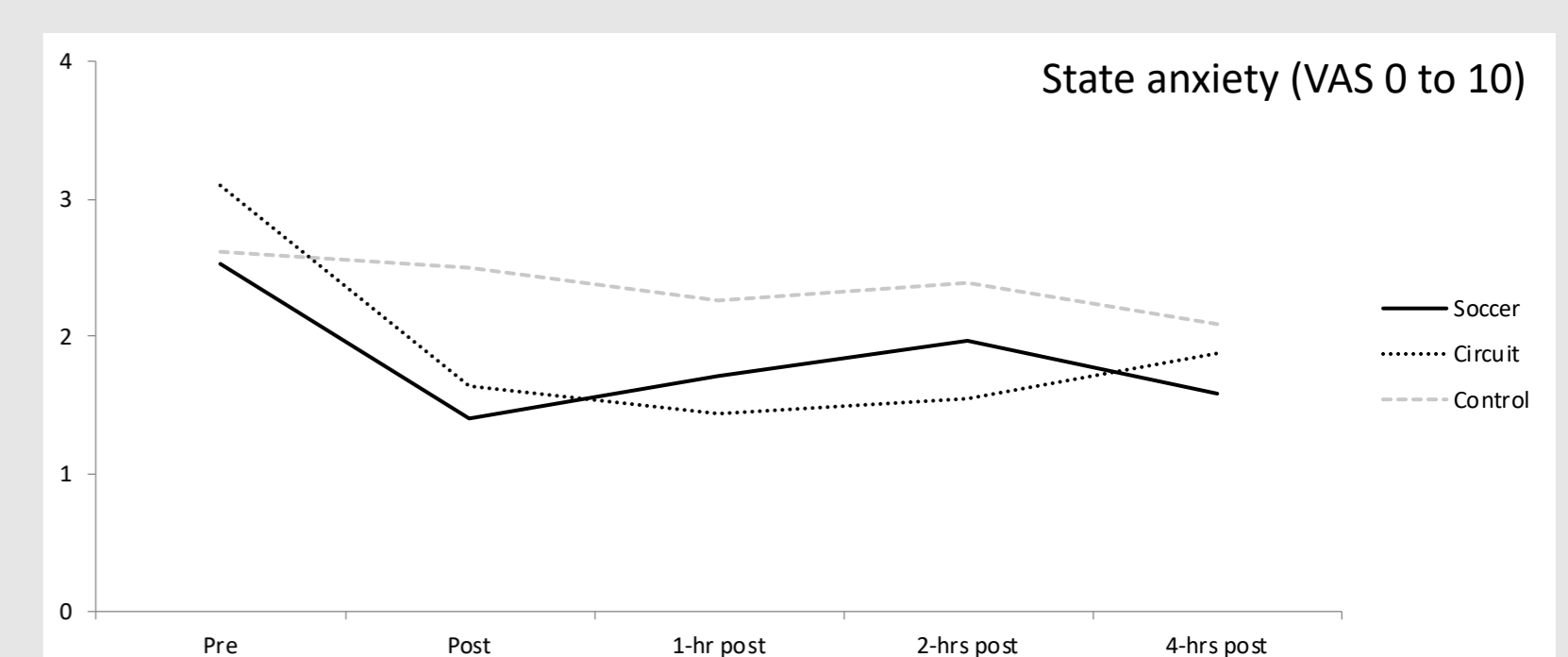
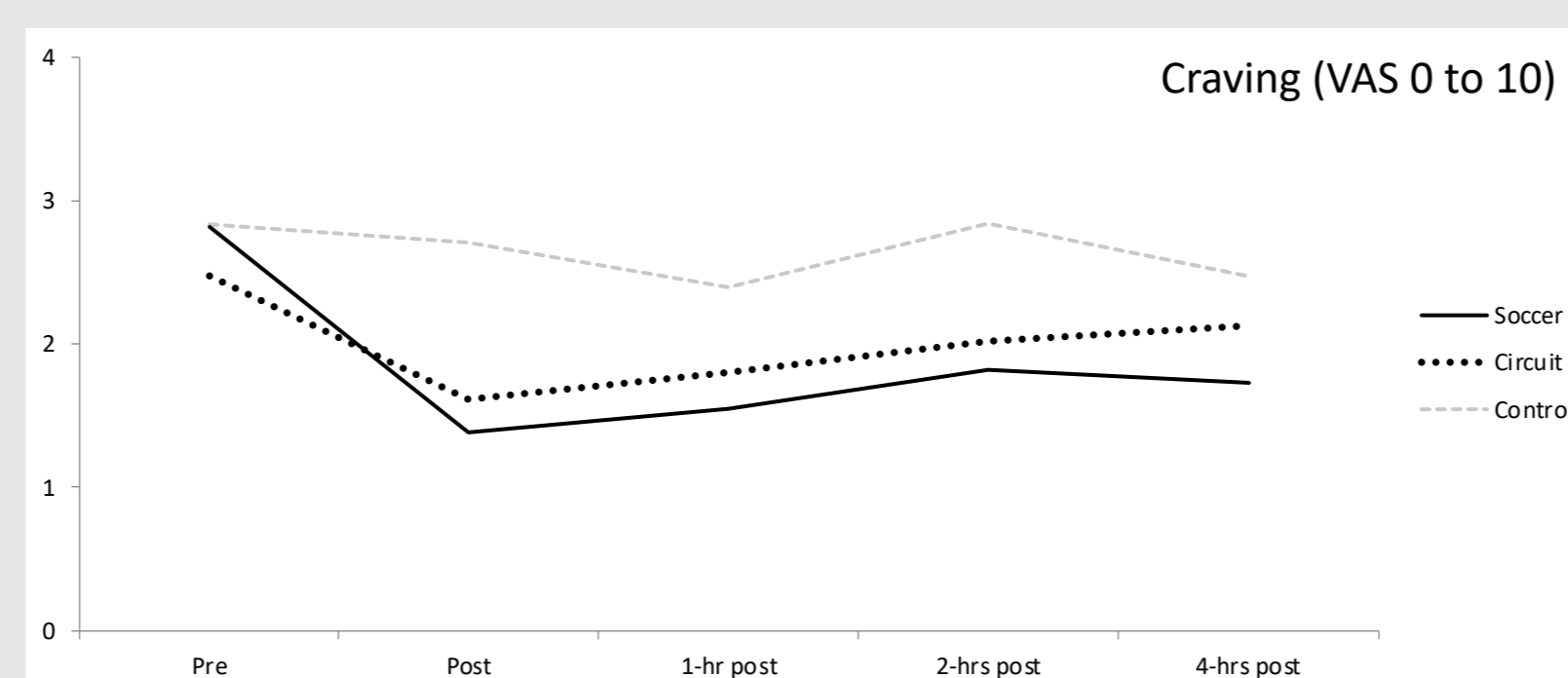
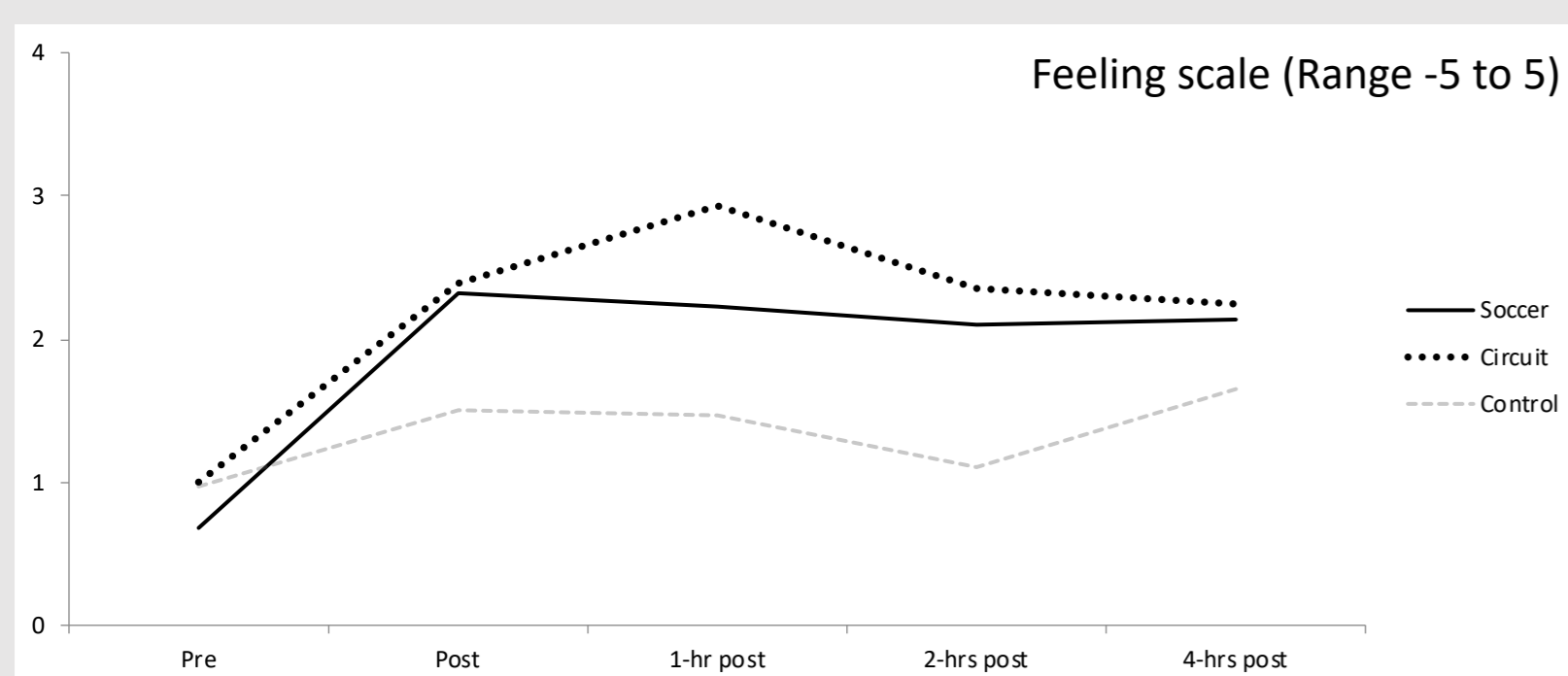
Mood: There was a significant main effect of time for both soccer ($P < 0.005$, $\eta^2 = 0.233$) and circuit training ($P < 0.0005$, $\eta^2 = 0.342$) with moderate effect sizes. Mean scores improved from pre-exercise to post-exercise and were significant for all measurement points.

Craving: There was a significant reduction over time for soccer ($P = 0.001$), with lower craving reported at all measure points. Effect sizes were moderate.

There was no main effect of time for circuit-training ($P = 0.055$). There was a significant change for circuit training pre-exercise to immediately after training ($p=0,009$) with a moderate effect size.

State anxiety: There was a significant reduction for soccer ($P < 0.001$) and circuit training ($P < 0.001$). Effect sizes were moderate. The changes 2h after soccer and 4h after circuit training were not significant.

No statistically significant changes were found for these measures for the control condition.



Statistics

Data were analysed using SPSS v-25. Changes over time in mood were assessed using RM-ANOVA with Bonferroni-adjusted post-hoc contrasts (pre-exercise as a reference). Effect sizes are estimated using the partial Eta squared statistic.

Changes in drug craving and state anxiety were assessed with Friedman's non-parametric χ^2 test. Post-hoc comparisons were performed using the Wilcoxon signed-rank test for related-samples (Z-test), and effect sizes were estimated using Cohen's d.

Conclusion

Soccer and circuit training are feasible therapeutic activities for inpatients with poly-substance use, and may be useful coping strategies for this patient group. Single sessions of exercise in groups were associated with beneficial psychological changes that lasted for hours after exercise. One might speculate that repeated exercise sessions might have an enduring effect, enabling exercise to serve as an alternative or a supplement to traditional forms of therapy.

Conflict of Interest

The authors have no conflicts of interest to disclose.

References

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