Network Analysis of the Interaction of Psychological and Behavioral Indicators During Drug Addiction Rehabilitation

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Abstract

Objective: To explore the interaction of psychological and behavioral indicators among drug addicts during the detoxification period and their impact on rehabilitation outcomes using a network analysis model, providing a basis for precise intervention and recovery of drug addicts. *Methods*: A cross-sectional study was conducted, conveniently sampling 323 drug addicts from a drug rehabilitation center in Liaoning Province from June 2024 to September 2024. The Physical Activity Rating Scale (PARS-3), Craving Scale, Addiction Severity Index (ASI), Self-Rating Anxiety Scale (SAS), Behavioral Inhibition/Activation System Scale (BIS/BAS), and Social Support Scale were used for the survey. The BIS/BAS includes four factors: "Reward Responsiveness," "Drive," "Pleasure Seeking," and "Inhibition System Factor." The Social Support Scale comprises three factors: "Objective Support," "Subjective Support," and "Utilization of Support." *Results*: Network analysis revealed strong correlations among "reward response," "drive," "pleasure seeking," "inhibition system factor," "objective support," and "subjective support." "Reward response," "drive," "pleasure seeking," and "subjective support" were identified as central symptoms in the network. "Reward response" and "Drive" are susceptible to the influence of network fluctuations. The symptom "subjective support" had the highest predictability, and "subjective support" had the highest expected influence, suggesting that this factor may have a strong direct or indirect impact on other factors and is a key node in intervention strategies. The accuracy and stability of the network were tested and found to be good, indicating that the network model is reliable. *Conclusion*: This study utilized symptom network analysis to explore the symptom network of drug addicts during the detoxification period. It suggests that in the intervention process, it is important to preemptively disrupt the strong connections between symptoms with the strongest relationships and high predictability to improve intervention efficiency. "Subjective support" is the most central symptom in the network. The results of this study can inspire interventions for drug addicts, indicating that in the detoxification and intervention work for drug addiction, attention should be focused on the subjective support status of drug addicts. Therefore, in the detoxification intervention for drug addiction, on the one hand, more social support is needed, and on the other hand, more family support and emotional warmth should be provided to enhance the effectiveness of drug addiction recovery.

Keywords

Mental Health, Network Analysis, Social Support, Drug Addiction, Recovery