

Effectiveness of Cognitive Behavioral Therapy in Patients Suffering from Insomnia: A Systematic Evaluation of Sleep Outcomes and Mental Health Correlates

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Abstract:

Background: *Insomnia is common in primary care and can persist after co-morbid conditions are treated and may require long-term medication treatment. There is now evidence to suggest that insomnia often persists following resolution of co-morbid conditions, and that it generally does not spontaneously resolve over time if left untreated. A potential alternative to medications is cognitive behavioural therapy for insomnia (CBT-I).* **OBJECTIVE** *To study the effectiveness of CBT in patients suffering from insomnia.* **METHOD:** *A prospective and observational study was carried out for 6 months. The information was obtained from patient data sheets patient interview. It was recorded in data collection forms. The influence of CBT was observed in the patients.* **RESULT:** *Out of 127 patients, 39% patients were male and 61% were females. The most effected age group was found to be 18-30 years. Out of the 127 patients counselled, 49 patients were followed up in the 4th months, 31 patients were followed up in the 5th month and 27 patients were followed up till the 6th month. Maximum patients were in the ISI category of 8-14 (sub threshold insomnia). Comparison of the ISI score after cognitive behavioural therapy showed that there was an overall improvement in their sleep pattern and decreased sleep onset latency was seen.* **CONCLUSION:** *Upon following the right measures of patient counselling, stimulus control therapy, sleep hygiene, a favourable outcome was seen in patients suffering with sub threshold insomnia and moderately severe insomnia with their sleep pattern showing a substantial improvement.*

KEYWORDS: *Insomnia, Sleep, Cognitive therapy, Behavioural therapy, insomnia severity index*

INTRODUCTION:

Insomnia is excess of sleep fullness and inability to fall asleep as long as desired. It is the most common sleep disorder presented with inadequate sleep and difficulty in sleeping. Insomnia is further sub divided into difficulty in falling asleep frequent awakening and frequent sleep deprivation. Insomnia lasting for one to several nights is termed as transient insomnia. Transient insomnia is a result of situational stress or a change in work schedule or environment. Short term insomnia last from few days to few weeks. Long term insomnia last from months to year and commonly reflect the effect of psychiatric or other chronic medical condition, medication or a primary sleep disorder. Insomnia is a prevalent form of sleep difficulty that impairs diurnal functioning, reduces quality of life and enhances healthcare utilization costs worldwide. Insomnia is characterized by an inability to maintain a sufficient amount of sleep. It can be due to either difficulty falling asleep or staying asleep.[1]

People who suffer from insomnia may shows Fatigue or daytime sleepiness. Poor attention and concentration. Impaired performance resulting in problems with work or social life and increased risk of accidents. Reduced energy or motivation. Behavioural problems. Mood problems. Increased suicide risk. Headache and pain compliance [2,5]

Insomnia may be due to a number of causes and maybe based on genetics since it often runs in families. It may occur due to underlying circadian rhythm disorder. Those with the disease are found to have increased brain metabolism that they are more awake both during the day and at night. It may be associated with other disorders such as anxiety, depression and sleep conditions such as sleep apnea and restless leg syndrome. Chronic pain or nocturia may also disturb sleep. Short term insomnia is often triggered by specific factors and may be environmental, physiological or social. Factors that may potentially contribute to developing insomnia includes travel, noise, light or temperature, stress etc.[3]

CONGNITIVE BEHAVIOURAL THERAPY

It is the best approach for treatment for insomnia because it does not use medicines and can if done right and the patients stick with it lead to long lasting elimination of insomnia CBT is a good training method for your mind. In day-to-day life, when something happen to you , your mind get generates a response weather it is for happiness, frustration or anger and these responses can affect the ability to fall asleep and to stay asleep .Your mind has habits and

the path and regular patterns it wants to take and will take unless you're known how to migrate it.[4] Small defects in sleep quality can lead to long term sleep problem. [6] The goal of CBT-I is to target those factors that may maintain insomnia over time, such as dysregulation of sleep drive, sleep-related anxiety, and sleep-interfering behaviours. This is accomplished by establishing a learned association between the bed and sleeping through stimulus control, restoring homeostatic regulation of sleep through sleep restriction, and altering anxious sleep-related thoughts through cognitive restructuring. By changing sleep-related behaviours and thoughts, CBT-I may target those factors that cause insomnia to persist over time. CBT-I is delivered over the course of 4–8 sessions that occur weekly or every other week for 30–60 minutes each. [7]

MATERIALS AND METHOD:**STUDY SITE**

The study was conducted in the in patients and outpatient setup of Central Research Institute Of Unani Medicine (CRIUM), Hyderabad – 38.

STUDY DESIGN

A hospital based prospective observation study was conducted

SAMPLE SIZE

The study was conducted on 127 patient who visited the hospital

STUDY DURATION

The study was conducted for six months (i.e. from august 2018 to January 2019).

SOURCES OF DATA

- Patient data collection form
- Patient case sheet

STUDY CRITERIA**INCLUSION CRITERIA**

- Patient of both the genders
- Patient with an insomnia severity index score between 8-21
- Patient of age group starting from 18

EXCLUSION CRITERIA

Patient suffering from chronic pain due to an underlying co-morbid disease condition

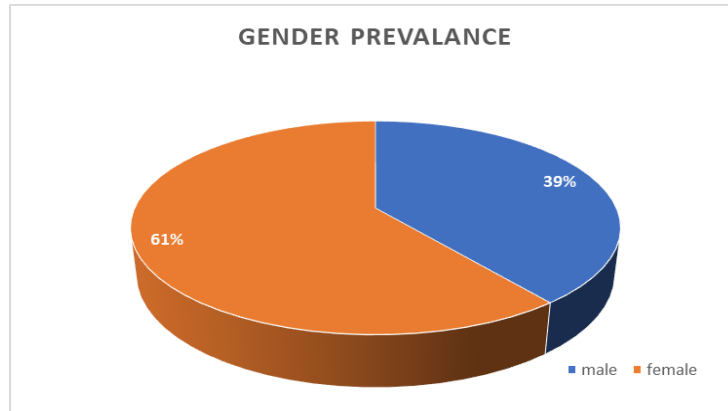
METHOD OF STUDY

The patient data of total 127 patients was collected from the out patients and in-patient setup of the general medicine department. The patient counselling was done to all the patients. The counselling was done based on the scoring of the patients by using the Insomnia Severity Index and an Insomnia questionnaire for assessment of results. From the data collection forms, male and female suffering from insomnia were evaluated and other co-morbid condition were evaluated.

RESULTS:

GENDER PREVALANCE

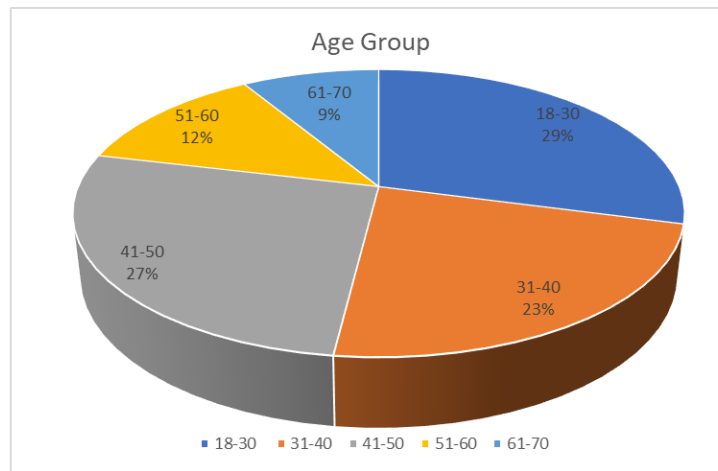
	No. of patients	Percentage
Male	50	40%
Female	77	60%



Out of 127 patients, 40% (n=50) patients were male and 60% (n= 77) were females.

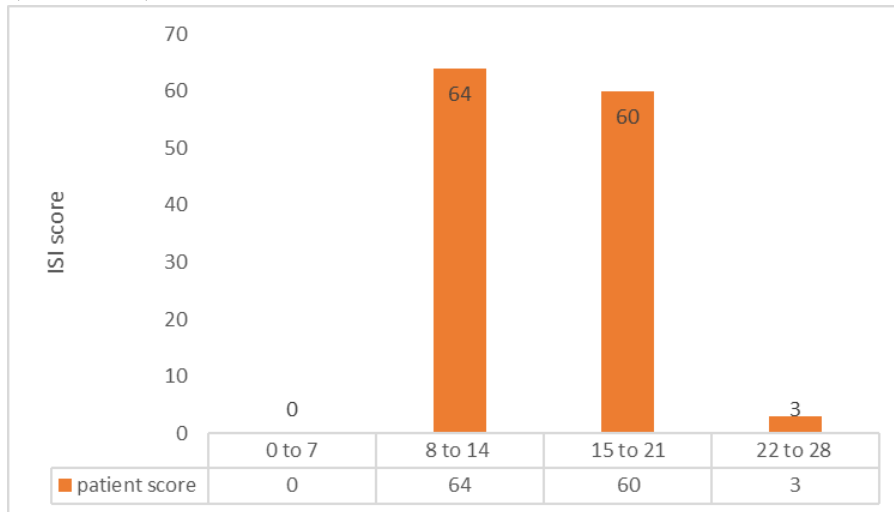
Age Group

Age group (years)	No. of patients	Percentage
18 to 30	37	29%
31 to 40	29	22%
41 to 50	34	26%
51 to 60	16	12%
61 to 70	11	8%



Out of the 127 patients suffering from insomnia, 29.13% (n=27) were from the age group 18-30, 22.83% (n=29) were from the age group 31-40, 26.77% (n=34) were from the age group 41-50, 12.59% (n=16) were from the age group 51-60, and 8.66% (n=11) were from the age group 61-70. The most affected age group was found to be 18-30

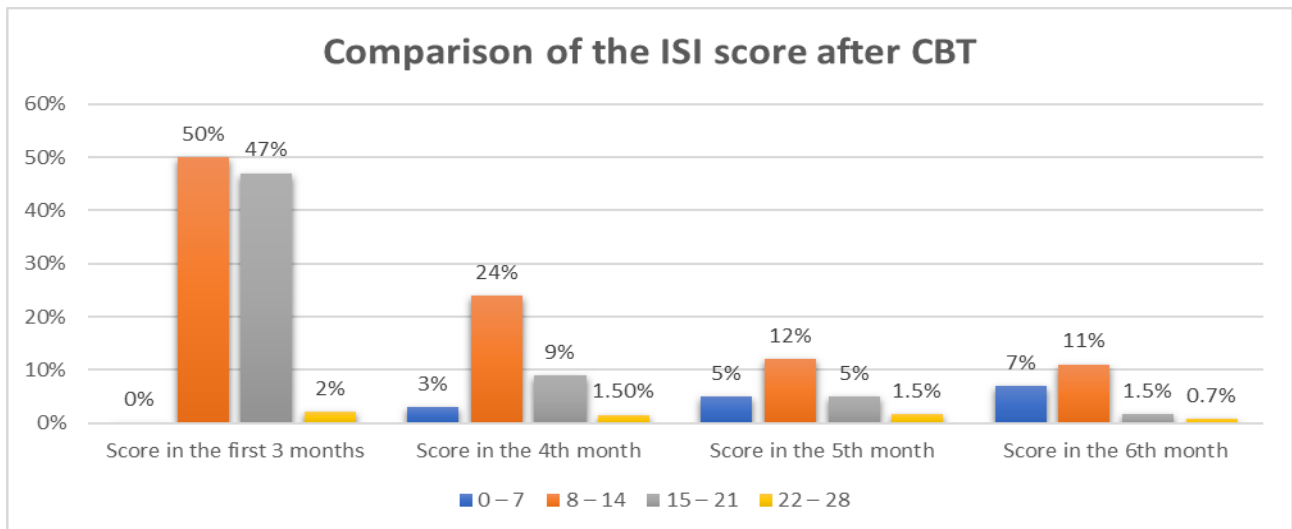
INSOMNIA SEVERITY INDEX



The total ISI score of the 127 patients were calculated. Out of 127 patients 64 patients had a score between 8 to 14 which indicates subthreshold insomnia, 60 patients had a score between 15 to 21 indicating moderately severe clinical insomnia and 2 patients had a ISI score between 22 to 28 which indicates severe clinical insomnia.

COMPARISON OF THE INSOMNIA SEVERITY INDEX SCORE AFTER CBT

ISI	Score in the first 3 months	Score in the 4 th month	Score in the 5 th month	Score in the 6 th month
0 – 7	0%	3.1%	5.51%	7.06%
8 – 14	50.39%	24.40%	11.81%	11.02%
15 – 21	47.24%	9.44%	5.51%	1.57%
22 – 28	2.36%	1.57%	1.57%	0.7%



After the 6 months of CBT the results were observed as follows:

Response of 49 patients out of 127 patients was observed in the 4th month after receiving CBT

- 3% of the patients had an ISI score of 0 to 7. (i.e. no clinical insomnia)
- 24% of the patients had ISI score of 8 to 14. (subthreshold insomnia)
- 9% of the patients had ISI score of 15 to 21 (moderately severe clinical insomnia)
- 1.5% of the patients had ISI score of 22 to 28. (severe clinical insomnia)

Response of 31 patients out of 127 patients was observed in the 5th month after receiving CBT

- 5% of the patients had an ISI score of 0 to 7. (i.e. no clinical insomnia)
- 11.8% of the patients had ISI score of 8 to 14. (subthreshold insomnia)

- 5% of the patients had ISI score of 15 to 21. (moderately severe clinical insomnia)
- 1.5% of the patients had ISI score of 22 to 28. (severe clinical insomnia)

Response of 27 patients out of 127 patients was observed in the 6th month after receiving CBT

- 7% of the patients had an ISI score of 0 to 7. (i.e. no clinical insomnia)
- 11% of the patients had ISI score of 8 to 14. (subthreshold insomnia)
- 1.5% of the patients had ISI score of 15 to 21. (moderately severe clinical insomnia)
- 0.7% of the patients had ISI score of 22 to 28. (severe clinical insomnia)

DISCUSSION:

The aim of the study was to find whether CBT I and patient counselling is effective in improving the sleep patterns of patients suffering from insomnia.

The most common approach for treating insomnia are medications with advantages of these medications being widely available and lead to a rapid improvement in treating insomnia. The disadvantages of these medications are potential side effects, dependence and tolerance. The major disadvantage is that the medications used for the treatment of insomnia are usually not that curative and result in a long-term use of medications for many years. An alternative approach is cognitive behavioral therapy for insomnia which have fewer side effects and a complete focus on treating the factors that may be responsible to produce durable effects in the patients. [7]

The demographic data (gender and age group) showed that the occurrence of insomnia was significantly high in females than in males. The age group was also observed to be a differential factor in determining the occurrence of insomnia in patients, with the ages between 18- 30 years being affected the most. The patients were asked to fill out the questionnaires, i.e. Insomnia Questionnaire and Insomnia Severity Index. The questionnaire was mainly used for the better understanding of the patient's lifestyle, sleep habits and sleep patterns. Then the scores were calculated and based on the total score the patients scored on the Insomnia severity index scale, cognitive behavioral therapy was given. Out of the total 127 patients who were counselled for insomnia and were asked to fill out the questionnaires, the scores showed that 50.39% (n=64) fell into the category of subthreshold insomnia scoring between 8 to 14 on the scale, 47.2% (n=60) fell into the category of clinical insomnia with moderate severity scoring between 15 to 21 on the scale, while the remaining 2.3% (n=3) fell into the category of severe clinical insomnia, scoring between 22 to 28 on the scale.

The scores of the insomnia severity index were compared after CBT was given to patients. It was

observed that from the number of patients that were followed up after CBT, there was a moderate change in the scores of the patients from the category subthreshold insomnia and low to moderate change was seen in the patients from the category clinical insomnia with moderate severity. CBT I was effective in the treating insomnia when compared to sleep medications.

Overall, it is found that CBT is effective in the treatment of insomnia and that it has better advantages than medications used in the treatment for insomnia. CBT-I is an effective treatment for insomnia that can produce durable results in a relatively brief number of visits with low to moderate differences seen in the sleep patterns, lifestyle and quality of life of the patients.

CONCLUSION:

This observational study on CBT-I's effect on patients suffering with insomnia concludes that upon following the right measures of patient counselling, relaxation therapy, stimulus control therapy and sleep hygiene, sleep restriction a favourable outcome can be seen in patients suffering with subthreshold insomnia and moderately severe insomnia, with their sleep patterns showing a substantial improvement. Although the similar outcome is not observed in patients suffering with severe clinical insomnia, as perhaps they would need either more sessions of CBT-I or a combination of CBT-I and drug therapy to show a much significant improvement in their sleep patterns.

CONFLICTS OF INTEREST:

There are no conflicts of interest.

ACKNOWLEDGEMENT:

We would like to thank Dr. Syed Jaffer whose support and encouragement made this study possible. We would also like to thank Dr.Ahmed Minhajuddin for their help and guidance.

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