

CHAPTER- II

REVIEW

From a clinical point of view, insomnia is surely one of the most important problem among sleep disorders. Many surveys have documented the widespread prevalence of complaints of disturbed sleep, yet the term insomnia continues to defy precise definition, and the specific consequences of this complaint 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. Insomnia has an estimated incidence of 15% in the general population which translates into millions of affected people across the country. Insomnia manifests as difficulty getting to sleep, staying asleep, waking too early, or sleep that is experienced as nonrestrictive. People with insomnia do have adequate opportunity for good sleep to occur (i.e., 8 hours at night in a dark, quiet room) but cannot despite these good conditions. As people with insomnia know, problems at night always lead to problems during the day. Common daytime problems include fatigue, difficulties with attention and concentration, difficulty with work or school performance, irritability, daytime sleepiness, headaches, decreased motivation, and worries about the inability to sleep and its consequences. It is very important to emphasize that an insomnia that occurs in response to a time limited stressor, or in the context of another disorder such as depression, anxiety, or pain can turn into a chronic problem, if counterproductive sleep habits are allowed to develop. These habits can lead to a state where one is actually conditioned to be awake in the presence of the bed and bedroom and can, over time, foster the development of faulty and catastrophic fears about the consequences of sleep loss which then only serves to increase the severity of the insomnia. This is why it is so important, in many cases, to regard insomnia as an independent disorder and to treat it aggressively and accordingly so as to overcome insomnia before any other related problem..

Insomnia is a very complex problem that needs to be differentiated from and taken in context with psychiatric, medical, and other sleep disorders. For this reason it is important to see a health provider who is a specialist in the assessment and treatment of disorders of sleep. Many researches have been carried out in this reference.

The journals that have been consulted for literature review are Journal of Clinical Psychology, Journal of Sleep Research, American Journal of Psychiatry, Journal of Psychosomatic Research, Journal of Clinical Psychiatry, Journal of Psychiatry Research, Journal of International Medicine and Journal of sleep and sleep disorders research, etc. Google, yahoo, Psych info, Science Direct, Pub Med were major search engines that were surfed for literature search on the internet besides the various psychology books dealing with these issues in particular. Selected and cited studies have been organized into various sections; such as assessment; prevalence; consequences and management.

Assessment

Ronald and Michael (1999) conducted a study to examine how the sleep propensity (SP) in one test situation, such as the Multiple Sleep Latency Test (MSLT), is related to sleepiness in daily life, as assessed by the Epworth Sleepiness Scale (ESS). This is a self-administered questionnaire, the item scores from which provide a new method for measuring SPs in eight different real-life situations. The ESS item scores were shown to be reliable.

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 Disorders Centers' current nosology, which is based on clinical experience. The categories of chronic psychophysiologic insomnia and of childhood-onset insomnia were clearly identified in the cluster analysis. The insomnias associated with psychiatric disorders were split into five subgroups that made some intuitive sense, but did not mesh exactly with DSM III (Diagnostic and Statistical Manual, 3rd edition, American Psychiatric Association) categories.

Patterns and severities of the daytime and nighttime symptoms of chronic insomnia patients have also been described. Douglas, Bornstein et al (1994) concluded that patients with chronic insomnia report significant daytime as well as nighttime symptoms. Depression-related and primary insomnias were separable only by some highly characteristic symptoms of depression. Diagnostic subgroups of insomnia patients may vary in how their overall distress relates to diminished self-reported sleep. Nighttime and daytime symptoms need to be assessed together when measuring insomnia severity.

The traditional indicators of insomnia (i.e. difficulty initiating sleep, difficulty maintaining sleep, nonrestorative sleep, early morning awakening) were assessed in a representative sample of 1,722 French-speaking Montrealers (Canada) aged 15 to 100 years. Ohayon (1997) assessed how a general population perceives its sleep and how this relates to the complaint of insomnia. A better understanding of sleep complaints and more accurate classifications will help physicians identify patients with insomnia and meet their needs more appropriately.

Polysomnographic assessment of insomnia was conducted by Chervin and Aldrich (1999). While the data provide a useful view of nighttime events in insomnia, he was not convinced of the clinical importance of the information they obtained concerning sleep apnea, subjective insomnia, and periodic movements of sleep (PMS).

Possible relationships between excessive sleepiness (Epworth Sleepiness Scale score >10), and age, sex, ethnicity, socioeconomic deprivation, usual sleep, and self-reported symptoms of obstructive sleep apnea were shown by Gander, Marshall et al (1999). The relationships between an Epworth Sleepiness Scale score >10 and sleep habits and risk factors for obstructive sleep apnea are as expected. The relationships between an ESS score > 10 and being Maori, a man, older, or more socioeconomically deprived could be related to a higher prevalence of sleep disorders in these groups. However, more research is needed to understand possible differences not only in path physiologic processes, but also in the wider societal trends and pressures that may impact differentially on sleep and sleepiness.

Ronald and Michael (1999) assessed the validity of the Epworth Sleepiness Scale score (ES) as a measure of sleepiness among patients suspected or confirmed to have obstructive sleep apnea syndrome. The ES had a statistically significant association with self-rated problem sleepiness but not with multiple sleep latency (MSL) or measures of sleep apnea severity. Male gender, adjusted for potential confounding variables, had considerably more influence on the ES than did 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 individuals, giving rise to emotional distress, daytime fatigue, and loss of productivity. Despite its prevalence, it has received scant clinical attention. An adequate evaluation of persistent insomnia requires detailed

historical information as well as medical, psychological and psychiatric assessment. Use of a classification system for sleep disorders and familiarity with major diagnostic groups will facilitate the clinician's evaluation and treatment. Thorough assessment also requires attention to the unique aspects of presentation and specific set of etiologies which are associated with particular age groups.

To assess insomnia complaints and their consequences, to estimate the prevalence rates of reported insomnia, and to explore the sex differences in reported insomnia; Abdel-Khalek (2004) examined the psychometric characteristics of a short scale Adolescents in the present sample have reported high rates of insomnia.

Various recommendations for a standard research assessment of insomnia which included definitions/diagnosis of insomnia and comorbid conditions were presented by Buysse, Ancoli-Isreal and Edinger (2006); measures of sleep and insomnia, including qualitative insomnia measures, diary, polysomnography, and actigraphy; and measures of the waking correlates and consequences of insomnia disorders, such as fatigue, sleepiness, mood, performance, and quality of life. Adoption of a standard research assessment of insomnia disorders will facilitate comparisons among different studies and advance the state of knowledge. These recommendations are not intended to be static but must be periodically revised to accommodate further developments and evidence in the field.

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 one-year period. The one-year insomnia incidence rate was very high and several psychological and health factors were associated with new onset insomnia. Improved knowledge about the nature of these predisposing factors would be helpful to guide the development of effective public health prevention and intervention programs to promote better sleep quality.

Recent efforts have been made to develop quantitative frequency, duration, and severity criteria for insomnia. The study by Edinger, Olsen et al (2009) was conducted to test a range of frequency and severity criteria sets for discriminating primary insomnia sufferers from normal sleepers. Results suggest that quantitative criteria derived from sleep-log data may be useful for classification of primary insomnia.

Prevalence

Employment of DSM-IV inclusion criteria of insomnia yielded a prevalence rate of 11.7%. As observed by Bixler, Kales et al (1979) in a study on the prevalence of insomnia in adult Norwegian population. Logistic regression analysis performed on the different insomnia symptoms revealed that somatic and psychiatric health were the strongest predictors of insomnia, whereas gender, age, and socioeconomic status showed a more inconsistent relationship.

It was found that following factors were associated with insomnia in multivariate logistic regression: female gender, being widowed or single, low education, low income, not being in the labor force, ever having smoked, life stress, specific chronic physical health problems (circulatory, digestive and respiratory disease, migraine, allergy and rheumatic disorders), pain, activity limitation and health dissatisfaction. Sutton, Moldofsky & Badley (2001) determined the prevalence of, and to identify the relative contribution of selected factors associated with insomnia in the Canadian population age 15 and older. Age was not significantly associated with insomnia.

Janson, Lindberg and Gislason (2001) analyzed changes in the prevalence of insomnia and the relationship between insomnia, aging, lifestyle, and medical disorders. It was concluded that in men insomnia is related to lifestyle factors such as obesity, physical inactivity and alcohol dependency but not to aging. Medical disorders such as joint and low back disorders and psychiatric illnesses also increase the risk of reporting insomnia. This study demonstrates the close relationship between quality of sleep and overall health status.

Sutton, Moldofsky and Badley (2001) determined the prevalence of, and to identify the relative contribution of selected factors associated with insomnia in the Canadian population age 15 and older. A very stressful life, severe pain and dissatisfaction with one's health demonstrated the highest odds ratios associated with insomnia. Increasing age per se and lifestyle factors were not significantly associated with insomnia.

Insomnia is a highly prevalent disorder that affects daytime functioning, behavior, and quality of life. Several reports have shown that insomnia impacts on the workforce and is associated with an increased risk of absenteeism. However, few workplace studies have been performed. Leger, Guilleminault and Bader (2002) attempted to evaluate the professional correlates of insomnia by

comparing a group of workers with insomnia to a matched group of good sleepers. The main objective measure was absenteeism. Accidents, self-esteem at work, job satisfaction, and efficiency at work were also investigated.

Paine, Gander et al (2004) investigated the prevalence of insomnia and explored the possible links between insomnia symptoms and ethnicity, gender, age, employment status and socio-economic deprivation. Socioeconomic factors and ethnicity were significant independent predictors of reported insomnia symptoms. This finding has important implications for the provision of treatment services to those most in need.

Philips and Mannino (2005) investigated the prevalence and hazard ratios for insomnia complaints in a large cohort of middle-aged men and women. 13563 participants aged 45 to 69 years at baseline participated. In this cohort, the prevalence of insomnia complaints was 23%. After controlling for confounders, neither insomnia complaints nor hypnotic use predicted increased mortality over 6.3 years.

In a longitudinal study in the general population of Sweden, Buysse et al (2008) observed the course of insomnia over 1 year with an emphasis on prevalence, consequences, persistence, remission, and incidence of insomnia. The results showed that insomnia is a prevalent condition in the general population associated with negative consequences and is characterized not only by persistence but also by relatively high remission and incidence.

The prevalence and prospective course of insomnia in a representative young-adult sample and also the cross-sectional and longitudinal associations between insomnia and depression were described by Buysse, Angst et al (2008) in their study. The study confirms the persistent nature of insomnia and the increased risk of subsequent depression among individuals with insomnia. The data support a spectrum of insomnia (defined by duration and frequency) comorbid with, rather than secondary to, depression.

Consequences

A study was designed by Gaillard (1978) to compare the sleep of a carefully selected group of patients with chronic primary insomnia to age- and sex-matched controls, in order to investigate the possible physiopathological role of slow wave sleep deficiency in this disturbance. He

suggested that slow wave sleep is involved in sleep induction and maintenance, and that its deficiency is linked to the fragility of sleep in chronic primary insomnia.

In 1979 Bonnet and Webb revealed the consequences of insomnia. Specifically, it was found that insomniacs display increased tension/confusion, decreased vigor, personality disturbance, subjective over-estimation of poor sleep, increased body temperature, increased 24-hour whole body metabolic rate, and increased multiple sleep latency test (MSLT) values.

A study on daytime alertness in relation to mood, performance, and nocturnal sleep in chronic insomniacs and noncomplaining sleepers was conducted by Seidal et al (1984). Given that physiological sleepiness is the most predictable consequence of sleep deprivation in normal, it is particularly interesting that 14% of the insomniac group are chronic insomniacs with no measurable daytime sleep tendency. Despite this lack of sleep tendency during the day, their nocturnal sleep was just as poor as insomniacs with greater daytime sleep tendency. The lack of daytime sleepiness seen in this subgroup may reflect a basic pathophysiological aspect of their insomnia.

Bonnet and Arand (1992) hypothesized that the metabolic effects of caffeine, which can be objectively measured (i.e. physiological, "arousal"), could be used to develop a physiological arousal model of chronic insomnia in a group of normal young adults. Twelve normal young adult males participated for 11 nights after laboratory adaptation. The data indicated that caffeine was effective in producing significant metabolic and sleep effects and that those effects were related. The results were consistent with the interpretation that a chronic decrease in sleep efficiency associated with increased physiological arousal, although producing subjective dysphoria, does not produce a physiological sleep debt.

The relation of negative emotions, attention and stress to sleep parameters in insomniacs was investigated by Hauri (1993). It was concluded that negative emotions, stress responsiveness and attentional factors interact to influence insomnia.

Lichstein, Wilson et al (1994) observed daytime sleepiness in insomniacs. The results of this study support the conclusions that insomniacs do not exhibit heightened levels of daytime sleepiness and that routine fluctuations in sleep exert minimal influence on daytime sleepiness among insomniacs and non-insomniacs. The former finding is likely due either to insomniacs

satisfying their biological sleep need despite poor sleep or chronic physiological hyperarousal preventing both sleep and sleepiness.

The long term outcome of sleep disturbance was assessed by Foley, Monjan et al (1999). It was found that the number of nights per week of disturbed sleep decreased, subjective total sleep time increased, and daytime sleepiness declined, there was an increase in feeling refreshed in the morning and there was a trend toward decreased global complaints of poor sleep.

Impact of total and partial sleep deprivation was studied by Roberts, Shema and Kaplen (1999) on immune functioning. The participants were 38 self-defined insomniacs or good sleepers. There was no significant difference between groups on demographics (i.e., age, gender, education) and health behavior variables (i.e., smoking, alcohol, and caffeine use). These preliminary findings suggest that individuals with insomnia do not have poorer immunity than good sleepers. However, because these results are based on a small sample, it is possible that some of the differences would turn significant when the sample size becomes larger.

An epidemiological study on sleep disturbances and insomnia in Hong Kong Chinese was conducted by Li, Wing and Fong (2002). The risk factors were found to be quite similar to the other western studies including female sex, age, low family income, smoking, other sleep disorders and psychiatric morbidity except that noisy environment was also found to be a significant risk factor. This is not unexpected as Hong Kong is the most densely populated metropolitan city in the world. Furthermore, as aging is a risk factor for insomnia, the overall prevalence of insomnia is expected to be higher if those above 65 are included.

The experience of insomnia among older women and found sleeping difficulty is a serious symptom for older women and is associated with poorer quality of life was measured by Byles, Mishra and Harris (2005). Some of this effect can be explained by comorbidities, depression scores, life events, and use of sleeping medications.

A metabolic rate of 24 hrs in insomniacs and matched normal sleepers was reported by Bonnet and Arand (2005) and they concluded that patients who report chronic insomnia may suffer from a more general disorder of hyperarousal (as measured here by a 24-hour increase in metabolic rate) that may be responsible for both the daytime symptoms and the nocturnal poor sleep.

Epidemiology of insomnia, depression and anxiety were investigated in a study carried by Taylor, Lichstein & Durrence (2005). Increased insomnia frequency was related to increased depression and anxiety, and increased number of awakenings was also related to increased depression. These were the only 2 sleep variables significantly related to depression and anxiety. People with combined insomnia (i.e., both onset and maintenance insomnia) had greater depression than did people with onset, maintenance, or mixed insomnia. There were no differences between other insomnia types. Women had higher levels of depression than men.

A study was conducted by Sivertsen, Omvik et al (2006) to find out the associations of insomnia with physical and mental health. The study demonstrated that insomnia symptoms are associated with a range of different conditions. The findings suggest that the independent contribution of insomnia is strongest on conditions characterized by some level of psychological or psychosomatic properties.

The rates of family history of insomnia in a population-based sample composed of self-defined good sleepers and individuals with insomnia and compare individuals with and without family history of insomnia on several characteristics presumably associated with insomnia have been examined by Beaulieu-Bonneau, LeBlanc et al (2007). Findings provide additional evidence about the potential role of both family and personal history of insomnia as predisposing factors to insomnia. Longitudinal family studies are needed to further examine the relative contribution of genetic and environmental factors in the genesis and heritability of insomnia.

Taylor, Mallory and Lichstein (2007) determined the comorbidity of insomnia with medical problems. The study demonstrates significant overlap between insomnia and multiple medical problems. Some research has shown it is possible to treat insomnia that is comorbid with select psychiatric (depression) and medical (eg, pain and cancer) disorders, which in turn increases the quality of life and functioning of these patients.

In 2007, Morphy, Dunn & Lewis investigated the incidence, persistence, and consequences of insomnia and their associations with psychological health and pain. It was concluded that Insomnia is common and often persistent. Older people appear more vulnerable to persistent symptoms. Our results provide evidence that the common problems of insomnia, pain, and

psychological distress are intertwined and suggest that combined approaches to treatment may be needed to reduce the onset and persistence of these problems in the community.

The incidence, chronicity and remission of symptoms of insomnia and to examine factors associated with the incidence and chronicity of insomnia among adolescents have been estimated by Buysse, Angst et al (2008). There was a weak association of both somatic and psychological dysfunction with risk of future sleep outcomes, with stronger prediction for psychological dysfunction. Prevalence of insomnia is comparable to that of other major psychiatric disorders such as mood, anxiety, disruptive, and substance use disorders. Incidence over one year also is high. Insomnia represents a chronic condition, further enhancing burden.

The association of insomnia with health-related quality of life (HRQOL), work productivity, and activity impairment were assessed by Bolge, Susan et al (2009). Subjects were assigned to the insomnia group (diagnosed insomnia experienced at least a few times a month) or the non insomnia group (no insomnia or sleep symptoms). Insomnia is significantly associated with poorer physical and mental quality of life and work productivity loss and activity impairment.

Vgontzas, Liao et al (2009) examined the joint effect of insomnia and objective short sleep duration on hypertension risk. It was found that Insomnia with short sleep duration is associated with increased risk of hypertension, to a degree comparable to that of other common sleep disorders, e.g., SDB. Objective sleep duration may predict the severity of chronic insomnia a prevalent condition whose medical impact has been apparently underestimated.

Management of insomnia

In 1987, Spielman, Saskin and Thorpy described a treatment of chronic insomnia that is based on the recognition that excessive time spent in bed is one of the important factors that perpetuates insomnia. Thirty-five patients, with a mean age of 46 years and a mean history of insomnia of 15.4 years, were treated initially by marked restriction of time available for sleep, followed by an extension of time in bed contingent upon improved sleep efficiency. Although compliance with the restricted schedule is difficult for some patients, sleep restriction therapy is an effective treatment for common forms of chronic insomnia.

In 1990, Morin, Kowatch and O'Shanick evaluated the efficacy of sleep restriction therapy for treating insomnia on an inpatient psychiatric unit. The treatment was found to be effective for increasing total sleep time from an initial baseline of 2.5 h of sleep per night to 6 h of sleep per night at discharge time. Clinical gains were well maintained immediately after discharge and at a 4-month follow-up.

A study that evaluated the acceptance of psychological and pharmacological therapies among chronic insomniacs and no complaining good sleepers was conducted by Morin, Gaullier et al (1992). Psychological intervention was rated as more acceptable and more suitable than the pharmacological one among both insomniacs and their no complaining significant others. Behavior therapy was also expected to be more effective on a long-term basis and to produce fewer side effects as well as more benefits on daytime functioning.

Sleep specialists are increasingly asked to advise other health care workers and patients about specific cases of insomnia, even when the patients do not plan to seek actual treatment of their insomnia at a sleep center. Hauri (1993) described a procedure for such one-time consultations. . Advice to seek relaxation or behavioral therapy and suggestions for various medication changes were accepted by about half of those insomniacs who received such advice, and about two-thirds of those who tried them reported them as being helpful. Advice to seek psychotherapy--although quite carefully given--typically was tried by only one-third of those who received it. Overall, the survey shows good patient acceptance of once-only insomnia consultations.

The evidence regarding the efficacy of nonpharmacological treatments for primary chronic insomnia have been reviewed in a study conducted by Morin, Culbert and Schwartz (1994). Study indicates that non-pharmacological therapies produce reliable and durable changes in several sleep parameters of chronic insomnia sufferers.

Whether sleep specialists and non-specialists recommend different treatments for different insomnia diagnoses according to two different diagnostic classifications have been determined by Buysse et al (1997). Two hundred sixteen patients with chronic insomnia at five sites were each interviewed by two clinicians: one sleep specialist and one non-sleep specialist. All interviewers indicated diagnoses using the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV); sleep specialists also indicated diagnoses according to the

International Classification for Sleep Disorders (ICSD). Significant site-related differences in treatment recommendations also emerged. Differences in treatment recommendations support the distinction between different DSM-IV and ICSD diagnoses, although they do not provide formal validation.

CBT was found effective for reducing dysfunctional beliefs about sleep and such changes are associated with other positive outcomes in insomnia treatment as was depicted by Morin, Colecchi & Stone (1999).

Very few studies have explicitly evaluated the factors that predict treatment outcome with behavioral interventions in Insomnia. Very few studies have explicitly evaluated the factors that predict treatment outcome with behavioral interventions in Insomnia. Hoagland, Michall et al (1999) undertook the analysis to predict the treatment outcome in insomnia. Positive response to behavioral interventions for insomnia is related to the amount of sleep acquired during the initial phase of treatment. In our sample, restricting time spent in bed (both through SRT and SCT) resulted in a mean reduction in total sleep time of 54 minutes. This initial loss in amount of sleep suggests that 1) patients are compliant with therapy and 2) sleep deprivation itself, sets the stage for improved sleep, i.e., shorter sleep latencies, fewer awakenings, shorter awakenings, and ultimately more total sleep.

Vincent and Lionberg (2001) examined treatment preference and patient satisfaction with group treatment in individual with chronic insomnia. Prior to treatment, participants were presented with descriptions of behavioral and pharmacological treatment for the problem of insomnia and asked to rate the acceptability, presumed effectiveness, and presumed side-effects of treatment. Results showed that cognitive-behavioral therapy was significantly preferred over pharmacological therapy at pre-treatment and that more favorable assessments of cognitive-behavioral therapy at pre-treatment were associated with better adherence but not improved outcome. Of treatment techniques, participants least liked sleep restriction and most liked sleep hygiene. Results indicated that more favorable ratings of the usefulness of sleep restriction were associated with improvements in sleep efficiency, sleep-related impairment, and quality of life. Implications of these findings are that patient preference is important to assess prior to treating insomnia and that more work may be needed to increase patients' awareness of the benefits of sleep restriction.

Although a variety of cognitive-behavioral interventions are available for treating insomnia, there is little information on the relative efficacy of different formats for implementing those interventions in clinical practice. Bouchard, Sebestien et al (2003) presented preliminary data of a study comparing the efficacy of three formats for implementing cognitive behavior therapy (CBT) for insomnia: Individual, group, and phone interventions. Findings indicate that CBT is equally effective for treating primary insomnia when it is implemented on an individual basis, in a group format, or in the context of phone interventions. Because these results are based on a small sample, they should be interpreted cautiously. However, if the data are replicated with a larger sample and if therapeutic gains are maintained at follow-ups, this will provide useful information for designing more cost effective methods for implementing clinical treatments for insomnia.

Three behavioral treatments for insomnia in older adults were compared by Jacobs, Gregg et al (2004) and they found that there were no significant differences among treatments for changes in sleep efficiency, sleep latency, or wake after sleep onset.

Edward, Pace-Schott et al (2004) conducted a study to find out behavioral treatment of insomnia produces significant improvement and that stimulus control and sleep restriction therapy appear to be the most efficacious treatment modalities. : Patients that completed therapy significantly improved. Our results are comparable in magnitude, and appear to represent better than average results as they have been reported in two recent meta-analyses on behavioral treatment for insomnia.

A study on diagnosis and treatment of chronic insomnia was conducted in 2004 by Benca, Ancoli- Israel and Moldofsky. Evidence from epidemiologic studies, physician surveys, and clinical studies suggests that numerous patient and physician factors contribute to the fact that the needs of patients with insomnia remain unmet, including low reporting of insomnia by patients, limited physician training, and office-based time constraints, as well as misconceptions about the seriousness of insomnia, the advantages of treatment, and the risks associated with hypnotic use. Nonpharmacologic therapies produce long-lasting and reliable changes among people with chronic insomnia and have minimal side effects. Pharmacologic therapies have proven effective with improving wake time after sleep onset and sleep maintenance and reducing the number of nighttime awakenings. However, pharmacologic therapy has a greater chance of

producing side effects. No conclusive evidence exists to favor either pharmacologic therapy or behavioral therapy.

Morin, Bastien et al (2004) observed that psychological and behavioral therapies produced reliable changes in several sleep parameters of individuals with either primary insomnia or insomnia associated with medical and psychiatric disorders. Nine studies documented the benefits of insomnia treatment in older adults or for facilitating discontinuation of medication among chronic hypnotic users. Sleep improvements achieved with treatment were well sustained over time; however, with the exception of reduced psychological symptoms/ distress, there was limited evidence that improved sleep led to clinically meaningful changes in other indices of morbidity (e.g., daytime fatigue). Five treatments met criteria for empirically-supported psychological treatments for insomnia: Stimulus control therapy, relaxation, paradoxical intention, sleep restriction, and cognitive-behavior therapy.

Self-help behavioral intervention was found effective in alleviating a broad range of insomnia symptomatology in a community sample. The study was conducted by Morin, Beaulieu-Bonneau & LeBlanc (2005). Self-help may be a promising approach to make effective intervention more widely available.

Byles, Mishra and Harris (2005) suggested management of chronic insomnia in elderly persons. Long-term use of sedative-hypnotics for insomnia lacks an evidence base and has traditionally been discouraged for reasons that include concerns about such potential adverse drug effects as cognitive impairment (anterograde amnesia), daytime sedation, motor incoordination, and increased risk of motor vehicle accidents and falls. In addition, the effectiveness and safety of long-term use of these agents remain to be determined. More research is needed to evaluate the long-term effects of treatment and the most appropriate management strategy for elderly persons with chronic insomnia.

In 2005, Jefferson, Drake and Scofield designed a study to assess selected aspects of sleep hygiene from a population-based sample of individuals with insomnia compared to age- and sex-matched controls. Sleep hygiene practices measured included cigarette smoking, smoking near bedtime, alcohol use, caffeine use, napping, time in bed, and reported likelihood of sleeping in on weekends. It was found that Insomniacs do engage in specific poor sleep hygiene practices,

such as smoking and drinking alcohol just before bedtime. These particular aspects of sleep hygiene may be important components that exacerbate or perpetuate insomnia.

A study was conducted by Sivertsen, Omvik et al (2006); Brunton, Lazo and Parker (2006) to take a look at the nonpharmacologic options in treating chronic insomnia in long term care. CBT has been studied and shown to be effective in the management of chronic insomnia, especially in older adults at risk for complications associated with drug therapy. Various CBT options are available. The type of CBT used should be individualized depending upon the resident and resources available within the facility. Drug therapy can be added if CBT alone is ineffective.

Morin, Bootzin et al (2006) gave evidence for psychological and behavioral treatment of insomnia. Psychological and behavioral therapies produced reliable changes in several sleep parameters of individuals with either primary insomnia or insomnia associated with medical and psychiatric disorders. Five treatments met criteria for empirically-supported psychological treatments for insomnia: Stimulus control therapy, relaxation, paradoxical intention, sleep restriction, and cognitive-behavior therapy.

The optimal numbers of therapist-guided Cognitive-Behavioral Insomnia Therapy (CBT) sessions required for treating primary sleep-maintenance insomnia were determined by Edinger, Wohlgemuth and Radtke et al (2007). Findings suggest that for individual, biweekly sessions represents the optimal dosing for the CBT intervention tested. Additional dose-response studies are warranted to test CBT models that contain additional treatment components or are delivered via group therapy.

The efficacy of cognitive behavioral therapy for insomnia on fatigue, mood and quality of life in breast cancer survivors has been reported. It was found by Dirksen, Shannon et al (2008) that women receiving cognitive behavioral therapy for insomnia had significant improvements in fatigue, trait anxiety, depression and quality of life. The component control group also had statistically significant increases in quality of life, with a trend suggestive of lower depression at post-treatment.

A study to evaluate the efficacy of cognitive behavioral therapy (CBT) against a sleep hygiene education control therapy in patients with primary or comorbid insomnia was conducted by Edinger, Olsen et al (2009). A fixed 4-session “dose” of CBT produced similar benefits for

patients with primary and those with comorbid insomnia across most measures examined. Thus, CBT appears to be a viable psychological insomnia therapy both for those with primary insomnia and for groups composed mainly of patients with insomnia and nonpsychotic psychiatric conditions.

PROBLEM

The review cited above suggest the domain of insomnia as potent etiological factor which affects the five selected cognitive and psychological variables - learning, memory, health, sleepiness and simple reaction time, assessment and management thus become important.

Chronic insomnia is a significant factor for the development of psychiatric illness; therefore, it is necessary to eradicate it. Once the dynamics sets in at young age it may continue to be operative and harmful at adult stage and early maturity. Therefore, the present problem focused on young population in clinical set-up. An attempt was made to see the impact of insomnia on cognitive and psychology variables selected for the study. An attempt was also made to manage the impact of insomnia on the selected variables.

Various studies have been conducted (cited in detail in review) to give evidence in support of the need of the present study. Insomnia has been found to be one of the most important problems among sleep disorders. Many surveys have documented the widespread prevalence of complaints of insomnia. Insomnia is a problem which is very complex and needs to be differentiated from other related problems. An adequate evaluation of persistent insomnia requires detailed medical, psychological and psychiatric assessment. A better understanding of sleep complaints will help physicians identify patients with insomnia and meet their needs more appropriately. Some studies also revealed that insomnia symptoms were associated with a range of different conditions. Very few studies have explicitly evaluated the factors that predict treatment outcome in behavioral intervention in insomnia. When treatment preference and benefits were observed, CBT was found to be the most sought after method. Nonpharmacologic therapies produce long

lasting and reliable changes among people with chronic insomnia. Psychological intervention was rated as more acceptable and more suitable than the pharmacological one.

The problem may be stated as under:

“Assessment of Cognitive and Psychological alterations in chronic insomnia and its assessment and management”. The study has been conducted with the following objectives and hypotheses:

OBJECTIVES

- To assess the altered state i.e. sleepiness in real-life situations (arousal-sleepiness) among insomniacs.
- To assess the impact of insomnia on cognitive performance that includes simple reaction time, learning, and memory.
- To assess the impact of insomnia on general health (Physical and psychological distress).
- To apply a composite strategy to manage chronic insomnia and to evaluate its effectiveness with and without pharmacological interventions.

HYPOTHESES

To fulfill the above objectives, the following hypotheses were formulated from literature cited and the model to verify.

- Insomnia is likely to cause aberrant sleepiness (arousal).
- Insomniacs would perform poorly on cognitive tasks.
- Insomnia if unattended may deteriorate health.
- Performances after applying management strategies shall have boosting effects i.e. improvements in post-management conditions in cognitive performance and psychological health.