**Title: -** **Cognitive Behavioural Therapy: The Treatment of Insomnia and Depression**

***Name of Author: - Yash Anil Chaudhari 1st***

***Vaishnavi Jitendra Patil 2nd***

 ***Yash Bhatu Joshi 3rd***

 ***Karan Sanjay Patil 4rd***

 ***Name of Guide: - Mr. Awais Mohammad 1st***

***ABSTRACT:-***

The current study aims to examine, in a community mental health setting, the efficiency of cognitive behaviour therapy in managing depression and Insomnia (sleeplessness) in older adults. In addition, the study intends to identify if an advanced version of cognitive behaviour therapy for insomnia is more efficient than a traditional version of the therapy.

Co-occurrence of insomnia and depression illustrates an intricate, interactive relationship.

Whenever a therapist applies cognitive-behavioural therapy (CBT), it may reduce the severity of both depression and insomnia in patients who have both disorders together. It is seen as the first line of treatment for depression and insomnia. In an attempt to reduce symptoms, CBT combines a variety of therapy techniques, such as sleep restriction, stimulus management, education on healthy sleep hygiene, and teaching relaxation skills.

Having trouble falling or staying asleep is known as insomnia, and it frequently coexists with mental health conditions. Comorbid insomnia is no longer viewed as a secondary condition to primary psychiatric disorders, but rather as a separate medical condition that needs to be treated on its own. An evidence-based treatment for insomnia is cognitive behavioral therapy (CBT-I). The consequences. Since insomnia that coexists with psychiatric disorders has been linked to more severe psychiatric symptoms, as well as studies showing effects from CBT-I on both insomnia and psychiatric symptomology, interest in CBT-I on comorbid psychiatric conditions has grown. The body of research on CBT-I for comorbid mental groups has grownand developedmethodologically in recent years. This article examines current research on how CBT-I affects sleep, symptoms during the day, and function.

***Keywords:*- CBT-I, Insomnia, Depression, Cognitive Therapy, Behaviour, Disorder, Mental health, Anxiety, PTSD, Psychosis.**

*INTRODUCTION*

**"Cognitive"** is derived from the Latin word "cognoscere," which means "to recognize."
Gaining a thorough comprehension of one's

A crucial component of cognitive therapy is the examination of beliefs, attitudes, and expectations. The goal is to identify and alter harmful and incorrect beliefs. Frequently, troubles arise not only from the events and situations themselves but also from the overemphasis we place on them. Depression and insomnia (sleeplessness) are the most common sleep-wake disorders or distressing beliefs among older adults with major mental illness. 2, 3 The effects of cognitive behavioral therapy on the treatment of depression and insomnia are examined in this article.

***Insomnia:-*** Day and night sleep difficulties fall under insomnia disorders. Among them are tiredness and, to a smaller extent, drowsiness during the day, along with other diseases or sleep disorders. One of the most common sleeping cycle difficulties that occur in Insomnia is the one experienced in elderly adults, especially those with psychiatric disturbances. At both daytime and nighttime, it occurs. Cognitive functioning problems could be problems with attention, memory, concentration, or performing complex tasks due to sleep issues or other illnesses. The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) defines insomnia as not being able to fall asleep, remain asleep, or maintain quiet sleep for a minimum of one month. Severe pain or restrictions in social, occupational, or other aspects of activities can be caused by these sleep disorders. Apart from tiredness, sleep deprivation has been associated with mental illness, reduced workplace productivity, and impaired cognitive function. Few individuals receive treatment for insomnia, although it is prevalent and can have detrimental effects. These nocturnal disturbances are likely to lead to significant discomfort or restriction in social, occupational, or other spheres of activity. Insomnia has also been linked with mental illness problems, decreased productivity at work, and intellectual impairment in addition to fatigue. Despite its high prevalence and potentially harmful outcome, hardly any people undergo therapy for insomnia.

***Depression:-*** The two most common comorbid mental illnesses, anxiety and depression, are frequently linked to insomnia and can exacerbate the sleep disturbance. This correlation emphasizes how closely sleep problems and mental health are related. According to the World Health Organization, "Depression is a prevalent psychological scenario that is marked by recurrent feelings of sadness, a diminished interest in enjoyable activities, self-perceived guilt or lack of self-worth, disrupted sleep patterns or changes in appetite, decreased energy levels, and difficulties with concentration." Sadness, exhaustion, hopelessness, and guilt are all experienced by depressed patients. Studies have indicated that depression is caused by abnormalities in brain chemicals or neurological chemistry, particularly serotonin (5-hydroxytryptamine, or 5-HT).
Most people who suffer from depression are young adults. Approximately 3.6% of the world's population experienced anxiety and depressive disorders in 2015, as well as physical illness, sleep problems, and possible risk factors, such as sadness, restriction, and female sex. As with depression, anxiety disorders also occurred more in women than men, at a global incidence of 4.6% for women and 2.6% for men. There is a robust bidirectional association between depression and insomnia.9 Between 70% of older adults with depression can also have co-occurring symptoms of insomnia, as per research. Research has indicated that insomnia often plays an important role in the development and continuation of depression symptoms. Although most older adults with depression experience difficulty falling or remaining asleep, insomnia is not adequately addressed as a specific therapy target. Comorbid insomnia is at increased risk for depressive relapse and suicide if it is not adequately assessed or treated. Besides, with potentially lethal (life-threatening) consequences, the association between depression and insomniahas a significant direct and indirect financial impact on the broader healthcare system.

***Figure:-1***

***Source:-https://www.researchgate.net/figure/Global-burden-of-major-depressive-disorder-and-anxiety-disorders-by-age-and-sex\_fig1\_382869259***

***On X axis – Age group (years); On Y axis – Percent distribution of depressive disorder***

|  |  |  |  |
| --- | --- | --- | --- |
| *Outcome Measure* | *Definition* | *Abbreviation* | *Unit* |
| Sleep onset latency | **Average time to enter sleep after lights out, over the diary period** | **SOL** | **Minutes** |
| Wake after sleep onset | **Average time spent awake during the night after first entering sleep, over the diary period** | **WASO** | **Minutes** |
| Total sleep time | **Average total nighttime sleep, over the diary period** | **TST** | **Minutes** |
| Sleep efficiency | **Total sleep time divided by average time spent in bed, over the diary period** | **SE%** | **Percentage** |

 ***Data Synthesis and Analysis of Insomnia Figure:- 2***

***Source:-https://www.ncbi.nlm.nih.gov/books/NBK343505/***

***CBT:-*** A type of counseling or psychological treatment called cognitive behavioral therapy (CBT) has demonstrated promise in treating several ailments, including severe mental sickness, drug abuse, anxiety disorders, sadness, insomnia, and marital problems. Cognitive behavioral therapy, or CBT, has been shown in several studies to considerably improve functioning, productivity, and quality of life. Cognitive behavioral therapy (CBT) has proven to be as effective as or more successful than other forms of psychological therapy or psychiatric medication in several instances.

***DISCUSSION***

***Cognitive Behavioral Therapy: What Is It?***

CBT-I, or cognitive behavioral therapy for insomnia, is a comprehensive strategy that addresses the underlying causes of sleeplessness by combining behavioral and cognitive elements.
Cause of depression and sleep disorders. Using components of the cognitive behavioral paradigm, cognitive behavioral therapy (CBT) examines how a person's emotional, behavioral, and physiological reactions to different circumstances impact their thinking. The idea that thoughts, feelings, and behaviors are interdependent and can impact mental health is the cornerstone of cognitive behavioral therapy. A type of brief psychotherapy, cognitive behavioral therapy (CBT) usually lasts 12 to 30 weeks. Meetings. The goal of this treatment method is to address the patient's present problems by concentrating on the "here and now." The foundation of cognitive behavioral therapy (CBT) is a person's ideas about themselves, the outside world, and other people, as well as past and present experiences, feelings, and physical reactions.
The patient is required to complete homework assignments in between sessions. In additionto doing behavioral tests to confirm their mental processes and modifying their behaviors in real-life circumstances, these activities may involve self-reporting of thoughts, ideas, actions, and bodily reactions. Employing a variety of therapeutic modalities, including psychiatric counseling, meditation, visualization, the downward arrow method, philosophical research, and literary therapy, the therapist remains involved and directive.

***The following are the fundamental ideas of cognitive behavioral therapy:-***

1. Cognitive Model: CBT is based on the cognitive model of psychiatric disorder, which implies that people's feelings and their actions are determined by how they see events. It emphasizes that emotions do not arise due to situations themselves, but the way people understand these circumstances
2. Three stages of cognition are distinguished by CBT:
3. Core Beliefs: Firm beliefs that typically emerge at a young age about oneself, other people, and the cosmos.
4. Dysfunctional Assumptions: Negative ideas are more likely to stick with people than good ones. Cognitive biases, on the other hand, are these irrational thought patterns that change how we perceive the world.
5. Involuntary thoughts that surface in particular contexts and are frequently centered on pessimism and poor self-esteem are known as negative automatic thoughts, or NATs
6. Creating a cognitive-behavioral model involves incorporating an individual's experiences. It is beneficial to comprehend the factors that contribute to and sustain an individual's issues.
7. Therapeutic Techniques: To assist patients in altering their ideas and behaviors, cognitive behavioral therapy (CBT) employs both behavioral and cognitive techniques, such as behavior planning or behavioral studies, as well as guided research and philosophical questions.
8. Collaboration: CBT treatment involves problem-solving and the creation of adaptive coping mechanisms, and its effectiveness depends on the therapist-patient working together.
9. Time-limited and organized: This treatment is useful for treating particular concerns since it usually takes a brief and organized approach.
10. Empirical Support: Cognitive behavioral therapy is the most studied type of psychotherapy, and there is substantial evidence supporting its efficacy in treating a variety of mental health conditions.

***Cognitive behavioral therapy components for insomnia include:-***

Important components of Cognitive Behavioural therapy for insomnia (CBT-I) include cognitive therapy (CT), sleep management education, sleep restriction treatment (SRT), stimulus control (SC), and meditation techniques. Particularly, stimulus control treatmentis recognized as the leading behavioral approach and is frequently referred to as the "standard of excellence" when it comes to behavioral therapy for insomnia. To effectively treat insomnia, CBT-I therapists commonly combine many therapies in clinical settings, including sleep restriction therapy, sensory control, and sleep hygiene.

***Figure:-3***

***Cognitive behavioral therapy components for insomnia***

***Source:-https://pmc.ncbi.nlm.nih.gov/articles/PMC10002474/***

It is essential to highlight that the growth of CBT was informed via both, research and therapeutic practice. CBT is an evidence-based approach with substantial scientific support for the effectiveness of its methods, setting it apart from numerous other forms of psychological treatment.

***Stimulus Control Therapy (SCT):-***

1. **Objective:-** Stimulus Control Therapy's (SCT) objective is to assist patients in falling asleep fast and staying asleep all night. By removing behaviors that promote arousal, such as watching TV, listening to music, thinking about things, or reading in bed, Stimulus Control Therapy (SCT) seeks to re-associate the bedroom and bed with sleep. It is an essential component of CBT-I and has been demonstrated to be highly successful in treating insomnia or excessive drowsiness. SCT is one of the most effective non-pharmacological therapies for chronic insomnia, according to a review of available options.
2. **Implementation:-** Patients undergoing SCT are required to adhere to stringent behavioral guidelines, including sleeping only when they are tired, rising at a certain time each morning, and refraining from doing anything wakeful just before bed. For a more precise course of treatment, it is usually combined with other CBT techniques.

In patients with breast cancer, a study employing SCT, sleep restriction, and other therapies revealed significant improvements in sleep quality and a reduction in the symptoms of insomnia.

1. **Effectiveness in Depression:-** By enhancing sleep, which directly affects mood regulation and general mental health, SCT can also lessen depressive symptoms.

***Sleep Restriction Therapy (SRT):-***

1. **Objective:-**Reducing time in bed (TIB) to the typical sleep duration is the main goal of sleep restriction therapy. This is because excessive bed rest (TIB) is thought to be a major contributing element to the ongoing symptoms of insomnia.

Research found that SRT significantly improved patients' quality of sleep and reduced the severity of their chronic insomnia.

1. **Effectiveness:-** Similar to medication therapy for insomnia, SRT has been shown to improve sleep latency, increase total sleeping time, and decrease nighttime awakenings.

A comprehensive assessment of non-pharmacologic therapies found that behavioral techniques like SRT enhance sleep quality over the long term and are just as effective as medicine without having any negative side effects.

1. **Impact on Depression**:- SRT has been shown to reduce depressive symptoms, particularly when sleeplessness exacerbates or prolongs depression. 53, 54 SRT can reduce depressive symptoms in those with comorbid depression and insomnia, particularly when combined with other CBT-I techniques, according to a network meta-analysis.

Cognitive behavioral therapy for insomnia (CBT-I) is based on both sleep restriction therapy and stimulus control therapy. 55 SCT and SRT are useful for treating insomnia in depressive disorders since they were shown to enhance sleep without causing hypomanic episodes in research, including individuals with bipolar disorder. 56
They have been demonstrated to help manage comorbid depression and offer long-lasting, efficient treatments for depression and insomnia by improving sleep quality and overall mental health. 57 Research continuously supports the use of SCT and SRT in treatment, either alone or in combination with other CBT-I elements.

***For insomnia, cognitive behavioral therapy (CBT-I):-***

A substantial body of research has been developed over the past 30 years that demonstrates the benefits of cognitive behavioral therapy for insomnia (CBT-I). According to meta-analyses, CBT-I is an effective first-line treatment approach for the insomnia condition. Establishing a safe relationship and strong therapeutic alliance with a therapist was crucial for the patient during therapy.

 In clinical settings, CBT-I practitioners frequently integrate therapies that typically incorporate stimulus control, sleep restriction therapy, and sleep hygiene education as well.

CBT-I compares favorably to pharmaceutical therapies and has longer-lasting positive effects. Prior research on CBT-I focused on treating primary insomnia and excluded individuals with comorbidities; however, an increasing body of evidence indicates that CBT-I may also help treat comorbid insomnia. Despite these important advancements in research, the majority of participants in CBT-I studies have been younger or older individuals (mean age <65 years).
As a result, older people (mean age > 65) with concurrent significant mental illnesses have not been adequately represented in the CBT-I literature.

When older adults first come with a variety of bio psychosocial formulations, the majority of them frequently have severe, many, connected, recurrent/persistent comorbidities. This calls for a randomized controlled trial (RCT) since promising evidence indicates that CBT-I may reduce depression in addition to sleeplessness.

***CBT-/+:-***

The CBT-I+ program is an improved version of the standard CBT-I program that incorporates extra therapies like light therapy, stimulus control therapy, and relaxation training. These treatments significantly improve the therapeutic outcome, especially for patients with complex medical conditions like cancer or chronic pain, or comorbid depression or trauma. It includes three brand-new cognitive behavioral therapy techniques created especially to treat comorbid depression. Behavioral activation was the first additional tactic employed. This included things like organizing daily uplifting activities. The second strategy uses cognitive restructuring exercises to address negative beliefs that might exacerbate depressive symptoms, in addition to cognitive reframing to treat depression. Lastly, the final method was practicing positive affirmations to increase optimism or lessen depression. While basic CBT-I sessions lasted 60 to 75 minutes, advanced CBT-I+ sessions generally lasted 75 to 90 minutes due to the added therapeutic material.

***Cognitive Behavioral Therapy For Insonia (Cbt-I) Limitations:-***

***Limitations of Cognitive Behavioural Therapy for Insomnia (CBT-I)***

***Long-term Efficacy Define***

***Limited Effectiveness for Comorbid Conditions***

***Variable Effectiveness in Different Populations***

***Impact on Dysfunctional Beliefs***

***Accessibility and Adherence Issues***

***Figure:-4***

***Source:-https://scholar.google.co.in/scholar?q=Limitations+of+Cognitive+Behavioural+Therapy***

***+for+Insomnia+(CBT-I)&hl=en&as\_sdt=0&as\_vis=1&oi=scholart***

1. **Long-term Efficacy Decline:-** Although CBT-I has moderate to strong short-term benefits, they tend to wane with time, with notable decreases in impact observed after a year
2. **Limited Benefits for Comorbid Conditions:-** Cognitive behavioral therapy (CBT-I) can help people with comorbid insomnia sleep better, but its benefits on co-occurring mental health or medical disorders are less.
3. **Variable Effectiveness in Different Populations:-** CBT-I has variable efficacy in groups like cancer survivors, especially when it comes to subjective sleep measurements as opposed to objective ones, with more advantages observed in psychological well-being than in real sleep improvement.
4. **Variable Effectiveness in Different Populations:-** CBT-I has varying levels of effectiveness in populations such as cancer survivors, particularly when it comes to subjective rather than objective sleep assessments. Benefits in psychological well-being are more pronounced than in actual sleep improvement.
5. **Problems with Accessibility and Adherence:-** Although self-help forms of CBT-I demonstrate efficacy, dropout rates as high as 14.5% indicate that adherence can be problematic.

***CONCLUSION***

* Cognitive behavioral therapy (CBT) is widely recognized as the primary nonpharmacologic treatment for depression and insomnia, with fewer side effects than sleep aids. It has been demonstrated that both CBT-I and CBT-I+ lessen the severity of depression and insomnia in older people. Providing cognitive behavioral therapy for co-occurring insomnia as part of mental health care may increase the likelihood that older persons with depression may recover.
It has been shown that this therapy significantly enhances the quality of sleep and lessens symptoms that occur throughout the day, including mood swings, fatigue, daytime drowsiness, and other psychological symptoms. CBT is a potentially useful method for addressing the widespread problems of sleeplessness and depression that people encounter.

***REFERENCES:-***

1. *Miller CB, Espie CA, Epstein DR, Friedman L, Morin CM, Pigeon WR, et al. The evidence base of sleep restriction therapy for treating insomnia disorder. Sleep Med Rev. 2014 Oct;18(5):415–24. DOI: 10.1016/j.smrv.2014.01.006 PMID: 24629826.*
2. *Ballesio A, Aquino MRJV, Feige B, Johann AF, Kyle SD, Spiegelhalder K, et al. The effectiveness of behavioural and cognitive behavioural therapies for insomnia on depressive and fatigue symptoms: a systematic review and network meta-analysis. Sleep Med Rev. 2018; 37:114–29. DOI: 10.1016/j.smrv.2017.01.006 PMID: 28619248.*
3. *Lancee J, Maric M, Kamphuis JH. Sleep restriction therapy may be effective for people with insomnia and depressive complaints: evidence from a case series. Behav Cogn Psychother. 2020 Jul;48(4):492–7. DOI: 10.1017/S1352465819000705 PMID: 31708011.*
4. *Kalmbach DA, Cheng P, Arnedt JT, Anderson JR, Roth T, FellmanCouture C, et al. Treating insomnia improves depression, maladaptive thinking, and hyperarousal in postmenopausal women: comparing cognitive-behavioral therapy for insomnia (CBTI), sleep restriction therapy, and sleep hygiene education. Sleep Med. 2019 Mar; 55:124–34. DOI: 10.1016/j.sleep.2018.11.019 PMID: 30785053.*
5. *Edinger JD, Olsen MK, Stechuchak KM, Means MK, Lineberger MD, Kirby A, et al. Cognitive behavioral therapy for patients with primary insomnia or insomnia associated predominantly with mixed psychiatric disorders: a randomized clinical trial. Sleep. 2009;32(4):499–510. DOI: 10.1093/sleep/32.4.499 PMID: 19413144.*
6. *Steinan MK, Krane-Gartiser K, Langsrud K, Sand T, Kallestad H, Morken G. Cognitive behavioral therapy for insomnia in euthymic bipolar disorder: study protocol for a randomized controlled trial. Trials. 2014 Dec;15(1):24. DOI: 10.1186/1745-6215-15-24 PMID: 24433249.*
7. *Wu JQ, Appleman ER, Salazar RD, Ong JC. Cognitive Behavioral Therapy for Insomnia Comorbid with Psychiatric and Medical Conditions: A Metaanalysis. JAMA Intern Med. 2015 Sep 1;175(9):1461. DOI: 10.1001/jamainternmed.2015.3006 PMID: 26147487*
8. *Harvey AG, Soehner AM, Kaplan KA, Hein K, Lee J, Kanady J, et al. Treating insomnia improves mood state, sleep, and functioning in bipolar disorder: A pilot randomized controlled trial. J Consult Clin Psychol. 2015 Jun;83(3):564–77. DOI: 10.1037/a0038655 PMID: 25622197.*
9. *Bélanger L, LeBlanc M, Morin CM. Cognitive behavioral therapy for insomnia in older adults. Cogn Behav Pract. 2012;19(1):101–15. DOI:10.1016/j.cbpra.2010.10.003*
10. *Morin CM. Insomnia: Psychological assessment and management. Guilford press; 1993.*
11. *Koffel E, Koffel J, Gehrman P. A Meta-analysis of Group Cognitive Behavioral Therapy for Insomnia. Sleep Med Rev. 2015 Feb; 19:6–16. DOI: 10.1016/j.smrv.2014.05.001 PMID: 24931811.*
12. *. Coppen A. The Biochemistry of Affective Disorders. Br J Psychiatry. 1967 Nov;113(504):1237–64. DOI: 10.1192/bjp.113.504.1237 PMID: 4169954*
13. *Mitchell MD, Gehrman P, Perlis M, Umscheid CA. Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review. 2012; DOI: 10.1186/1471-2296-13-40 PMID: 22631616.*
14. *Morin CM, Colecchi C, Stone J, Sood R, Brink D. Behavioral and pharmacological therapies for late-life insomnia: a randomized controlled trial. Jama. 1999;281(11):991–9. DOI: 10.1001/jama.281.11.991 PMID: 10086433.*
15. *Blom K, Jernelöv S, Rück C, Lindefors N, Kaldo V. Three-year follow-up comparing cognitive behavioral therapy for depression to cognitive behavioral therapy for insomnia, for patients with both diagnoses. Sleep. 2017;40(8): zsx108. DOI: 10.1093/sleep/zsx108 PMID: 28655183.*
16. *Geiger-Brown JM, Rogers VE, Liu W, Ludeman EM, Downton KD, Diaz- Abad M. Cognitive behavioral therapy in persons with comorbid insomnia: a meta-analysis. Sleep Med Rev. 2015; 23:54–67. DOI: 10.1016/j.smrv.2014.11.007 PMID: 25645130.*
17. *Taylor DJ, Pruiksma KE. Cognitive and behavioural therapy for insomnia (CBT-I) in psychiatric populations: A systematic review. Int Rev Psychiatry2014 Apr;26(2):205–13. DOI: 10.3109/09540261.2014.902808 PMID:
24892895.*
18. *Sadler P, McLaren S, Klein B, Harvey J, Jenkins M. Cognitive behavior therapy for older adults with insomnia and depression: a randomized controlled trial in community mental health services. Sleep. 2018;41(8):zsy104. DOI: 10.1093/sleep/zsy104 PMID: 29800468*
19. *Sadler P, McLaren S, Klein B, Jenkins M, Harvey J. Cognitive behavior therapy for older adults experiencing insomnia and depression in acommunity mental health setting: Study protocol for a randomized controlled trial. Trials. 2015; 16:1–12. DOI: 10.1186/s13063-015-1066-6PMID: 26614277.*
20. *Bean HR, Diggens J, Ftanou M, Alexander M, Stafford L, Bei B, et al.Light enhanced cognitive behavioral therapy for insomnia and fatigue during chemotherapy for breast cancer: a randomized controlled trial.Sleep. 2022 Mar 14;45(3): zsab246. DOI: 10.1093/sleep/zsab246 PMID:
3461890.*
21. *Selvanathan J, Pham C, Nagappa M, Peng PWH, Englesakis M, Espie CA, et al. Cognitive behavioral therapy for insomnia in patients with chronic pain – A systematic review and meta-analysis of randomized controlled trials. Sleep Med Rev. 2021 Dec; 60:101460. DOI: 10.1016/j.smrv.2021.101460 PMID: 33610967.*
22. *Selvanathan J, Pham C, Nagappa M, Peng PWH, Englesakis M, Espie CA, et al. Cognitive behavioral therapy for insomnia in patients with chronic pain – A systematic review and meta-analysis of randomized controlled trials. Sleep Med Rev. 2021 Dec; 60:101460. DOI: 10.1016/j.smrv.2021.101460 PMID: 33610967.*
23. *Sadler P, McLaren S, Klein B, Jenkins M. Advancing cognitive behaviour therapy for older adults with comorbid insomnia and depression. Cogn Behav Ther. 2018;47(2):139–54. DOI: 10.1080/16506073.2017.1359206 PMID: 28784037.*
24. *Ciharova M, Furukawa TA, Efthimiou O, Karyotaki E, Miguel C, Noma H, et al. Cognitive restructuring, behavioral activation and cognitive- behavioral therapy in the treatment of adult depression: A network meta- analysis. J Consult Clin Psychol. 2021 Jun;89(6):563–74. DOI: 10.1037/ccp0000654 PMID: 34264703.*
25. *Landau C. How the Principles of Cognitive Behavior Therapy (CBT) and Other Evidence-Based Therapies Can Help Your Family. In: Landau C, editor. Mood Prep 101 [Internet]. Oxford University Press; 2020 [cited 2024 Aug 26]. p. 159–70. Available from: https://academic.oup.com/book/28750/chapter/234432137 doi: 10.1371/journal.pone.0264368 PMID: 35231039.*
26. *Van Der Zweerde T, Bisdounis L, Kyle SD, Lancee J, Van Straten A. Cognitive behavioral therapy for insomnia: A meta-analysis of long-term effects in controlled studies. Sleep Med Rev. 2019 Dec; 48:101208. DOI: 10.1016/j.smrv.2019.08.002 PMID: 31491656.*
27. *Thakral M, Von Korff M, McCurry SM, Morin CM, Vitiello MV. Changes in dysfunctional beliefs about sleep after cognitive behavioral therapy for insomnia: A systematic literature review and meta-analysis. Sleep Med Rev. 2020 Feb; 49:101230. DOI: 10.1016/j.smrv.2019.101230 PMID: 31816582.*
28. *Ho FYY, Chung KF, Yeung WF, Ng TH, Kwan KS, Yung KP, et al. Self-help cognitive-behavioral therapy for insomnia: A meta-analysis of randomized controlled trials. Sleep Med Rev. 2015 Feb; 19:17–28. DOI: 10.1016/j.smrv.2014.06.010 PMID: 25104471.*
29. *Institute for Quality and Efficiency in Health Care (IQWiG). In brief: Cognitive behavioral therapy (CBT) [Internet]. InformedHealth.org - NCBI Bookshelf. 2022. Available from:* [*https://www.ncbi.nlm.nih.gov/books/NBK279297/*](https://www.ncbi.nlm.nih.gov/books/NBK279297/)*.*
30. *Chen YS. Association between chronic insomnia and depression in elderly adults. J Chin Med Assoc. 2012 May;75(5):195–6. doi: 10.1016/j.jcma.2012.04.001.*
31. *Lai HC, Hsu NW, Chou P, Chen HC. The associations between various sleep-wake disturbances and depression in community-dwelling older adults- the Yilan study, Taiwan. Aging Ment Health. 2020 May 3;24(5):717–24.* [*https://doi.org/10.1080/13607863.2019.1582006*](https://doi.org/10.1080/13607863.2019.1582006)*.*
32. *Bell CC. DSM-IV: diagnostic and statistical manual of mental disorders. Jama. 1994 Sep 14;272(10):828-9. doi:10.1001/jama.1994.03520100096046*
33. *Bell CC. DSM-IV: Diagnostic and Statistical Manual of Mental Disorders. JAMA J Am Med Assoc. 1994 Sep 14;272(10):828. doi:10.1001/jama.*
34. *Bhaskar S, Hemavathy D, Prasad S. Prevalence of chronic insomnia in adult patients and its correlation with medical comorbidities. J Fam Med Prim Care. 2016;5(4):780–4. https://doi.org/10.4103%2F2249- 4863.201153 DOI:10.4103/2249-4863.201153*
35. *Cole MG, Dendukuri N. Risk Factors for Depression Among Elderly Community Subjects: A Systematic Review and Meta-Analysis. Am J Psychiatry. 2003 Jun 1;160(6):1147–56.* [*https://doi.org/10.1176/appi.ajp.160.6.1147*](https://doi.org/10.1176/appi.ajp.160.6.1147)*.*
36. *World Health Organization: WHO, World Health Organization: WHO. Depressive disorder (depression) [Internet]. 2023. Available from:* [*https://www.who.int/news-room/fact-sheets/detail/depression*](https://www.who.int/news-room/fact-sheets/detail/depression)*.*
37. *Bao YP, Han Y, Ma J, Wang RJ, Shi L, Wang TY, et al. Cooccurrence and bidirectional prediction of sleep disturbances and depression in older adults: Meta-analysis and systematic review. Neurosci Biobehav Rev. 2017 Apr 1; 75:257–73. DOI: 10.1016/j.neubiorev.2017.01.032 PMID: 28179129.*
38. *Foley D, Ancoli-Israel S, Britz P, Walsh J. Sleep disturbances and chronic disease in older adults: results of the 2003 National Sleep Foundation Sleep in America Survey. J Psychosom Res. 2004;56(5):497–502. DOI: 10.1016/j.jpsychores.2004.02.010 PMID: 15172205.*
39. *Ancoli‐Israel S, Cooke JR. Prevalence and comorbidity of insomnia and effect on functioning in elderly populations. Journal of the American Geriatrics Society. 2005 Jul;53(S7):S264-71. DOI: 10.1111/j.1532- 5415.2005.53392.x PMID: 15982375*
40. *Baglioni C, Battagliese G, Feige B, Spiegelhalder K, Nissen C, Voderholzer U, et al. Insomnia as a predictor of depression: a meta-analytic evaluation of longitudinal epidemiological studies. J Affect Disord. 2011;135(1–3):10–9. DOI: 10.1016/j.jad.2011.01.011 PMID: 21300408.*
41. *Dolsen EA, Asarnow LD, Harvey AG. Insomnia as a Transdiagnostic Process in Psychiatric Disorders. Curr Psychiatry Rep. 2014 Sep;16(9):471. DOI: 10.1007/s11920-014-0471-y PMID: 25030972.*
42. *Sadler P, McLaren S, Jenkins M. A psychological pathway from insomnia to depression among older adults. Int Psychogeriatr. 2013;25(8):1375–83. DOI: 10.1017/S1041610213000616 PMID: 23664086.*
43. *Rybarczyk BR, Mack LJ. Self-help treatments for older adults with primary and comorbid insomnia. Princ Pract Geriatr Sleep Med. 2009;394.*
44. *McCall WV, Blocker JN, D’Agostino R, Kimball J, Boggs N, Lasater B, et al. Insomnia Severity is an Indicator of Suicidal Ideation During a Depression Clinical Trial. Sleep Med. 2010 Oct;11(9):822–7. DOI: 10.1016/j.sleep.2010.04.004 PMID: 20478741.*
45. *Turvey CL, Conwell Y, Jones MP, Phillips C, Simonsick E, Pearson JL, et al. Risk factors for late-life suicide: a prospective, community-based study. Am J Geriatr Psychiatry. 2002;10(4):398–406. DOI:10.1097/00019442- 200207000-00006.*
46. *Ozminkowski RJ, Wang S, Walsh JK. The direct and indirect costs of untreated insomnia in adults in the United States. Sleep. 2007;30(3):263– 73. DOI: 10.1093/sleep/30.3.263 PMID: 17425222.*
47. *Teater B. Cognitive Behavioural Therapy (CBT). Blackwell Companion Soc Work. 2013;423–7.*
48. *Altena E, Ellis J, Camart N, Guichard K, Bastien C. Mechanisms of cognitive behavioural therapy for insomnia. J Sleep Res. 2023 Dec;32(6): e13860. DOI: 10.1111/jsr.13860 PMID: 36866434.*
49. *Williams J, Roth A, Vatthauer K, McCrae CS. Cognitive Behavioral Treatment of Insomnia. Chest. 2013 Feb;143(2):554–65. DOI: 10.1378/chest.12-0731 PMID: 23381322.*
50. *Gu D, Dupre ME, editors. Cognitive Behavioral Treatment. In: Encyclopedia of Gerontology and Population Aging [Internet]. Cham: Springer International Publishing; 2021 DOI: 10.1007/978-3-030-22009-9.*
51. *Basiouny DE, Habib HI. Cognitive Behavioral Therapy for Insomnia (CBT- I): A Comprehensive Review. Indian J Sleep Med. 2023 Dec 29; 18(4):62–5. DOI: 10.5005/jp-journals-10069-0123.*
52. *Eidelson JI. Cognitive Group Therapy for Depression: “Why And What.” Int J Ment Health. 1984 Sep;13(3–4):54–66.* [*https://doi.org/10.1177/070674379403900701*](https://doi.org/10.1177/070674379403900701)
53. *Jacobson NS, Dobson KS, Truax PA, Addis ME, Koerner K, Gollan JK, et al. A component analysis of cognitive-behavioral treatment for depression. J Consult Clin Psychol. 1996;64(2):295–304. DOI: 10.1037//0022- 006x.64.2.295 PMID: 8871414.*
54. *Głuszek-Osuch M. Cognitive behavioural therapy (CBT) – case studies. Med Stud. 2016;1:49–55. DOI:* [*https://doi.org/10.5114/ms.2016.58806*](https://doi.org/10.5114/ms.2016.58806)*.*
55. *Tang W, Kreindler D. Supporting Homework Compliance in Cognitive Behavioural Therapy: Essential Features of Mobile Apps. JMIR Ment Health. 2017 Jun 8;4(2):e20. DOI: 10.2196/mental.5283 PMID: 28596145.*
56. *McLachlan NH, Eastwood L, Friedberg RD. Socratic Questions With Children: Recommendations and Cautionary Tales. J Cogn Psychother. 2016;30(2):105–19. DOI: 10.1891/0889-8391.30.2.105 PMID: 32755910.*
57. *Fenn K, Byrne M. The key principles of cognitive behavioural therapy. InnovAiT Educ Inspir Gen Pract. 2013 Sep;6(9):579–85.* [*https://doi.org/10.1177/1755738012471029*](https://doi.org/10.1177/1755738012471029)*.*
58. *Drake M, Thomas M. Principles of Cognitive Behavioural Therapy. In: Cognitive Behaviour Therapy Case Studies [Internet]. 1 Oliver’s Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd; 2012 [cited 2024 Aug 26]. p. 1–15. Available from: https://sk.sagepub.com/books/cognitive-behaviour-therapy-case- studies/n1.xml DOI: 10.1111/j.1365-2850.2012.01879.x PMID: 22369589.*
59. *Bruijniks SJE, Los SA, Huibers MJH. Direct effects of cognitive therapy skill acquisition on cognitive therapy skill use, idiosyncratic dysfunctional beliefs and emotions in distressed individuals: An experimental study. J Behav Ther Exp Psychiatry. 2020 Jun; 67:101460. DOI: 10.1016/j.jbtep.2019.02.005 PMID: 30777293.*
60. *Hur JW, Kim B, Park D, Choi SW. A Scenario-Based Cognitive Behavioral Therapy Mobile App to Reduce Dysfunctional Beliefs in Individuals with Depression: A Randomized Controlled Trial. Telemed E-Health. 2018 Sep;24(9):710–6. DOI: 10.1089/tmj.2017.0214 PMID: 29323626.*
61. *Dawson D, Moghaddam N. Formulation in action: an introduction. Formulation in action: applying psychological theory to clinical practice. Berlin. 2015:3-8. DOI:10.1515/9783110471014.*
62. *O’Donohue W, Fisher JE, editors. Cognitive Behavior Therapy: Core Principles for Practice [Internet]. 1st ed. Wiley; 2012 [cited 2024 Aug 26]. Available from:* [*https://onlinelibrary.wiley.com/doi/book/10.1002/9781118470886*](https://onlinelibrary.wiley.com/doi/book/10.1002/9781118470886)*.*
63. *Shawe-Taylor M, Rigby J. Cognitive behaviour therapy: its evolution and basic principles. J R Soc Promot Health. 1999 Dec;119(4):244–6. DOI: 10.1177/146642409911900408PMID: 10673846.*
64. *Wang M, Wang S, Tsai P. Cognitive behavioural therapy for primary insomnia: a systematic review. J Adv Nurs. 2005 Jun;50(5):553–64. DOI: 10.1111/j.1365-2648.2005.03433.x PMID: 15882372.*
65. *Drerup M. Insomnia, Cognitive Behavioral Treatment of. In: Encyclopedia of the Neurological Sciences [Internet]. Elsevier; 2014 [cited 2024 Sep 6]. p. 708–10. Available from: https://linkinghub.elsevier.com/retrieve/pii/B978012385157400556X doi: 10.1378/chest.12-0731.*
66. *Morin CM, Bootzin RR, Buysse DJ, Edinger JD, Espie CA, Lichstein KL. Psychological and behavioral treatment of insomnia: update of the recent evidence (1998–2004). Sleep. 2006;29(11):1398–414. DOI: 10.1093/sleep/29.11.1398 PMID: 17162986.*
67. *Verreault MD, Granger É, Neveu X, Delage JP, Bastien CH, Vallières A. The effectiveness of stimulus control in cognitive behavioural therapy for insomnia in adults: A systematic review and network meta‐analysis. J Sleep Res. 2024 May;33(3):e14008. DOI: 10.1111/jsr.14008 PMID: 37586843.*
68. *Mousli F, Flores FL, Kraus J. Is behavioral therapy a more effective treatment for primary insomnia than pharmacotherapy? Evid-Based Pract. 2021 Sep;24(9):14–5. doi: 10.1186/1471-2296-13-40 PMID: 22631616.*
69. *Jang CH, Kim SH, Oh DH. Cognitive Behavioral Therapy of Insomnia. Hanyang Med Rev. 2013;33(4):210. DOI:10.7599/hmr.2013.33.4.210.*
70. *McLaren DM, Evans J, Baylan S, Smith S, Gardani M. The effectiveness of the behavioural components of cognitive behavioural therapy for insomnia in older adults: A systematic review. J Sleep Res. 2023 Aug;32(4):e13843. DOI: 10.1111/jsr.13843 PMID: 36802110.*
71. *Savard J, Simard S, Ivers H, Morin CM. Randomized Study on the Efficacy of Cognitive-Behavioral Therapy for Insomnia Secondary to Breast Cancer, Part I: Sleep and Psychological Effects. J Clin Oncol. 2005 Sep 1;23(25):6083–96. DOI: 10.1200/JCO.2005.09.548 PMID: 16135475.*
72. *Kaplan KA, Harvey AG. Behavioral Treatment of Insomnia in Bipolar Disorder. Am J Psychiatry. 2013 Jul;170(7):716–20. DOI: 10.1176/appi.ajp.2013.12050708 PMID: 23820830.*
73. *Dirksen SR, Epstein DR. Efficacy of an insomnia intervention on fatigue, mood and quality of life in breast cancer survivors. J Adv Nurs. 2008 Mar;61(6):664–75. DOI: 10.1111/j.1365-2648.2007.04560.x PMID: 18302607.*
74. *Ma Y, Hall DL, Ngo LH, Liu Q, Bain PA, Yeh GY. Efficacy of cognitive behavioral therapy for insomnia in breast cancer: A meta-analysis. Sleep Med Rev. 2021 Feb; 55:101376. DOI: 10.1016/j.smrv.2020.101376 PMID: 32987319.*
75. *Backhaus J, Hohagen F, Voderholzer U, Riemann D. Long-term effectiveness of a short-term cognitive-behavioral group treatment for primary insomnia. Eur Arch Psychiatry Clin Neurosci. 2001 Mar 21;251(1):35–41. DOI: 10.1007/s004060170066 PMID: 11315517.*
76. *Kyle SD, Miller CB, Rogers Z, Siriwardena AN, MacMahon KM, Espie CA. Sleep Restriction Therapy for Insomnia is Associated with Reduced Objective Total Sleep Time, Increased Daytime Somnolence, and Objectively Impaired Vigilance: Implications for the Clinical Management of Insomnia Disorder. Sleep. 2014 Feb 1;37(2):229–37. DOI: 10.5665/sleep.3386 PMID: 24497651.*
77. *Spielman AJ, Saskin P, Thorpy MJ. Treatment of chronic insomnia by restriction of time in bed. Sleep. 1987;10(1):45–56. PMID: 3563247.*
78. *Falloon K, Elley CR, Fernando A, Lee AC, Arroll B. Simplified sleep restriction for insomnia in general practice: a randomised controlled trial. Br J Gen Pract. 2015 Aug;65(637): e508–15. DOI: 10.3399/bjgp15X686137 PMID: 26212846.*
79. *Baglioni C, Battagliese G, Feige B, et al. Insomnia as a predictor of depression: a metaanalytic evaluation of longitudinal epidemiological studies. J Affect Disord. 2011;135(1–3):10–19. [PubMed: 21300408].*
80. *Perlis ML, Giles DE, Buysse DJ, Tu X, Kupfer DJ. Self-reported sleep disturbance as a prodromal symptom in recurrent depression. J Affect Disord. 1997;42(2–3):209–212. [PubMed: 9105962]*
81. *Hamilton M Frequency of symptoms in melancholia (depressive illness). Br J Psychiatry. 1989;154:201–206. [PubMed: 2775946].*
82. *Ford DE, Kamerow DB. Epidemiologic study of sleep disturbances and psychiatric disorders. An opportunity for prevention? JAMA. 1989;262(11):1479–1484. [PubMed: 2769898].*
83. *Emslie GJ, Kennard BD, Mayes TL, et al. Insomnia Moderates Outcome of Serotonin-Selective Reuptake Inhibitor Treatment in Depressed Youth. Journal of Child and Adolescent Psychopharmacology. 2012.*
84. *Soehner AM, Kaplan KA, Harvey AG. Prevalence and clinical correlates of co-occurring insomnia and hypersomnia symptoms in depression. Journal of Affective Disorders. 2014.*
85. *Taylor DJ, Lichstein KL, Durrence HH, Reidel BW, Bush AJ. Epidemiology of insomnia, depression, and anxiety. Sleep. 2005.*
86. *McClintock SM, Husain MM, Wisniewski SR, et al. Residual symptoms in depressed outpatients who respond by 50% but do not remit to antidepressant medication. Journal of Clinical Psychopharmacology. 2011.*
87. *Nierenberg AA, Husain MM, Trivedi MH, et al. Residual symptoms after remission of major depressive disorder with citalopram and risk of relapse: A STARßD report. Psychological Medicine. 2010.*
88. *Dombrovski AY, Cyranowski JM, Mulsant BH, et al. Which symptoms predict recurrence of depression in women treated with maintenance interpersonal psychotherapy? Depress Anxiety. 2008;25(12):1060–1066. [PubMed: 18781665]*
89. *Taylor DJ, Walters HM, Vittengl JR, Krebaum S, Jarrett RB. Which depressive symptoms remain after response to cognitive therapy of depression and predict relapse and recurrence? Journal of Affective Disorders. 2010.*
90. *Franzen PL, Buysse DJ. Sleep disturbances and depression: risk relationships for subsequent depression and therapeutic implications. Dialogues Clin Neurosci. 2008;10(4):473–481. [PubMed: 19170404]*
91. *Riemann D, Voderholzer U. Primary insomnia: A risk factor to develop depression? Journal of Affective Disorders. 2003.*
92. *Paunio T, Korhonen T, Hublin C, et al. Poor sleep predicts symptoms of depression and disability retirement due to depression. Journal of Affective Disorders. 2015.*
93. *Sivertsen B, Salo P, Mykletun A, et al. The bidirectional association between depression and insomnia: The HUNT study. Psychosomatic Medicine. 2012.*
94. *Suh S, Kim H, Yang H-C, Cho ER, Lee SK, Shin C. Longitudinal Course of Depression Scores with and without Insomnia in Non-Depressed Individuals: A 6-Year Follow-Up Longitudinal Study in a Korean Cohort. Sleep. 2013.*
95. *Lee E, Cho HJ, Olmstead R, Levin MJ, Oxman MN, Irwin MR. Persistent Sleep Disturbance: A Risk Factor for Recurrent Depression in Community-Dwelling Older Adults. SLEEP. 2013.*
96. *Bao YP, Han Y, Ma J, et al. Cooccurrence and bidirectional prediction of sleep disturbances and depression in older adults: meta-analysis and systematic review. Elsevier.*
97. *Johnson EO, Roth T, Breslau N. The association of insomnia with anxiety disorders and depression: Exploration of the direction of risk. Journal of Psychiatric Research. 2006.*
98. *Gregory AM, Rijsdijk FV, Lau JYF, Dahl RE, Eley TC. The direction of longitudinal associations between sleep problems and depression symptoms: A study of twins aged 8 and 10 years. Sleep. 2009.*
99. *Alvaro PK, Roberts RM, Harris JK. A Systematic Review Assessing Bidirectionality between Sleep Disturbances, Anxiety, and Depression. Sleep. 2013.*
100. *Shanahan L, Copeland WE, Angold A, Bondy CL, Costello EJ. Sleep problems predict and are predicted by generalized anxiety/depression and oppositional defiant disorder. Journal of the American Academy of Child and Adolescent Psychiatry. 2014.*
101. *Asarnow LD, McGlinchey E, Harvey AG. The effects of bedtime and sleep duration on academic and emotional outcomes in a nationally representative sample of adolescents. Journal of Adolescent Health. 2014.*
102. *Pigeon WR, Pinquart M, Conner K. Meta-analysis of sleep disturbance and suicidal thoughts and behaviors. In:2012.*
103. *Wong MM, Brower KJ, Zucker RA. Sleep problems, suicidal ideation, and self-harm behaviors in adolescence. Journal of Psychiatric Research. 2011.*
104. *Manber R, Blasey C, Arnow B, et al. Assessing insomnia severity in depression: comparison of depression rating scales and sleep diaries. J Psychiatr Res. 2005;39(5):481–488. [PubMed: 15992557]*
105. *Park EM, Meltzer-Brody S, Stickgold R. Poor sleep maintenance and subjective sleep quality are associated with postpartum maternal depression symptom severity. Archives of Women’s Mental Health. 2013.*
106. *Nyer M, Farabaugh A, Fehling K, et al. Relationship between sleep disturbance and depression, anxiety, and functioning in college students. Depression and Anxiety. 2013.*
107. *Bernert RA, Turvey CL, Conwell Y, Joiner TE. Association of poor subjective sleep quality with risk for death by suicide during a 10-year period a longitudinal, population-based study of late life. JAMA Psychiatry. 2014.*
108. *Ballard ED, Vande Voort JL, Bernert RA, et al. Nocturnal wakefulness is associated with next-day suicidal ideation in major depressive disorder and bipolar disorder. Journal of Clinical Psychiatry. 2016.*
109. *Bernert RA, Luckenbaugh DA, Duncan WC, Iwata NG, Ballard ED, Zarate CA. Sleep architecture parameters as a putative biomarker of suicidal ideation in treatment-resistant depression. Journal of Affective Disorders. 2017.*
110. *Goldstein TR, Bridge JA, Brent DA. Sleep Disturbance Preceding Completed Suicide in Adolescents. Journal of Consulting and Clinical Psychology. 2008.*
111. *Singareddy R, Krishnamurthy VB, Vgontzas AN, et al. Subjective and objective sleep and self-harm behaviors in young children: A general population study. Psychiatry Research. 2013.*

.