BEHAVIORAL MANAGEMENT OF NON-ORGANIC INSOMNIA

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Abstract: Introduction: Insomnia is the most common type of sleep disorder. Non-pharmacological management in recent years has been established as the first-line treatment for nonorganic insomnia. Young adults are more vulnerable to sleep problems these days. This study tries to confirm the effectiveness behavioral management for Non-Organic Insomnia in young adult population.

Objective: To evaluate the effectiveness of Behavioral Management of Non-Organic Insomnia in young adults

Material and Methods: In this study, 35 young adults with insomnia symptoms with a mean age of 25.28 years, were recruited via an online survey. A convenience sampling technique was used for sample selection. A Ten-session behavioral management module developed specifically for this purpose was administered to each of the participant. Pre and post measures were recorded with the help of Insomnia Severity Index (ISI), Pittsburg Sleep Quality Index (PSQI), and Sleep Disturbances Questionnaire (SDQ) to evaluate the improvement.

Results: Significant differences were found between the pre and post-management scores of the ISI, PSQI, and all SDQ domains. Overall, Behavioral Management resulted in statistically and clinically significant improvement in sleep quality, and reduction in the severity of insomnia symptoms, and sleep disturbances.

Conclusions: In conclusion, behavioral management was found to be an effective method of management in improving sleep quality and reducing insomnia severity and sleep disturbances in young adults.

Keywords: Behavioral Management, Non-organic Insomnia, Young Adults

I. Introduction

Insomnia is the most common sleep disorder in the general population, as well as one of the most often reported complaints to healthcare providers.¹ Non-organic insomnia is categorized under Dyssomnias in the most frequently used classification systems in clinical settings of ICD-10.² Insomnia Disorders are classified as sleep-wake disorders in the proposed version of ICD-11.³ Insomnia disorders are further classified into two types: chronic insomnia and short-term insomnia. Non-organic insomnia, also known as primary insomnia, is a type of sleep disorder that is not caused by a medical condition or illness. Insomniacs report higher levels of psychological distress and difficulties in daytime functioning than those who sleep well.⁴ Insomnia also increases the risk of developing depression later in life.⁵ Despite its high prevalence and negative consequences, sleeplessness often goes unnoticed and untreated. Most persons with insomnia begin therapy without seeking professional help and rely on self-help remedies like alcohol, over-the-counter medications, etc. that are inefficient and dangerous.⁶ When insomnia is brought to the attention of a primary care physician, therapy is largely confined to medication. Although hypnotic medications are only useful for treating insomnia in
the short term, there is little evidence of their long-term efficacy.\textsuperscript{7} The understanding of psychological components that play a crucial role in maintaining sleep disruptions has led to increased interest in the use of nonpharmacological therapies for insomnia. The awareness of psychological elements' mediating role in insomnia, as well as the drawbacks of pharmacological treatment, has sparked the development of non-pharmacological or behavioral insomnia therapies. These therapeutic approaches often include techniques for altering maladaptive sleep patterns, educating about more suitable sleep hygiene habits, adjusting dysfunctional beliefs and attitudes about sleep, and reducing autonomic and cognitive arousal, among other things. Cognitive Behavior Therapy for Insomnia (CBT-I) has been proven in studies to be beneficial for primary insomnia.\textsuperscript{8,9} More rigorous sleep research is required in non-pharmacological mode of treatment for particularly young adults as they are more vulnerable to such problem related with sleep than any other population due to unhealthy behavioural patterns, sedentary life style and increased level of stress these days. The testing and implementation of evidence-based treatments for insomnia and insufficient sleep is highly warranted.\textsuperscript{10} As a result, the present study was conceptualized with the following objective in mind.

II. Objective:

To evaluate the effectiveness of Behavioral Management of Non-Organic Insomnia in young adults

III. Hypothesis:

It was hypothesized that Behavioral Management would improve young adults' sleep quality and reduce insomnia severity and sleep disturbances.

IV. Material And Methods:

Study Design:
Pre-posttest design was adopted for the present study

Participants:
The study comprised 35 young adults with insomnia symptoms ranging in age from 20 to 30 years old, with 23 males and 12 females participating in it. Participants were recruited via an online survey with the help of the Insomnia Severity Index and diagnosed with non-organic insomnia on the basis of a clinical interview. The mean age of the participants was 25.28 years. There were 15 graduation students, 17 post-graduate students, and three doctoral students among the total number of participants. A convenience sampling technique was used for sample selection. The consent to undergo the behavioral intervention for insomnia or sleep problem was taken from all the participants before the commencement of the study. The following criteria were used for the inclusion and exclusion:

Inclusion Criteria:

- Age between 20 to 30 years
- Those who fulfilled the criteria of Non-Organic Insomnia according to ICD-10
- Those who had a cut-off score of 15 or above on the Insomnia Severity Index
- Those who gave consent for participation in study
Exclusion Criteria:

- History of any major psychiatric/neurological illness
- History of any chronic physical illness
- Those taking any medicine/treatment for insomnia or any other psychiatric disorder
- History of any substance dependence

Behavioral Management:
The intervention was given to all the participants according to the ten-sessions Insomnia Management Module developed specifically for this study based on the finding of pilot work for the same. Each intervention session lasted for 30 to 45 minutes with each participant with two sessions per week for five weeks. Intensive psychoeducation was the first stage in management. This entailed explaining the insomnia disorder diagnosis. The participants were advised that the technique was primarily self-help in nature, and the therapist stressed the need for homework assignments. The Insomnia Management Module consisted of psycho-educational material, covering different major components of insomnia therapy. This module primarily included behavioral methods to improve sleep as well as basic information about Sleep and Insomnia; Sleep-Wake Scheduling Strategies; Cognitive Restructuring Techniques to alter faulty attitudes and beliefs about sleep deprivation; basic Sleep-Hygiene Principles about factors that may impede (e.g., caffeine) or promote (e.g., exercise) sleep, Relaxation Techniques; Stimulus Control Methods, Sleep Restriction Techniques and Relapse Redressal Techniques.
The therapist worked with participants till the end of the intervention to consolidate improvements, encourage generalizations, preserve treatment outcomes, and reduce the probability of relapse. Encouragement of participant to discuss how he/she brought about a change in them helped the participant to build a sense of responsibility, confidence, and knowledge of the possibilities of bringing about similar good changes in the future. The participants' confidence in dealing with future problems and difficulties in newly acquired and more adaptive methods of functioning was reinforced and strengthened.
Termination of the psychotherapeutic management sessions was started gradually with hints for completion of the intervention from the 8th or 9th session onwards and termination was gradual. Participants were assured of “being there” in case of need even after the end of the management.

Tools used:

**Insomnia Severity Index (ISI)**
The Insomnia Severity Index is a self-report questionnaire of seven items that assess the nature, severity, and impact of insomnia. Morin developed the ISI as a patient-reported outcome measure to be used for both screening and assessing therapy efficacy.\(^\text{11}\) It is commonly used to identify insomnia and to assess the severity of insomnia. The usual recall period is the "last month," and the dimensions evaluated are difficulty in sleep onset, sleep maintenance, and early morning awakening problems, sleep dissatisfaction, interference of sleep difficulties with daytime functioning, noticeability of sleep problems by others, and distress caused by the sleep difficulties. Each question is rated on a five-point Likert scale (e.g., 0 = no difficulty; 4 = extremely severe problem), producing a total score ranging from 0 to 28. The overall score is interpreted as follows: sleeplessness (0–7), sub-threshold insomnia (8–14), moderate insomnia (15–21), and severe insomnia (22–28). ISI is a reliable and valid measure for determining the severity of perceived insomnia.\(^\text{12}\) ISI's test-retest reliability was determined to be 0.84. The ISI
has a positive relationship with the PSQI (Pearson's coefficient r = 0.45). The ISI's internal consistency is determined to be outstanding, with a Cronbach's – 0.84.\textsuperscript{13}

**Pittsburgh Sleep Quality Index (PSQI)**
The Pittsburgh Sleep Quality Index\textsuperscript{14} was used to measure the level of sleep quality in the selected sample. This scale consists of 18 elements that the respondents self-report. The questions rate seven aspects of sleep quality namely sleep duration, sleep disturbance, sleep latency, daytime disturbance, habitual sleep efficiency, sleep quality, and usage of sleep medicines on a scale of 0 (no trouble) to 3 (extreme difficulty). The sum of these results in a global sleep quality index that ranges from 0 to 21. The PSQI has good internal consistency (r =.80 to.85) and test-retest reliability (r =.85 to.87) according to reliability measures. It also has acceptable concurrent validity; PSQI scores are strongly associated with scores on other subjective sleep quality measures (r >.69).

**Sleep Disturbance Questionnaire (SDQ)**
The SDQ 12-item was used to assess subjective insomnia experiences. The questionnaire examines the four elements: attributions about restlessness/agitation, attributions regarding mental overactivity, attributions regarding the consequences of insomnia, and attributions regarding lack of sleep preparation.\textsuperscript{15} The SDQ is especially concerned with views regarding the causes of sleep problems. The SDQ was verified in a group of chronic insomnia patients with an average age of 49.8 years (SD 17.9). The scale is a self-administered, pencil-and-paper test that takes between 3 and 5 minutes to complete. The scale has an internal consistency of 0.67.\textsuperscript{16} Though the scale was first demonstrated to include three elements - Mental Activity, which is further split into two categories - Cognitive Arousal and Sleep Efforts, Sleep Pattern Problem, and Physical Tension.\textsuperscript{15} Respondents utilize a five-point Likert-type scale to indicate how often specific statements concerning insomnia are true in their experience - 1 indicates “never true,” while 5 means “very true.”

**Procedure:**
The survey along with a flyer having the information regarding the study with the eligibility criteria was sent to several WhatsApp groups of college students. 306 participants responded to the online survey. The fishbowl approach was used to choose 35 participants at random from 70 participants who satisfied the inclusion criteria and agreed to participate in the behavioral intervention. The socio-demographic and clinical details were recorded by using the Performa designed for this purpose. Thereafter Pittsburg Sleep Quality Index and Sleep Disturbances Questionnaire were administered during the initial evaluation to determine baseline measures before the commencement of the management. Then all aforementioned measures were re-administered after the completion of management.

V. Results:
A paired sample t-test was conducted to compare self-efficacy before and after the Behavioral management for insomnia symptoms and table 1 shows the findings on the outcome measures after statistical analysis.
Table 1: Means and SDs of the scores of Pre and Post management on ISI, PSQI, and SDQ domains and the corresponding ‘t’ values with their level of significance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-Management</th>
<th>Post-Management</th>
<th>t-values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
</tr>
<tr>
<td>Insomnia Severity Index (ISI)</td>
<td>20.80</td>
<td>3.40</td>
<td>10.45</td>
</tr>
<tr>
<td>Pittsburgh Sleep Quality Index (PSQI)</td>
<td>12.40</td>
<td>3.86</td>
<td>8.88</td>
</tr>
<tr>
<td>Physical tension</td>
<td>11.97</td>
<td>2.12</td>
<td>6.25</td>
</tr>
<tr>
<td>Sleep Pattern Problem</td>
<td>11.97</td>
<td>2.12</td>
<td>5.94</td>
</tr>
<tr>
<td>Cognitive Arousal</td>
<td>12.37</td>
<td>2.18</td>
<td>5.80</td>
</tr>
<tr>
<td>Sleep Efforts</td>
<td>12.25</td>
<td>1.93</td>
<td>5.51</td>
</tr>
<tr>
<td>Sleep Disturbances Questionnaire (SDQ)</td>
<td>48.57</td>
<td>3.81</td>
<td>23.51</td>
</tr>
</tbody>
</table>

* Indicates significance at .05 level and ** indicates significance at .001 level

Figure-1: Graphical depiction of mean scores of pre and post-intervention on outcomes measures
The results in table 1 revealed that there was a significant reduction in the pre to post-management mean scores of ISI, PSQI and all domains of SDQ viz. Physical Tension, Sleep Pattern Problem, Cognitive Arousal, Sleep Efforts, and Sleep Disturbances. The table-1 shows a statistically significant reduction from the pre-management scores to post-management scores which indicates decrease in insomnia severity, and sleep disturbances and improvement in sleep quality. Thus, the hypothesis of the present study that Behavioral management would improve young adults’ sleep quality and reduce insomnia severity and sleep disturbances, stands proved.

VI. Discussion

The study was conducted with the main aim to evaluate the effectiveness of Behavioral Management of Non-Organic Insomnia in young adults. For this purpose, 35 young adults of age between 20 to 30 years were selected for the study. The findings of the present study are consistent with a study, in which 52% of those who received cognitive-behavior therapy reported a 50 percent reduction in their wake time after sleep started. By the end of that study, 55.6 percent of cognitive-behavior therapy treated patients with pathological scores on the Insomnia Symptom Questionnaire (ISQ) had normalized their ISQ scores. Subjective and objective sleep patterns improves significantly after cognitive-behavioral therapy for insomnia. Individuals treated with group cognitive-behavioral therapy report more total sleep time and sleep efficiency than before therapy, as found in a study with nearly 3-year follow-ups.

The results of this study are in line with the findings of previous research studies on nonpharmacological therapies. The results are encouraging, indicating that cognitive-behavioral insomnia management is now the most effective treatment for persistent. Cognitive-behavioral insomnia management produced treatment responses similar to those seen in the general population, according to a recent pilot trial in a student population. Preliminary evidence suggests that CBT-I (Cognitive-Behavioral Therapy for Insomnia) can be used to treat insomnia in young people. Brief behavior therapy has been shown to reduce insomnia, and improved daytime functioning, and quality of life, with effects that last long after treatment. It is effective insomnia management that can be given in a general practice setting.

VII. Conclusion

It can be concluded from the findings of the study that Behavioral Management is an effective mode of treatment for reducing insomnia severity and sleep disturbances and also for improving sleep quality in young adults. Primary care providers should consider non-pharmacological or behavioral management as a first-line treatment option for insomnia. Behavioral management helps in alleviating the symptoms of insomnia, and efforts should be made to educate the public about sleep disorders and extend access to these therapies for individuals who suffer from them. In conclusion, this study supports the effectiveness of non-pharmacological or behavioral management for young adults with non-organic insomnia symptoms.

VIII. The Implication of The Study

This study has a major clinical significance as the findings show that behavioral approaches can be used effectively as a first line treatment option for non-organic insomnia and improving sleep quality.
IX. Acknowledgment:

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Conflict of Interest: There is no conflict of interest.

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References


[20]. Skalski M. The Diagnosis and Treatment of Insomnia Disorders Outpatients Clinic Poland. 2008.

