ejpmr, 2023, 10(3), 43-48

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Review Article

ISSN 2394-3211

EJPMR

THE EFFECT OF COGNITIVE BEHAVIOR THERAPY (C.B.T.) ON INSOMNIA- A REVIEW

MS. Renu Shakya[1]* and Dr. N. K. Nagaich[2]

[1]Ph.D. (Psychology) Scholar, Dept. of Psychology, Govt. KRG Autonomous College, Kampoo, Jiwaji University, Gwalior, MP, India.

[2]Professor and Head of Department- Psychology, Govt. KRG Autonomous College, Kampoo, Jiwaji University, Gwalior, MP, India.

***Corresponding Author: MS. Renu Shakya**

Ph.D. (Psychology) Scholar, Dept. of Psychology, Govt. KRG Autonomous College, Kampoo, Jiwaji University, Gwalior, MP, India.

Article Received on 02/01/2023 **Article Revised on 23/01/2023** **Article Accepted on 12/02/2023**

ABSTRACT

Prevalence of Insomnia in general population ranges between 10-40%. Insomnia is difficulty falling asleep or staying asleep. It affects day time cognitive functioning, psychological behavior, personality alterations and quality of life. The questionnaires are designed based on various factors on the basis of pre-data gathered, like daily hassles, happiness scale, perception of the present and the future by an individual, personality traits, depressive life events and so on. These questionnaires with certain scoring methods can assess the type and severity of insomnia involved with root cause analysis. The Insomnia severity index (ISI), Pittsberg sleep quality index (PSQI) for measuring and treating Insomnia without medicinal interventions with the help of C.B.T. economically.

KEYWORDS: Insomnia, sleep, CBT, ISS, PSQI.

INTRODUCTION

Impact of insomnia on mental health i.e. cognitive, psychological, personality alterations and with physical health has remained largely unexplored.

Insomnia was the first psychosomatic disorder described by the Johann Heinroth in 1818, The word "insomnia" comes from Latin words "in"(no) and "Somnus" (sleep), it is also known as sleeplessness, is a sleep disorder in which people have trouble sleeping. Insomnia manifests as difficulty getting to sleep, staying asleep, and waking to early, or sleep that is experienced as non-restrictive (i.e. 8 hours at night in the dark, quiet room) but cannot despite these good conditions.

Worldwide epidemiological studies assessed the prevalence of insomnia in the general population ranges 20-30% poor sleep (i.e., insomnia symptoms of difficulty initiating or maintaining sleep, early morning awakening, or non-restorative sleep at any given time), another 8-10% of the population suffers from chronic insomnia.[1,2] Also, about 4% of the population use sleeping pills in a regular basis.[3]

The prevalence of chronicity of insomnia increases with age, diabetes and is more common in women. Chronic insomnia interferes with personal functioning and causes distress, fatigue, poor cognitive functioning, and mood disturbance.[4] In the elderly, 15%–45% had initial insomnia, 20%–65% moderate insomnia, and 15%–54% late insomnia whereas 10% had poor sleep quality.[5] Chronic insomnia results in attention and memory deficits which could be misinterpreted as mild cognitive impairment or dementia.[6],[7] In early stage its very difficult to diagnose insomnia but in later stage (moderate), insomnia can be diagnosed.[8] Insomnia affects the entire body and is linked to many co-occurring mental and physical health problems, like.

- Heart disease
- High blood pressure
- Anxiety

Insomnia is very common with the hot & dry climatic region and crisis of fulfillment of needs with minimum wages. CBT aim to improve sleep habits and behaviors by identifying and changing thoughts, behaviors that affects the ability of a person to sleep well. CBT often focuses on replacing negative automatic thoughts that can occur in generalized anxiety disorder, it may be used alone or in combination with medications.

DISCUSSION

Insomnia known as the problems at night always lead to day time problems including fatigue, difficulties with attention and concentration, difficulty with work or school performance, headache, decreased motivation, and worries

about the inability, daytime sleepiness, low energy, irritability, and a depressed mood. It may result in an increased risk of motor vehicle collisions, as well as problems focusing and learning. Insomnia can occur independently or as a result of another problem.

Aristotle from circain (350 B.C.) the first scientific approach is found in the writing of the records of treatment of insomnia came from Greek physician Heraclides of Taras, who lived in Alexandria had recommended opium as treatment of choice.

Buysse, Ancoli-isreal and Eninger (2006) presented various recommendations for a standard research assessment of insomnia which included definition/ diagnosis of insomnia and co-morbid conditions measures of sleep, including qualitative insomnia measure, diary, poly-somnography, and actinography; and measures of the waking correlates and consequences of insomnia disorder, such as fatigue, sleepiness, mood, performance, and quality of life. Adoption of a standard research assessment of insomnia disorder will facilitate comparison among different studies and advance the state of knowledge.

Lim AS et al, (2013) assess the large- sample meta-analyses have shown that patients with insomnia have mild or moderate dysfunction in attention, episodic memory, working memory and executive function compared with healthy.

Edinger, Olsen et al,.(2009) conducted the study to test a range of frequency and severity criteria sets for discriminating primary insomnia suffers from normal sleepers.

The study by **JT Michael (2005**), suggested in general that insomnia is inadequate sleep quality or quantity.

Drake et al., 2013; Jarrin et al., (2014) found that individuals with high sleep reactivity were nearly 60% more likely to develop insomnia symptoms and were twice as likely to develop chronic insomnia over the next 2 years compared with low-reactive sleepers.

Gangswisch et al. (2006) reported persistent insomnia had a significant relationship to hypertension. He demonstrated that short sleep duration predicted hypertension in an 8-year longitudinal analysis of the National Health and Nutrition Examination Survey.

Schwarts et al. (2020) in a meta-analysis reported that there was a significant relationship between insomnia and cardiovascular disease. **Liu et al**. (2002) have reported that less than 5 hours of sleep had a significant relationship with acute myocardial infarction. **Ayas et al**. (2003) have also reported that women who sleep 5 hours per day have a significant positive risk of coronary events compared with women who sleep 8 hours per day.

Kripke et al, (1991) reported that people reporting less than 3.5 or 4.5 hours of sleep have a significantly increased mortality risk. The effect of high stress is a risk factor for sleep disturbance.

Tachibana et al reported that perceived over involvement in the job is associated with difficulty in falling asleep and early-morning arousal.

Nowell, Buysse and Reynold, (1997) suggested that the evaluation should focus on the description of current symptoms, including not only the type of sleep disturbance at night but also sleep habits and patterns.

Mahowald, Mahowald and Bundlie, (1989) told that the evaluation of insomnia should also include careful consideration of comorbid psychiatric and medical disorders as well as medications and substances that might interfere with sleep.

Bootzin and Engel (1981); Taylor, Daniel et al (2003) After their decades of scientific research have shown that sleepiness and fatigue, as well as sleeplessness, affect everyone's health, safety, productivity and well-being.

Li, Wing & Fong, (2002) and old age (Jean6 Louis, Magai et al, (2001) told that most people are slow to seek the advice and treatment of a healthcare provider for sleep problems and excessive sleepiness.

Silber, 2005; Hajak, (2001) suggested some risk factors for insomnia have emerged from data related to additional risks factors include less education, unemployment, separation or divorce, and medical illness.

Klink, Quan et al, (1992) Told that insomnia may be primary or secondary to other sleep problems and may be associated with a number of co-morbidities. An association has been found between insomnia and psychiatric (depression and anxiety) and psychological disorders.

TYPES OF INSOMNIA

Acute insomnia- It lasts from 1 night to a few weeks. Insomnia is chronic when it happens at least 3 nights a week for 3 months or more. From a clinical point of view, insomnia definition, and the specific consequences of this complaint still have not been well defined. Insomnia is a serious and pervasive health condition that lowers overall life satisfaction and can lead to an increased risk of depression, anxiety, and substance abuse.

Pinto JrLR (2010) Insomnia consists of three basic types: acute insomnia, primary chronic insomnia, and associated insomnia.

Vgontzas AN (2001), Roth T(2007), observed the Primary chronic insomnia may be caused by several predisposing (genetic and constitutional) factors, including

hyperactivity of stress response mechanisms or of the HPA axis; anxiety and depression; and abnormalities in the circadian rhythm (circadian sleep-wakefulness control). Precipitating and perpetuating factors, such as psychosocial features (e.g., fatigue and irritability), behavioral changes, and cognitive characteristics, also contribute to insomnia.

Buysse DJ (2008), found the associated insomnia is primarily related to an underlying mental or mood disorder, such as depression, dysthymia, cyclothymic, bipolar disorder, anxiety, or schizophrenia.

Chronic Insomnia: Poor sleep for at least 3 months or more. It may start in early childhood and be lifelong.

According to The Centers for Disease Control and Prevention Jul 1, (2013) further classifies insomnia as episodic (lasting at least one month but less than three months); persistent (lasting three months or longer); or recurrent (two or more episodes within one year).

Carskadon and Dement, (2005) conducted the study about sleep, during each night; a person goes through stages of two types of sleep that alternate with each other. They are.

1. Non Rapid Eye Movement Sleep (NREM)
2. Rapid Eye Movement Sleep (REM)

NREM Sleep: In this type of sleep the brain waves are very slow, so it is also called slow-wave sleep.

REM Sleep (Paradoxical Sleep, Desynchronized Sleep): It is a qualitatively different kind of sleep characterized by a high level of brain activity and physiological activity levels similar to those in wakefulness.

PATHOPHYSIOLOGY

Lai J. (2020), investigate the patho-physiology of the sleep, Sleep is regulated by a variety of chemicals in the body. In the forebrain and hypothalamus, neurons release gamma-amino butyric acid (GABA) and histamine. These neurotransmitters have opposing actions on the sleep–wake cycle. **Increased GABA and decreased histamine** release induce non-rapid eye movement (NREM) sleep by deactivating the cortex and thalamus. The sleep–wake cycle is also affected by neurotransmitters released by reticular activating system (RAS) neurons, such as **norepinephrine, acetylcholine, and serotonin**. These neurotransmitters contribute to maintaining wakefulness and significantly decrease during rapid eye movement (REM) sleep.

Zhang C., Yang L., Liu S. (2020) told that the Orexin is produced in the hypothalamus, is a neuropeptide that plays an important role in maintaining wakefulness. It is hypothesized that the action of orexin changes the activity of the neurotransmitters involved in the regulation of sleep/wake states. Melatonin is a hormone that plays an integral role in diurnal rhythms.

Luca A, (2013), investigates the effect of melatonin hormone. Melatonin hormone produced by the pineal gland, helps regulate the circadian (sleep-wake) rhythms. Darkness stimulates while light inhibits MT production. The significant deterioration of sleep quality seen in many older people is correlated with a decline in MT secretion. The cluster analysis of insomnia was suggested **by Hauri (1983).** The goal was to develop a purely empirical classification scheme of insomnia and to compare it with the association of sleep disorder, which is based on clinical experience.

According **to Guyton & Hall,** (Textbook of Medical Physiology) Sleep is defined as unconsciousness from which the person can be aroused by sensory or other stimuli. It is to be distinguished from coma, which is unconsciousness, from which the person cannot be aroused. Sleep is a regular, recurrent, easily reversible state of the organism that is characterized by relative quiescence and by a great increase in the threshold of response to external stimuli relative to the waking state there is an opinion of the physiologists that sleep is a process of regaining the efficiency of a person. This is most essential for the central nervous system. Another opinion about the sleep is that, it is an outcome of the fatigue that is decreasing the life activities and by the sleep the gaining of efficiency occurs and at the completion of the sleep a person becomes fresh for activities again.

INVESTIGATIONS

On the other hand **Merica et al (2001)**, in humans, spectral EEG method have identified heightened regional electrical brain activity in patient with insomnia during non-rapid eye movement (NREM) sleep.

William Shakespeare, in (20th century) there were significant amounts of research and interest in insomnia, distinctive diagnostic criteria were created to describe the forms of Insomnia.

According to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) insomnia is defined as dissatisfaction with sleep quantity or quality that results in clinically significant distress or impairment in social, occupational, or other important areas of functioning. Insomnia is associated with one or more of the following symptoms: difficulty initiating sleep (sleep-onset insomnia or initial insomnia); difficulty maintaining sleep (sleep-maintenance insomnia or middle insomnia); and early-morning awakening with the inability to return to sleep (late insomnia).

The EEG (Electro encephalogram), EOG (Electro occulogram), EMG (Electro myogram) can be conveniently recorded during the sleep by fixing small

silver electrode to the scalp and to the face before the subject goes to sleep.

EOG reveals the eyeball movements while EMG indicates the tension of the muscles. Based on these records two kind of sleep can be identified.

SLEEP TESTS

Hui DS (2009) conducted the study the Pittsburgh Sleep Quality Index. The PSQI measures the retrospective sleep quality and disturbances. Individual self-report items assess a broad range of domains associated with sleep quality, including usual sleep wake patterns, duration of sleep, sleep latency, the frequency and severity of specific sleep-related problems, and the perceived impact of poor sleep on daytime functioning. This index consists of item scores ranges from 0–3. The global score is classified as follows: 10-15, mild depression; 16–23, moderate depression; 24–63, severe depression. Insomnia is a frequently associated symptom of depression or other psychiatric disorders. Hence, the subject's depression symptoms were evaluated as a potential confounder.

M. Morin (2016) has developed Pattern and severity of the insomnia analysis. The Insomnia Severity Index (ISI) is a brief self-report instrument measuring the patient's perception of both nocturnal and diurnal symptoms of insomnia. This instrument brief searching assessment tool designed to evaluate insomnia. The ISI is one of the most widely used assessment instrument in clinical and observational studies if insomnia.

Athens Insomnia Scale (AIS) 19 was designed by Soldatos CR et al, (2000): The AIS is a self-assessment psychometric instrument designed for quantifying sleep difficulty based on the ICD-10 criteria. It is measured by assessing 8 factors amongst which the first 5 are related to nocturnal sleep, and the last 3 to the daytime dysfunction. These are rated from 0-3 scale and sleep is finally evaluated from the cumulative score of the factors. A cut-off score of >=6 on the AIS is used to establish the diagnosis of the insomnia.

Chervin and Aldrich (1999), conducted ***Polysomnographic assessment*** for insomnia.

In other study, According to **J.C.Gillin (2000),** Psycho physiologic insomnia occurs when an episode of transient insomnia disrupts the Person's circadian rhythm. The bed is associated not with rest and relaxation but with a struggle to sleep. Persistent worry about lack of sleep provides an automatic nightly trigger for anxiety and arousal. **(Wiki 2020),** some studies are given that insomnia is a genetic. Heritability estimates of insomnia vary between 38% in males to 59% in females. A genome-wide association study (GWAS) identified 3 genomic loci and 7 genes that influence the risk of insomnia, and showed that insomnia is highly polygenic. In particular, a strong positive association was observed for the MEIS1 gene in both males and females.

William Mac Lehose (2020), found the greater study about Pre-modern medical views of sleep differ considerably from our own assumptions about the state of slumber. **Barnes J. (1984),** Told in particular that, sleep played an essential role in the proper digestion of food, which itself was necessary for the production of blood. **Galenic** medical view argued nightly production of blood out of the food consumed while awake. Platonic and Galenic concepts of the mind, there developed a theory of cognition which predominated from the late Roman Empire to the seventeenth century. In this view, the brain consisted of three regions called cells or ventricles which played distinct roles in the cognitive process. All sensory perceptions were received by the five senses and then gathered together by what was called the common sense at the front of the brain.

MacLehose W.(2013), investigate the Medieval dream theorists often distinguished a hierarchy of dreams, from the highest types of prophetic visions directly inspired by God and his emissaries down to the lowest types of dreams arising out of the individual's preoccupations and often bodily desires. Physicians sometimes associated the imagination with mental distress: the Montpellier physician **Bernard of Gordon** noted that because even in sleep, 'the imagination never ceases, but is in constant motion, and thus we are in continual torment (*cruciatus*)'.

According to **Avicenna (IbnSina) (1507),** the medieval medical tradition paid considerable attention to the inability to sleep, which was most often encompassed by the term *vigiliae*. The word technically meant not sleeplessness but a type of (pathological) wakefulness.

Max Hirshkowitz(2015) conducted the study sleep helps in removing stress.

Beaulieu-Bonneau, LeBlanc et al (2007) estimated the incidence of insomnia and examined potential risk factors in a cohort of good sleepers followed over a over a one-year period.

Rajagopal, Abrecht et al, 1984, In addition, insomnia may represent a prodromal indication of psychiatric illness (particularly depression) a sleep-related breathing disorder such as sleep apnea.

Ancoli-Israel, Kripke et al, 1991; Lin, Kaplan et al, (1998) stated that a movement-related disorder such as restless leg syndrome or a circadian rhythm disorder. Sleep-disordered might be associated with higher morbidity and mortality. Willis–Ekbom disease (restless legs syndrome or RLS) might have a prevalence of 3–15%, but its associations with morbidity and mortality have not yet been fully clarified.

(Buysse, Ancoli- Israel and Edinger, 2006). Suggested that evaluation can be done by initial sleep history: A thorough clinical history (clinical interview and sleep

history) is the cornerstone of evaluation for chronic insomnia.

INSOMNIA CO-MORBIDITY & TREATMENT

Bhaskar, S., Hemavathy, D., & Prasad, S. (2016), told that Insomnia is a common sleep disorder derived from stress. Insomnia is defined as persistent difficulty with sleep onset, excessive daytime sleepiness, fatigue, irritability and other impairments.

Morin, Charles M.; Rodrigue, Sylvie; Ivers, Hans (2003), observed that stress play important role in insomnia, chronic insomniacs experienced a great number of stressful life events compared with previous or subsequent years.

Akpinar, (1987) told that the medications that affect any CNS neurotransmitter can be associated with insomnia. Common examples include high doses of caffeine, alcohol, and antidepressants, particularly selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, and atypical antidepressants.

De Zwart PL (2019) described that conditions that results insomnia include psychological stress, chronic pain, heart failure, hypothyroidism, heart burn, restlessness leg syndrome, menopause, certain medications and drugs such as caffeine, nicotein and alcohol.

Laudon M, et al (2011), found the antihistaminic effect on insomniac patients. Antihistamines are effective for mild insomnia; however, next day sedation is a problem. Antihistamines commonly cause psychomotor impairment and anti-cholinergic effects.

According to *Atharva Veda* and *Ayurvedic* classics, Vayu is the root cause in producing the disease *Anidra*. *Charak, Vagbhat, Kashyap* and *Madhavkar* enlisted the disease under *Vatananatmaj vikara*. Various terms have been used in classics to denote the term *Anidra* e.g. *nidranasha, nidraghata, nidraparikshaya, ahitnidra, aswapna* and *nidranivriti* etc.

Nidrakarvihara includes *abhyanga, utsadana, snana* and *manonukulvishaya* etc. Various preparations have been advocated in different *Ayurvedic samhitas* to manage the problem of *Anidra. nidrakar karma* These procedures include *lepan, samvahan* and *snehan karma viz. abhyanga, tarpan, murdha tail* and *shirodhara* etc.

The disease *Anidra* is related to *manovahasrotasa* and *indriyas*, which are directly related to *sukha* and *dukhachittavrittis* of *manah*. To pacify the ill effects of *nija* and *agantuj* causative factors certain *medhya, sangyasthapana* and *nidrajananaushadhi* have been mentioned to counter the psychosomatic disorder.

COGNITION BEHAVIOR THERAPY (C.B.T.)

CBT is a treatment that uses psychological and behavioral methods such as relaxation techniques sleep restriction, stimulus control, and education about sleep hygiene (e.g., diet, exercise, and the bedroom environment). CBT has been shown to be highly effective at treating insomnia, does not carry risks of adverse side effects, and has long-lasting benefits, which is a clear advantage compared with drug treatment.

Suma P. Chand; Daniel P. Kuckel; Martin R. Huecker. (2022) have presented the study about Cognitive behavior therapy is a structured, didactic, and goal-oriented form of therapy.

Miss Kristina Fenn et al. (2013) have done experiment on Cognitive behavioral therapy (CBT) explores the links between thoughts, emotions and behavior.

Beck et al. (1979) the formulation is intended to make sense of the individual's experience and created a longitudinal formulation of depression.

Shah in 1986 suggested various relaxation techniques are useful for inducing sleep. One such technique is shavasan, which is a type of yoga helpful in inducing sleep in clients.

Montgomery, Perkin & Wise, 1975; Ribordy and Denney, 1977; Bootzin and Nicassio, 1978; Lazarus, 1976; O'Leary and Wilson, 1975- A Preliminary Study with Sleep-Wake Diaries revealed good evidence for cognitive and physiological arousal in chronic insomnia. Techniques include such methods as hypnosis, progressive relaxation, autogenic training, systematic desensitization, meditation training, and biofeedback; these methods are based upon the evidence that insomniacs are tense, anxious, and physiologically aroused at bedtime. **Fry, 1963; Hanley, 1965.** Hypnosis, early reports suggested some success in improving insomnia.

Fetveit, Arne et al (2003) Light phase shift Used for insomnia associated with circadian rhythm disturbances. The use of timed exposure to bright light can be very effective in shifting the timing of the major sleep period. Evening light is indicated if you sleep too early and wake up early (phase advance syndrome) and morning light is used if you sleep late and wake up late (phase delay syndrome).

Morin (1999) assessed the validity Stimulus control therapy, According to this therapy, insomnia is a conditioned response to bedtime and environmental cues associated with sleep. When a patient is tossing and turning on the bed for a long time, the body learns to be awake on the bed or an association is made between awakening and bed, which leads to wakefulness. Do not spend ≥20 min while tossing and turning on the bed. Leave the bed if you do not fall asleep within 20 min and do some relaxing activities and only return when you feel sleepy.

Sawhney and Chopra, (1986) have used. Go to bed only when you are sleepy. If you do not fall asleep within 15 minutes or wake up and can't resume sleep within 15 minutes, leave the bedroom and return only when sleepy again.

Ronalad and Michael (1999) assessed the validity of the ***Epworth sleepiness scale score (ES)*** as a measure of sleepiness among patient suspected or confirmed to have obstructive sleep apnea syndrome. The ES had a statistically association with self-rated problem sleepiness but not with multiple sleep latency (MSL) or measures of sleep apnea severity.

In a study by Sateia, Doghramji and Hauri (2000) on evaluation of chronic insomnia, it was concluded that insomnia is a condition which affects millions of individual, giving rise to emotional distress, daytime fatigue and loss of productivity.

S J Wilson et.al (2010) suggested that in many cases, insomnia is co-morbid with another disease suggested by the, side-effects from medications, or a psychological problem.

Sleep is sensitive to disturbances by many internal influences, such as excessive worry, excessive anxiety and a depressed mood. Sleep can also be disturbed by many external influences, for example, transient stress, an important life event, excessive noise, high or low room temperature, a uncomfortable bed, unfamiliar surroundings & drug withdrawal. Several types of etiological factors can cause chronic difficulty sleeping, including circadian rhythm disorders, psychiatric disorders, physical illness, sleep related physiological disorders and negative conditioning effects.

CONCLUSION

The prevalence of insomnia is higher than in general population. It impairs cognitive, Psychological and physical functioning and is associated with wide range of impaired daytime functioning across a number of emotional, social, and physical domains compared with good sleepers.

With this study the knowledge about regulation of sleep homeostasis, circadian rhythms, cognition and personality. CBT is a treatment that uses psychological and behavioral methods such as relaxation techniques sleep restriction, stimulus control, and education about sleep hygiene (e.g., diet, exercise, and the bedroom environment) and stress. CBT will be advantageous compared with drug treatment and cost effective.

REFERENCES

1. Bixler EO, Vgontzas AN, Lin HM, Vela-Bueno A, Kales A. Insomnia in central Pennsylvania. *J Psychosom Res*, 2002; 53(1): 589–92. [PubMed] [Google Scholar]
2. Ohayon MM. Epidemiology of insomnia: what we know and what we still need to learn. *Sleep Med Rev*, 2002; 6: 97–111. [PubMed] [Google Scholar]
3. Chong Y, Fryar CD, Gu Q. *Prescription sleep aid use among adults: United States, 2005–2010. NCHS data brief, no 127*. National Center for Health Statistics; Hyattsville, MD: 2013. [Google Scholar]
4. Bhaskar S, Hemavathy D, Prasad S. Prevalence of chronic insomnia in adult patients and its correlation with medical comorbidities. J Family Med Prim Care, 2016; 5: 780-4.
5. Praharaj SK, Gupta R, Gaur N. Clinical practice guideline on management of sleep disorders in the elderly. Indian J Psychiatry, 2018; 60: S383-96.
6. Lianqi L, Ancoli-Israel S. Insomnia in the older adult. Sleep Med Clin, 2006; 1: 409-21.
7. Walsh JK, Benca RM, Bonnet M, Buysse DJ, Ricca J, Hauri PJ, *et al*. Insomnia: Assessment and management in primary care. National Heart, Lung, and Blood Institute Working Group on Insomnia. Am Fam Physician, 1999; 59: 3029-38.
8. Qaseem A, Kansagara D, Forciea MA, Cooke M, Denberg TD; Clinical Guidelines Committee of the American College of Physicians. Management of chronic insomnia disorder in adults: A clinical practice guideline from the American College of Physicians. Ann Intern Med, 2016; 165: 125-33.