

Comparison of Activity of Brain Behavioral Systems in Methamphetamine and Opiate Dependents and Normal Subjects, Based On Gary's Revised Reinforcement Sensitivity Theory

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Introduction: The aim of this study was to compare three systems of revised reinforcement sensitivity theory, (behavioral activation system (r-BAS), revised behavioral inhibition system (r-BIS) and revised fight/flight/ freezing system (r-FFFS), between patients, dependent to methamphetamine and normal people.

Material and Methods: This research was causal-comparative study that done in first sex month of 2012. The population of the study was the male dependent on methamphetamine that ruling out Psychotic disorders and prominent axis II of Mashhad city. 25 persons were selected by convenient sampling method. Also 25 normal people from patients' relatives were selected and matched in variables of age, gender and education participated in this study. Samples evaluated by Structured Clinical Interview (SCID) for DSM-IV, demographic questionnaire information's and Jackson-5 questionnaire (2009). Data were analyzed by Chi square, K-S and independent t-test.

Results: Methamphetamine dependent group had higher sensitivity in r-BAS, r-BIS, Fight and Freezing systems compare to normal people ($p < 0.05$). However there was no significant difference in r-Flight between two groups ($p > 0.05$).

Conclusion: Personality patterns of patients dependent on methamphetamine were different from normal people. This people have high sensitivity to punishment cues such as being compared in social conditions and tendency to reinforcement and reward, because of their higher sensitivity in behavioral inhibition and activation system. These results are in accordance with the fundamental hypothesis of revised theory (r-RST).