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Research Paper

Development of an Intervention Module for Insomniac Young Adults: A Pilot Study

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ABSTRACT

Background: Insomnia is defined as difficulty initiating sleep, maintaining sleep, or nonrestorative sleep, with daytime consequences. Insomnia is highly prevalent in the young population. Literature review shows there are limited data regarding applying Cognitive Behavioural Interventions to young adults. **Aim:** To develop an Intervention Module for young adults with insomnia and to evaluate its preliminary feasibility and efficacy. **Methodology:** *Development of the Intervention Module:* Based on an exhaustive literature review and following the six crucial Steps for Quality Intervention Development (6SQuID), an eight-session Insomnia Intervention Module for Insomnia was developed. *Participants*: A mixed-gender group of 20 young adults with a mean age of 25.35 years was selected from university level students. **Procedure:** Participants were recruited via an online survey with the help of the Insomnia Severity Index. 100 participants responded to the online survey on Insomnia Severity Index out of which 24 met the inclusion criteria and finally 20 participants gave their consent to undergo the Cognitive Behavioural Intervention Module. The intervention was given for five weeks. Scores of Insomnia Severity Index (ISI) and Pittsburg Sleep Quality Index (PSQI) were taken at baseline (Pre-Intervention) and the end of the intervention (Post Intervention) as outcome measures. **Results**: The overall patterns of change after the administration of the intervention module demonstrated statistically and clinically significant improvements in sleep quality and reduction in the severity of insomnia symptoms. On the outcome measures ISI pre and post scores and PSQI pre and post scores indicated high treatment effectiveness. **Conclusion**: The findings of the study suggest that Insomnia Intervention Module was feasible to implement to reduce insomnia severity, improved sleep quality to treat insomnia symptoms in young adults. Further studies with RCT design are needed to evaluate the efficacy of the present Intervention Module on functional outcomes in the insomniac young adults as well as in other populations with more sample sizes.

Keywords: *Development, Intervention Module, Insomniac, Young Adults*

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Insomnia is the most prevalent of all sleep disorders in the general population and is also among the most common complaints reported to healthcare practitioners (Ohayon & Reynolds, 2009).. Non-pharmacological interventions in recent years have been established as first-line treatments for nonorganic insomnia.

Insomnia is categorized under Nonorganic Sleep Disorders as Nonorganic Insomnia in the most frequently used classification systems in clinical settings of ICD–10 (World Health Organization, 1993). Non-Organic insomnia or Primary Insomnia refers to sleep problems that are not directly associated with any other health condition or problem. As compared to good sleepers, individuals with insomnia report more psychological distress and more impairments of daytime functioning (Daley et al., 2009). Insomnia also increases the risk of developing subsequent depression (Baglioni et al., 2011). Despite insomnia's high prevalence rate and adverse impact, it usually goes unrecognized and remains untreated. Most persons with insomnia start their treatment without professional guidance and do self-help remedies (e.g., alcohol, over-the-counter drugs) of limited benefit and questionable safety (Morin & Benca, 2012).

When insomnia is brought to the attention of a primary care physician, treatment is typically restricted to pharmacotherapy. Although hypnotic medications are effective for the short-term management of insomnia only and there is limited evidence of their sustained efficacy in long-term use (Krystal, 2009). Recognition of the psychological factors that play an important role in maintaining sleep disturbances has led to increased interest in the use of non-pharmacological treatments for insomnia. Various drawbacks of pharmacological treatment and the acknowledgment of the mediating role of psychological factors in insomnia have started the development of non-pharmacological or behavioral interventions in recent years, especially for the management of chronic insomnia. These treatment methods usually include techniques for modifying maladaptive sleep habits, educating about more appropriate sleep hygiene practices, altering dysfunctional beliefs and attitudes about sleep, reducing autonomic and cognitive arousal, etc. Studies have shown Cognitive Behavior Therapy for Insomnia to be effective for insomnia (Morin et al., 2006; Wang, Wang, & Tsai, 2005).

In healthy young adults, sleep loss has been demonstrated to have a causal influence on mood states, with females being more sensitive than men. Because sleep loss and mood dysregulation are widespread during the early phases of life, such as puberty, it's vital to understand the harmful effects of insufficient sleep (Short & Louca, 2015). Improved academic accomplishment in college is linked to better sleep quality, duration, and consistency (Okano et al., 2019). Despite the fact that Cognitive Behavioral approach has been proven to be effective, further cognitive-behavioral therapies for insomnia are needed. As a result, the following objective was framed for the present study:

The objective of the Study:
To develop a Intervention Module for insomniac young adults and to evaluate its feasibility and efficacy.

Study Sample:
A purposive mixed-gender group of 20 participants was taken. The sample was collected through online mode with the help of Google Forms 100 people were screened and 20 were finally administered the Intervention Module.

Study Design:
A randomized pre-post design was adopted for this pilot study

Development of Intervention Module:
Based on an exhaustive literature review and following the six crucial Steps for Quality Intervention Development (6SQuID), the Insomnia Intervention Module was developed (Wight et al., 2015). The six steps in the development of the module were as follows:
1. Insomnia was operationally defined and its psychological or behavioural causes were identified in young adults.
2. Causal or contextual factors that were modifiable and had the greatest scope for change were identified.
3. Sessions of the Intervention Module were systematically developed considering the precedence of modifiable factors as identified in step two.
4. The sessions were arranged according to the mechanism of change in sleep pattern.
5. The intervention module was tested and adapted according to the needs of the participants based on the pilot work results.
6. The effectiveness of the module was established by a pre-post assessment of the selected sample on the outcome measures and doing a follow-up survey.

The intervention module was administered to 20 participants during the pilot study phase, and its effectiveness and feasibility were assessed, and the module was finalized.

Final Intervention Module for Study:
The Intervention module was used to minimize the causes that promote insomnia. Sleep diaries often included parameters such as the frequency and duration of naps, assessments of sleep quality, daily drowsiness, and daytime tiredness. Subsequent sessions were planned to use a variety of modalities throughout the course of sessions. The intervention module was divided into eight sessions. The major aims of the first session were to establish rapport with patients, perform a clinical sleep focused interview to identify barriers to high quality sleep, collect a sleep history, outline treatment expectations, and introduce a sleep diary. The second session was held one week following the first to orient the client on good sleeping habits and sleep hygiene practices. The third session took place one week following the second session. This session included stimulus control instruction as well as principles for stimulus control and the usage of sleeping places. The participants were told to stick to the modified sleep pattern and stimulus management strategy that had been outlined during the fourth session. From the fifth to the seventh session, cognitive restructuring of the maladaptive ideas and identification of the maladaptive thoughts were completed, and a winding down plan for the client's nighttime routine was developed. In the last, eight-session session, participants were guided to continue sleep-related strategies post-treatment as well as treatment maintenance methods. Review the skills learned throughout the program by the participants and maintenance strategies were discussed.

Procedure:
Participants were recruited via an online survey with the help of the Insomnia Severity Index. 100 participants responded to the online survey out of which 24 met the inclusion criteria and finally 20 participants gave their consent to undergo the intervention module. The eight-session module was administered to each of the participants on an individual basis in a one-to-one session. The intervention lasted for five weeks. Outcome measures, such as the Insomnia Severity Index and the Pittsburgh Sleep Quality Index, were obtained at baseline (Pre-Intervention) and after the intervention (post-Intervention). The informed

consent was taken from all participants before starting the intervention. Sleep diaries and self-reported pre-sleep arousal were evaluated weekly, and the severity of insomnia symptoms and sleep quality were evaluated before and after the intervention.

RESULTS AND CONCLUSION

Table-1: Means and SDs of the scores obtained by the participants in Pre and Post Intervention conditions on ISI, PSQI, and the corresponding 't' values with their level of significance

n= 20 Variables	Pre-Intervention		Post-Intervention		t-values	Level of Significance
	Means	SDs	Means	SDs		
Insomnia Severity Index (ISI)	21.70	2.75	9.20	5.09	12.75	*p<.001*
Pittsburg Sleep Quality Index (PSQI)	14.00	2.00	7.40	3.09	12.18	*p<.001*

It was found that participants showed significant improvements in the scores of outcome measures. The overall treatment patterns demonstrated statistically and clinically significant improvement in the sleep quality and reduction in insomnia severity.

The results in Table 1 revealed that there were significant differences between the pre and post-intervention on scores of ISI and PSQI. The findings of the present study are consistent with the results of the research studies conducted on cognitive behaviour therapy for insomnia so far. The findings of the study are very promising and indicate that the cognitive-behavioral approach of treatment for insomnia is currently the most effective treatment (Skalski, 2008). A recent pilot study in a young adult population showed that cognitive behaviour therapy for insomnia yielded treatment responses similar to results typically found in the general population (Taylor et al., 2014). Recent evidence from several countries has shown that unguided internet-based cognitive behaviour therapy for insomnia is highly successful in relieving students as well as adults with chronic insomnia of their sleep problems (Freeman et al., 2017; Hagatun et al., 2019). The preliminary data suggest that Cognitive Behavioral Intervention is feasible to implement to treat insomnia in young adults (Palermo et al., 2016). Thus, it was concluded that newly developed Intervention Module was feasible to administer and efficacious in reducing the severity of insomnia symptoms and improving the sleep quality in the young adults. In future, studies with Randomised Control Trial (RCT) design are warranted to evaluate the efficacy of the present Intervention Module on functional outcomes in the insomniac young adults as well as in other populations with more sample size.

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