Complementary-Alternative Methods and Cognitive Behavioral Therapies in the Management of Sleep Disorders

Uyku Bozukluklarının Yönetiminde Tamamlayıcı-Alternatif Metotlar ve Bilişsel Davranışsal Terapiler

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ABSTRACT

Sleep disorders are common among adults; impair quality of life and associated with co-morbidities. Complementary-alternative methods (CAM) and cognitive behavioral therapies have an important place among the treatment options. Natural compounds, especially herbs and herbal oils are widely used in the treatment of sleep disorders. Valerian and Chamomile are most frequently preferred herbal remedies. Biologic compounds such as L-tryptophan and melatonin increase sleep quality. Acupuncture, acupressure, facial massage, foot massage, reflexology, yoga and tai chi have positive effects on sleep induction and quality. Hypnosis is effective on sleep induction, in the treatment of parasomnias and sleep paralyses. Cognitive behavioral therapies help patients to identify behaviors that cause sleep problems and replace them with positive thoughts and behaviors. Patients are educated about the reason of sleep problems and encouraged to change their beliefs that negatively affect their ability to sleep, develop good sleep habits by avoiding behaviors that keep them awake. As a result, non-pharmacological therapies and different CAM modalities may be helpful in the treatment of sleep disorders on the patients who do not prefer to use pharmacological therapies.

Keywords: herbs, acupuncture, yoga, tai chi, cognitive behavioral therapies

ÖZET

Uyku bozuklukları yetişkinler arasında yaygındır; hayat kalitesini bozar ve komorbiditeler ile ilişkilidir. Tedavi seçenekleri arasında tamamlayıcı-alternatif metotların (TAM) ve bilişsel davranışsal terapilerin önemli bir yeri vardır. Doğal bileşikler özellikle bitkiler ve bitkisel yağlar uyku bozukluğunun tedavisinde yaygın olarak kullanılırlar. Kediotu ve sarı papatya en çok sıklıkta tercih edilen bitkisel çözümlerdir. L-triptofan ve melatonin gibi biyolojik bileşikler uyku kalitesini arttırırlar. Akupunktur, akupres, yüz masajı, ayak masajı, refleksoloji, yoga ve tai chi'nin uyku indüksiyonu ve kalitesi üzerine pozitif etkisi vardır. Uyku paralizileri ve parasomni tedavisinde, uyku indiksiyonunda hipnoz etkilidir. Bilişsel davranışsal terapi hastaların uyku problemine yol açan davranışları tanımlamalarına ve onları pozitif düşünce ve davranışlarla değiştirmesine yardımcı olur. Hastalar uyku problemlerinin sebepleri hakkında bilgilendirilir ve uyuma yetilerini negatif etkileyen inanışlarını değiştirmeleri, kendilerini uyanık tutan davranışlardan kaçınarak iyi uyku alışkanlığı edinmeleri için cesaretlendirilirler. Sonuç olarak farmokolojik olmayan terapiler ve değişik TAM modaliteleri, farmakolojik terapiyi tercih etmeyen hastaların uyku bozukluklarının tedavisinde yardımcı olabilirler.

Anahtar Kelimeler: bitkiler, akupunktur, yoga, tai chi, bilişsel davranışsal terapiler

Introduction

Sleep disorders are common among adults, especially in older ages and has associated daytime consequences which impair job performance and quality of life (1). It is also associated with increased risk of comorbidities such as chronic pain, diabetes and depression (2). Chronic lack of sleep increases the risk of getting infections and illnesses related to cardiovascular, respiratory, gastrointestinal, urinary, neurologic, endocrine-metabolic and immune systems, and may cause psychological disorders (3).

With respect to growing public interest in complementary and alternative

medicine (CAM), sleep disorders are also treated with different CAM modalities. CAM encompasses a variety of disciplines that include everything from diet and exercise to mental conditioning, lifestyle changes and psychological and behavioral interventions. Natural products are the most common products used for sleep disturbances (4).

Complementary and Alternative Therapies in the Management of Sleep Disorders

1. Nutritional compounds

Herbs

Herbal products are one of the most preferred forms of CAM and the use of herbs as sleep aids is a common practice (5,6). Unfortunately there is a common misperception that herbs are natural products without any risk for health (7). It should be kept in mind that herbs may also have side effect if used unnecessarily in high dose. The most commonly preferred herbs are:

Valerian (Valeriana officinalis)

Has been known since 18th century in Europa and has been used in the treatment of sleep disorders (8). It is an herbal over-the-counter drug that is widely used for insomnia. Systematic reviews have found inconsistent and inconclusive results about its effects. Results of well-organized studies suggest that valerian may be effective for subjective improvement of sleep disorders (4). However, in some studies it is found that a single dose administration of valerian/hops fluid extract is effective in the improvement of sleep quality (9-11); in some other studies, with modest beneficial effects compared to placebo (12,13).

Valerian roots are used in the form of capsule or tea as a natural remedy for sleep disorders. It reduces the time required to fall asleep if taken before going to bed for four to six weeks. It is not recommended to use valerian more than 6 weeks because it may induce insomnia. Valerian capsules are available in the market range from 400 to 900 mg. In order to induce a good sleep 600-1200 mg concentrated valerian capsule or 3-5 gr. brewed valerian root for 15 minutes should be taken 30 minutes before going to bed.

Chamomile (Matricaria recutita)

Chamomile is a mild herb for stress and insomnia (14). Other herbs having mild sedative effect to induce sleep are hops, lemon balm, and passionflower. Chamomile extract have benzodiazepine-like hypnotic activity (15). In order to induce sleep, 3-5 gr of chamomile in tea before going to bed is recommended.

Passionflower (Passiflora incarnate)

According to the German Commission passionflower is used as a mild sedative (16). It is generally a safe herbal drug. The recommended daily dose is 100-200 mg standardized extract (17). Steep 0.5-2 g of dried herb in 1 cup boiling water for 10 minutes; strain and cool and drink one cup an hour before going to bed. Fluid extract is also available. (1:1 in 25% alcohols): 30 drops, 30 minutes before going to bed.

Hops (Humulus lupulus)

Generally hops is used in combination with valerian. Some well-designed studies show that hop-valerian combination in the appropriate dose is an alternative to benzodiazepine for the treatment of non-chronic and non-psychiatric sleep disorders (18,19). Tablets containing 50-100 mg standardized extracts of hops or 0.5-1 gr in tea or via inhalation should be taken one hour before going to bed.

Kava (Piper methysticum)

It is increases sleep quality (20). The required dose is 300 mg/day in divided dose (21). Kava supplements are generally available in capsules ranging from 100 mg to 500 mg, in liquid form, and tea bags for brewing. Typical dose is 70–240 mg/day (22). Kava decreases sleep onset time and promote deeper sleep (23).

Ginseng (Panax ginseng)

Chronic intake of Panax ginseng extract stabilizes sleep and wakefulness (24). Dosage is 2-3 gr/day (23).

Lemon balm (Melissa officinalis)

Generally used in combination with valerian. Combination of valerian and lemon balm is effective in the treatment of restlessness and dyssomnia in children (25). Dosage is 80-240 mg lemon balm leaf dry extract or 1-4.5 gr in tea (23).

Essential herbal oils

They are used to induce sleep. Most commonly used herbal oils are lavender (Lavandula officinalis), bergamot (Citrus begamia), marjoram (Origanum majorana), Roman chamomile (Anthemis nobilis), lemon (Citrus limon), and Ylang ylang (Canaga odorata) (26).

Aromatherapy and Homeopathy

They may also be helpful in the management of sleep disturbances (27, 28).

2. Biologic compounds

L-tryptophan

It is a precursor in the synthesis of serotonin. It enhances sleep by reducing sleep onset latency (29,30). Tryptophan is present in milk and warm milk may induce sleep in some people. L- tryptophan is claimed to cause scleroderma.

Melatonin

It is a natural hormone found nearly in all living creature, produced mostly in the pineal gland. Both exogenous melatonin administration and increase in endogenous melatonin secretion increase sleep quality and decrease the time required to fall asleep (31). Low dose of melatonin containing foods, like milk, may also increase sleep quality if taken before going to bed (32).

3. Manipulation and energy therapies

Acupuncture

Although there are contradicting results (33), traditional needle Acupuncture therapy may be effective on insomnia (34,35). Acupuncture is also effective in the treatment of obstructive sleep apnea syndrome (36).

Acupressure (37,38), *facial massage, foot massage* (39) and *reflexology* (40) are shown to have positive effects on sleep induction and quality.

4. Mind-body therapies

Yoga (41) and *Tai chi* (42, 43) practices are useful nonpharmacologic approaches to improve different aspects of sleep. Hypnosis is effective in the treatment of sleepwalking and sleep terror which are potentially dangerous parasomnias (44) and sleep paralyses (45).

5. Cognitive behavioral therapies

Cognitive behavioral therapies are structured programs that help patients identify behaviors that cause sleep problems and replace them with positive thoughts and behaviors. Patients are educated about the reason of sleep problems and encouraged to change their beliefs that negatively affect their ability to sleep, develop good sleep habits by avoiding behaviors that keep them awake (46).

Cognitive control and psychotherapy

Patients are trained to control end eliminate negative thoughts and worries that keep them awake.

Sleep restriction therapy

Limiting the amount of time patients spend in bed. Patients are instructed not to go to bed until they are more likely to fall asleep and stay asleep.

Remaining passively awake

Thinking about and worrying of the patient the thought he/she cannot sleep, can paradoxically keep the patient awake. Instructing the patient to let go of this worry and avoid any effort to fall asleep may be helpful.

Stimulus control therapy

Patients are conditioned to accept their bed as the place where sleep happens. They are encouraged to go to bed only when they feel themselves very sleepy and are ready to sleep. They are also instructed to leave bed if they cannot fall asleep in 15 minutes.

Sleep hygiene

Patients are instructed to change basic lifestyle habits that influence sleep such as drinking too much coffee before going to bed, dealing with things that make them worry and not getting up at the same time every morning.

Sleep education

Basic information about sleep are given to patients such as sleep cycles, outside and inside factors which influence sleep.

Sleep diary

Patients are instructed to write down all the details about their sleep pattern and sleep habit for one or two weeks.

Relaxation training

Approaches such as meditation, hypnosis and muscle relaxation are recommended in order to calm patients mind and body.

Biofeedback

Patients are instructed to observe biological signs such as heart rate, heart sound, breath sounds and muscle tension.

Paradoxical intention

Patients are instructed to lie in bed but not to try to fall asleep; instead try to stay awake. Paradoxical intention is described as a probably, but not definitely effective treatment for insomnia by American Academy of Sleep Medicine (2).

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