

Insomnia: diagnostic and therapeutic considerations

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Introduction

Insomnia is a prevalent condition both in the general population and in patient populations; surveys of the general public show up to 30 per cent prevalence of insomnia [1-3], and physicians report that about 20 per cent of their adult patients have had sleep problems [4]. The prevalence of insomnia tends to be higher among women, older individuals, and psychologically disturbed and socioeconomically disadvantaged persons [1-4].

Insomnia is often a symptom of various psychiatric or medical conditions. It may also be a result of the use of drugs or other substances [5, 6]. Other common causes of insomnia include various environmental disturbances, stressful life events, and the process of aging. It should be emphasized that in most cases, multiple factors are involved in the etiology of insomnia. Although insomnia is most often a secondary condition, when it is chronic and severe it becomes the focus of the patient's distress and is in fact perceived as a disorder by itself [5, 6].

The most common cause of chronic insomnia is psychopathology [7, 8]. Extensive psychological and psychiatric research has shown that chronic insomniacs tend to cope with stress and conflicts by internalizing their emotions, which leads to increased emotional arousal [7]. This arousal causes physiologic activation, as indicated by the high levels of autonomic activity before sleep. In turn, this state of hyperarousal leads to difficulty in initiating sleep either at the beginning of the night or later on returning to sleep after a nocturnal awakening. Fear of sleeplessness further increases emotional arousal, thus perpetuating insomnia [7].

Chronic insomniacs report that at bedtime they feel tense, anxious, worried, or depressed⁹. They also report rumination about not getting enough sleep, personal problems, health status, and death. Further, they often attempt to reduce tension by taking medication and drinking alcohol. In the morning, they typically feel physically and mentally tired, and during the day they report being depressed, worried, tense, irritable, and overly preoccupied [9].

Diagnosis

The evolution of diagnostic concepts regarding insomnia is reflected in the various classification systems which have listed a number of specific insomnia diagnoses [10-14]. The classification published in 1979 by the Association of Sleep Disorders Centers (ASDC) included about 70 specific diagnoses of sleep disorders [10]. Of those, about 20 pertained to specific diagnoses related to insomnia. The ASDC classification did not provide detailed criteria for the diagnosis of insomnia; it over-relied on laboratory measures and simply required a sole criterion of reduced sleep quantity (sleep latency of more than 20 minutes and a total sleep time of less than 6.5 hours) [10]. In a preliminary draft of the DSM-III-R, efforts by sleep laboratory specialists to introduce diagnostic criteria for sleep disorders requiring sleep laboratory measurements of sleep quantity were successfully objected by a number of clinicians practicing sleep disorders medicine [14]. According to the purely clinical approach that finally prevailed in the official version of DSM-III-R published in 1987, what really counts is what the patient perceives as unsatisfactory sleep quantity and/or quality [11]. Moreover, the format of the sleep section in DSM-III-R was simple and straightforward including a total of only 12 diagnostic formulas with just 3 pertaining to insomnia, i.e. Insomnia Related to Another Mental Disorder, Insomnia Related to a Known Organic Factor, and Primary Insomnia [11].

An important contribution of DSM-III-R was the establishment of very well defined diagnostic criteria for insomnia [11]. Thus, the complaint of difficulty falling and staying asleep and/or poor sleep quality should have been present for one month with a frequency of occurrence at least three nights per week. In addition, the sufferer has to be preoccupied with sleeplessness, which should be a cause of distress or interference with daytime functioning. Obviously, the diagnosis of insomnia according to DSM-III-R can not be made if the sleep complaint is temporary, most often due to a transient environmental problem or stressful situation. It is warranted, however, to diagnose insomnia even in the presence of another mental or physical disorder which may be the cause of sleep difficulty [14].

In an obvious response to DSM-III-R, the American Sleep Disorders Association, which is mainly composed of laboratory-oriented sleep experts, published in 1990 the International Classification of Sleep Disorders (ICSD) 32 of which describe various types of insomnia [12]. From ASDC to ICSD classification, there is a marked proliferation of insomnia subtypes, which are not any more grouped all together; rather they are scattered throughout the new classification system mixed together with other sleep disorders, apparently regrouped according to their presumed common characteristics; as being “intrinsic”, “extrinsic” or “associated with other disorders” [12]. Insomnia in the ICSD classification is generally defined as “the complaint of an insufficient amount of sleep or not feeling rested after the habitual sleep episode”, which might denote that sleep quantity and quality should be considered as equivalent. However, there are actually two quantitative requirements in ICSD for the diagnosis of insomnia: at least 20 min sleep latency and at the most 6.5 hours total sleep time, otherwise the condition

is considered as “sleep state misperception” also called “pseudoinomnia” [12].

In view of the experience gained in the debates regarding the sleep disorders section of the DSM-III-R, the diagnostic criteria for insomnia in ICD-10 were made very similar to those of DSM-III-R [11, 13]. The ICD-10 diagnostic criteria are now the only ones that are officially available through the WHO for worldwide use (Table 1).

According to ICD-10, the presence of the complaint of unsatisfactory sleep is not sufficient for the diagnosis of insomnia in its own right [13]. It should be a source of marked distress for the patient and it should interfere with his/her ordinary activities in daily living. This prevents mistaking insomnia for just a symptom of another mental or physical disorder. Since quite often the clinical condition of insomnia coexists with a number of other mental and/or physical disorders, the ICD-10 format is very convenient because it allows to make simultaneously as many diagnoses as may be appropriate [14].

Following publication of the ICD-10 diagnostic criteria for insomnia, the Athens Insomnia Scale (AIS) was developed with the main goal to assist clinicians in diagnosing insomnia on the basis of ICD-10 [14]. An adequate assessment of insomnia can be accomplished in the physician's office. The cornerstone of this assessment is the sleep history [15], as outlined in Table 2. A thorough medical work-up, a careful psychiatric assessment, and a complete drug history should be also obtained. Denial of existence of psychological problems on the part of the insomniac patient should not prevent careful clinical assessment before ruling out a psychological basis for the complaint of insomnia.

Management

In the treatment plan, the priority is to overcome the patient's usual denial of the frequently underlying psychological problems and the consequent resistance to a systematic treatment [16-18]. Such a plan should combine: general measures for the improvement of sleep hygiene and the patient's lifestyle; psychotherapeutic techniques, selectively or in combination; and pharmacotherapy as an adjunct [5,6].

It is important for the patient to observe a regular schedule for going to bed at night and arising in the morning; however, such a schedule must be reasonably flexible and take into account the fact that sleep cannot be forced on oneself [18,19]. Special attention should be given to minimization of sleep-disrupting environmental stimuli, such as noise. A full explanation should be offered of how anxiety becomes part of the vicious circle that exacerbates and perpetuates insomnia [7]. Patients also need to be taught to reduce stress through effective management of emotions and appropriate expression of feelings [16-19]. On an interpersonal level, they often need to become adequately assertive. Supportive, insight-oriented, and behavioural elements are usually combined for the psychotherapy of insomnia [16-19]. Although supportive psychotherapy can be performed successfully by almost any physician, appropriate referral is indicated for the application of highly specialized psychotherapeutic techniques. If the main goal is reduction of symptom severity, behavioural techniques are preferable [20-22]. Any psychotherapeutic approach to treating insomnia should be tailored to meet the individual's needs [16-19].

Regarding the pharmacotherapy of insomnia, as already emphasized, a hypnotic drug may be used only as an adjunct and, generally, only for a relatively short period of time, usually not exceeding one month [5,6,18]. Before prescribing a hypnotic, the physician must thoroughly assess the various factors involved in the etiology of the patient's insomnia and address them appropriately. A hypnotic can be quite beneficial in alleviating sleeplessness, thus providing the patient with a most needed sense of mastery.

Because of their efficacy and safety, benzodiazepines and benzodiazepine-like compounds have replaced other classes of hypnotics in the adjunctive treatment of insomnia. Based on their pharmacokinetics, these drugs have different effect and side effect profiles [18,23]. The long elimination half-life benzodiazepine hypnotics are effective for about a 4-week period of nightly administration, whereas tolerance develops rather rapidly with short elimination half-life benzodiazepines. Administration of slowly eliminated benzodiazepines, is often associated with higher degrees of daytime sedation. Tolerance to daytime sedation develops much earlier than tolerance to the hypnotic effect of these drugs [18,23]. In contrast, rapidly eliminated benzodiazepines are practically devoid of this side effect, but they are more likely to cause rebound phenomena both during their administration (early morning insomnia, daytime anxiety) and after their withdrawal (rebound insomnia, rebound anxiety) [24-26]. Administration of certain benzodiazepine hypnotics has also been associated with episodes of amnesia, depersonalization, hallucinations, and other behavioral side effects [6,18,27]. The two short-acting benzodiazepine-like hypnotics (zopiclone and zolpidem), which have been introduced relatively recently in the market, may have some advantages regarding side effects compared with their benzodiazepine counterparts. However, comprehensive studies are needed to definitively document these differences.

Over-the-counter sedatives have been proved to be ineffective [28], and in high doses they may cause unwanted effects, such as confusional states, because of their atropine-like action [6,18]. In the small subgroup of chronic insomniacs who are endogenously depressed, the use of antidepressants is indicated [18]. For psychotic patients with the symptom of insomnia, neuroleptics with sedative effects should be prescribed [18,29].

In conclusion, (a) when sleep disturbance is part of an acute stress reaction or it constitutes a symptom of an underlying physical or mental disorder, diagnosing and treating the primary condition should take the priority; (b) the patient's complaint should invariably be given face value and the overall approach needs to be tailored in an individualized way; (c) a multidimensional treatment based on the biopsychosocial model is best suited for a condition with an etiology which is usually multifaceted; (d) hypnotic drugs should be used only as an adjunct to other therapeutic techniques and only for a short period of time; (e) the clinician should be flexible in his/her attitude allowing for adjustments when appropriate [30].

Table 1

ICD-10 diagnostic criteria for insomnia

A. The complaint is either of difficulty falling asleep or maintaining sleep, or of poor quality of sleep.

- B. The sleep disturbance has occurred at least three times per week for at least 1 month.
 C. The unsatisfactory quantity and/or quality of sleep either causes marked distress or interferes with ordinary activities in daily living.

Table 2

Steps in Taking the Sleep History

Delineation of the specific sleep difficulty
 Description of the condition's clinical course
 Differentiation among various sleep disorders
 Reassessment of previous diagnoses
 Evaluation of sleep-wakefulness patterns on a 24-hr basis
 Interview of bed partner
 Evaluation for presence of other sleep disorders
 Assessment of a family history of sleep disorders
 Evaluation of the impact of the sleep disorder

From Kales A., Soldatos C.R. and Kales J.D. [15].

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