Posttraumatic stress disorder (PTSD) is a severe anxiety disorder that may form in individuals after exposure to trauma. It can have debilitating effects, including flashbacks or nightmares, avoidance of associated stimuli, hyperarousal, or sleep disturbances. Of these, sleep disturbances can cause the most damage, eventually manifesting into insomnia, which reduces daytime functioning and can further lead to other health complications. Benzodiazepines are prescribed to lessen sleep disturbances, but they also depress the central nervous system, thereby decreasing cerebral blood flow and REM sleep, both of which help with learning and memory consolidation. This then may challenge the outcome of cognitive

Benzodiazepines and their Effects on Cognitive-Behavioral Therapy

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Posttraumatic Stress Disorder

Posttraumatic stress disorder (PTSD) is a severe anxiety disorder that may form in individuals after exposure to trauma. It can have debilitating effects, including flashbacks or nightmares, avoidance of associated stimuli, hyperarousal, or sleep disturbances (American Psychiatric Association [APA], 1994). Approximately 70% of individuals with PTSD suffer from sleep impairment (Ohayon & Shapiro, 2000). Such sleep impairment includes increases in sleep onset latency, lower sleep efficiency, and decreased total sleep time (Babson & Feldner, 2010; Yetkin, Aydin, & Özgen, 2010). These can severely affect daytime functioning. Most individuals are prescribed benzodiazepines to alleviate symptoms.

Cognitive-Behavioral Therapy

- **Cognitive Processing Therapy (CPT).** Individuals undergoing CPT (Resick & Schnicke, 1993) learn to identify the relationships among the events, thoughts, and emotions associated with the trauma(s), and then their beliefs of the trauma are challenged with questions regarding their perceptions.
- **Prolonged Exposure (PE).** Individuals who undergo PE (Foa, Hearst, Dancu, Hembree, & Jaycox, 1994) are educated about PTSD. They also engage in behavioral exposure to reduce avoidance and negative emotional responses.

Hypothesis

It is hypothesized that benzodiazepines inversely affect the outcomes of cognitive-processing therapy and prolonged exposure.

Apparatus

Clinician-Administered PTSD Scale (CAPS). Participants were given the Clinician-Administered PTSD Scale (Blake et al., 1998). CAPS incorporates frequency and intensity scales that remain consistent with diagnoses of PTSD in the *DSM-IV*, so its use will determines whether or not an individual is eligible to participate in the study.
Pittsburgh Sleep Quality Index (PSQI). The Pittsburgh Sleep Quality Index (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989) is a self-report measure of the sleep quality and disturbances of an individual. It demonstrates subjective sleep quality, sleep onset latency, total sleep time, sleep efficiency, the number of nighttime disturbances, sleep aids, and daytime dysfunction. Baseline differences in sleep medication use and/or changes in medications over time were determined using the PSQI.
PTSD Symptom Scale (PSS). A 17-item scale (Foa, Riggs, Dancu, & Rothbaum, 1993) that represents criteria for PTSD

Participants

The study will include approximately 108 females with PTSD, all of whom are victims of sexual assault. The sample is derived from a larger study by Resick, Nishith, Weaver, Astin, and Feuer (2002). Participants were 3 months post-trauma, stabilized on medication, and did not meet exclusion criteria, which included current psychosis, severe suicidality, dependence on drugs or alcohol, and illiteracy. They could not currently be in an abusive relationship or being stalked. In the case of marital rape, the participant must have been out of the relationship for at least 6 months. All participants met the criteria for PTSD as measured by the Clinician-Administered PTSD Scale (Blake et al., 1998). Demographic and clinical characteristics of the women are currently unknown, though most were white and single.

Method

Participants were randomly assigned to one of three treatment groups that included cognitive-processing therapy (CPT), prolonged exposure (PE), and a minimal attention (MA) condition (Resick et al., 2002). Treatments continued for six weeks, and then those in MA were randomly assigned to either CPT or PE. Treatments were conducted twice each week for a total of 13 hours of treatment. A follow-up was completed for each participant after 3 months.

Data Analysis

Data will be analyzed using correlations to determine if there are any statistically significant associations between the type and/or amount of benzodiazepines used and the individuals' respective PTSD scores.

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