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Autism Spectrum and Sleep Disorders

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ABSTRACT

Sleep problems are frequently found in patients diagnosed in the Autism Spectrum. These symptoms may be secondary to the "core" symptoms of autism, or caused by psychiatric comorbidity related. A specific diagnostic classification is therefore necessary for the reconstruction of the dynamics underlying insomnia, in order to set the most effective treatment.

DESCRIPTION

Classification of Insomnia

Insomnia can be classified as early, middle or end, respectively, characterized by difficulty falling, nocturnal awakenings, and waking early in the morning. We can also classify insomnia based on the duration of the disorder, in transient (lasting a few days), short-term (lasting a few weeks) and chronic (lasting from weeks to years). The transient insomnia is typically related to acute stress situations, linked to environmental circumstances. Therefore resolved, with the event. Other causes of transient insomnia, are typically represented by jet lag, shift work, stationing at high altitudes. The short-term insomnia, is frequently caused by stressful events of severity and duration greater than the previous. Chronic insomnia can be caused by: medical disorders, psychiatric, circadian rhythm, or determined by a primary mechanism or psychophysiological, given by a state of chronic hyperarousal. These two broad categories, can also be superimposed.

Primary insomnia or psychophysiological insomnia, is one of the most common causes of chronic insomnia. And characterized by insomnia lasting at least a month, in the absence of other etiological explanations. In this condition, were detected alterations characterized by concomitant increase in body temperature (Adam et al. , 1986), heart rate (Monroe, 1967) and sometimes metabolic values (Bonnet & Arand, 1995).

Insomnia in individuals with Autism Spectrum Conditions

Insomnia is the behavioral sleep disorder most common in the first few years of life (about 30% of children up to 2 years of life have suffered) and is characterized by difficulty falling and the many nocturnal awakenings.

This disorder is also frequently reported by parents or caregivers of children with autism spectrum disorder , with a prevalence that can exceed 50 % of the cases. After excluding the presence of other sleep disorders, the treatment of choice for behavioral insomnia in autism spectrum is twofold: the cognitive behavioral therapy combined with melatonin (Miano & France, 2014).

Sleep hygiene is linked to the "bed time". Encourage adequate and functional sleep habits is very difficult for parents, and requires constant training.

Sleep disorders however are found mostly in children with autism spectrum disorders (89 %) (Richdale et al., 1999) and in children with the Fragile X Syndrome (77 %) (Richdale et al, 1993). It 's very common for these children to have problems with dissonnia , or difficulty falling asleep , frequent nocturnal awakenings children . One of the causes can be identified in low levels of melatonin, a critical hormone for the regulation of sleep and circadian rhythm (Kulman G et Al, 2000).

Generally sleep problems (over 10%) decrease from January to June and from July to August disappear only to reappear in October, and remain very strong in November and December; especially in children with regressive autism. School-age children with autism have more sleep problems than children in pre-school age (Giannotti, 2001).

ASSESSMENT

To assess sleep disorders in children with autism is mainly refers to two instruments, the Children Sleep Habits Questionnaire, completed by households to measure the sleep hygiene of their children, and the Family Inventory Questionnaire, the "inventory on family habits" always compiled by caregivers (Malow et al, 2009).

Very important is also the ' MSPSQ (Modified Simonds & Parraga Sleep Questionnaire) originally developed to monitor the sleep disorders of children between 5 and 18 years , includes 51 items and consists of 2 parts: the first includes the quantity and quality of sleep , the second part is more specific questions and in-depth; you used the Likert scale, the scores are equal significant higher than 56 (Cinthya et al 2012). The MPSQ, for each response allows you to give a value from 1 to 5 gives an accuracy greater than CSHQ and there are more quality item very relevant to the indications for the planning of a psychoeducational treatment.

Management "winning" of sleep can improve your overall quality of life of caregivers of these children during the day (Cinthya et al 2012)

THERAPIES

- Melatonin

Melatonin is a hormone secreted by the pineal gland, it is synthesized from serotonin, which in turn is derived from tryptophan. It's involved in the regulation of circadian rhythms and has been implicated in the pathophysiology of depression. Melatonin is not considered a drug , but a dietary supplement, and for this reason the scientific data available on its effectiveness and safety are limited. The effects of melatonin are both chronobiotics, acting on the regulation of circadian rhythms, that hypnotic - sedative, promoting sleep.

It has been shown that individuals ASD have higher levels of melatonin during daytime than nighttime, contrary to what occurs in children with typical development. This then determines an alteration of circadian rhythms in the first group of children (Ritvo et al, 1993).

Mallow et al. (Malow , et al 2012) have shown that, following treatment with melatonin, children with autism showed a reduction of problem behaviors such as hyperactivity, stereotypies, compulsions, aggression, anxiety , and mood disorders. In this way parental stress was reduced significantly.

- Cognitive-behavioral treatment and Parent Training

The cognitive session is weekly planned and structured (4 weeks in all) lasting 50 minutes, carried out by psychologists and experts aimed at caregivers of children, provided for a multifactorial intervention on sleep, which included both educational components that behavioral and cognitive (Reed et al, 2009).

The cognitive component focused on the recognition of the malfunctioning of sleep and aimed to modify dysfunctional beliefs and attitudes about sleep. The behavioral and educational components consisted of instructions given orally to parents about their child's sleep management and provided ad- hoc strategies to promote more appropriate behaviors that could favor the well-being of the child

- Integrated intervention (pharmacological and cognitive behavioral therapy)

Melatonin as pharmacotherapy must always be combined with cognitive behavioral treatment.

Giannotti (Giannotti et al, 2011) analyzed the effect of the most effective release melatonin combined with cognitive behavioral treatment, noting excellent results in a group of autistic patients from 2007 to 2010 at the department of pediatrics at the University of Rome.

Were used as measurements actigraphy (noninvasive method to evaluate the sleep-wake parameters through body movements) and sleep diaries compiled daily by parents and evaluated weekly by experienced professionals, and the questionnaire of sleep habits (CSHQ) of children completed by the parents (high scores indicate problems in his sleep). Were taken into account a minimum of 7 nights apply to the reliability of the results.

Melatonin has been very effective in increasing the hours of total sleep time of these children (Giannotti et al, 2011).

CONCLUSIONS

In conclusion, it is good practice to differentiate the problems from sleep disorders. For "problems" we mean a variety of complaints coexisting in the same person that require a full evaluation procedure. The "disorder" is generally determined by organic causes, medical or induced by medication.

As for the instruments for sleep disorders in children with autism, the sleep diaries are very useful but at the same time are subjective, and this could be a limitation. The use of melatonin is more useful controlled release that promote sleep for 6-8 hours . Doses ranging from 1 to 3 mg are generally well tolerated and recommended. Anyway drug therapy with melatonin is good practice that is always associated with a psychoeducational cognitive –behavioral intervention.

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