

S32-02 - PATHOLOGICAL STRESS AND THE VULNERABILITY TO ADDICTION

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Stress can be defined as the subject's response - both emotionally and physically - to stimuli (stressors) from the environment. Stressors are not necessarily negative. They are, when they exceed the subject's ability to cope with them in a physiological way. This level of stress is indicated as pathological stress.

Addiction and pathological stress are strongly interrelated on several levels. Animal studies have shown that the pathological stress during the development may be the most important factor that brings the vulnerability for addiction to expression. Stress during pregnancy may have a decisive influence on brain development and the subject's ability to cope with stress during later life. Patients with post traumatic stress disorder have an increase risk for the development of substance use disorders.

The brain reward system is a major target for the central and peripheral stress system. The catecholamines that mediate the stress response play an important role in the development of addiction. Addictive drugs such as stimulants act as stressors by activating stress hormones. The process of craving is strongly associated with activated stress systems. Therefore, the adequate treatment of substance use disorders requires interventions that reduce pathological stress for the patient, either by diminishing environmental stress or by increasing the ability to cope with stress.