

LETTER TO THE EDITOR

The “Italian way” to counteract obstructive sleep apnoea syndrome in children

Strategie italiane per inquadrare la sindrome delle apnee ostruttive nei bambini

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Dear Editor,

the estimated prevalence of OSAS and habitual snoring in children is 0.1-13% and 6-12%, respectively ^{1,2}. The lack of treatment of sleep-related breathing disorders puts patients at risk of hypertension, growth lag, hyperactivity, attention deficit, learning disabilities, low levels of education and literacy. Some studies have shown a significant increase in the use of health services (new admissions, accesses to first aid, consumption of drugs) by children with OSAS compared to the control group for all ages. The severity of OSAS correlates directly with total annual costs and is age-independent ³. Other studies have shown that annual healthcare costs are reduced by one-third for children with OSAS undergoing adenotonsillectomy ⁴. The awareness of OSAS and habitual snoring as a highly relevant health issue at the developmental age is rather inadequate. There is also a very significant gap between the estimated number of children with OSAS, as a high percentage of them are undiagnosed, and the ability of the Italian health system to diagnose and treat them. This is why the Italian Minister of Health has approved a new holistic approach that is aimed at improving the health of children with OSAS.

Noisy breathing, habitual snoring with or without breathing pauses during sleep, enuresis, sleeping in the sitting position, cyanosis, headache on awakening, excessive daytime sleepiness, attention deficit, hyperactivity and learning disorder are the symptoms that best make up the clinical picture of OSAS in children ^{2,5}. Any dentist or paediatrician in any outpatient clinic can easily formulate a clinical suspicion of OSAS by using a structured interview. The next step for a child with suspected OSAS is to refer them as outpatients to a multidisciplinary team

that should comprise paediatricians, ear-nose-throat specialists and orthodontists ². These specialists, working in a functional unit that is focused on OSAS, should make a collective visit that includes physical examination to investigate adenotonsillar hypertrophy, craniofacial dysmorphisms, oropharyngeal abnormalities (dental malocclusions and jaw contraction) and obesity. In the event of suspicion of comorbidities, further clinical and objective examinations are mandatory ^{2,6}. Through clinical history and physical examination, patients are subjected to objective testing ^{2,6}. Although polysomnography is still the gold standard, a less expensive objective testing such as home sleep cardiorespiratory monitoring or night pulse oximetry is validated for the diagnosis of OSAS in children ^{2,5,7}. By combining the clinical profile and the results of the home sleep testing, and taking into account the predominant risk factor for OSAS, children can be classified into different phenotypes: 1) “classical” phenotype, a child with adenotonsillary hypertrophy, with or without dental and skeletal malocclusions; 2) “adult type” phenotype, characterised by obesity and associated with aspects of the classical phenotype; 3) “congenital” phenotype, with anomalies such as micrognathia or cranio-facial alterations associated with genetic syndromes such as Pierre Robin, Down's, etc. The phenotype should be taken into account, and a patient-tailored therapeutic choice should be offered. OSAS therapeutic hubs are represented by medical therapy (steroids and washing solutions administered by nasal or spray shower), surgical therapy with adenoids and tonsils removal, orthodontic therapy, myofunctional treatment and therapy with positive pressure devices ². Surgical therapy with adenotonsillectomy is the first choice for children with severe OSAS and adenoton-

sillar hypertrophy. Short-term improvement can also be seen in terms of school performance and reduction of drug therapies. The surgical indication must be based on clinical and objective testing criteria. In the presence of comorbidities, adenotonsillectomy represents a first stage of the therapeutic program; in these cases, it is necessary to provide post-surgical follow-up to select subjects needing further treatment. Orthopaedic-orthodontic therapy is able to reduce symptoms and alter the natural history of OSAS. This treatment can be integrated with both medical therapy and surgical therapy. Physiotherapists, speech therapists and nutritionists contribute to the implementation of patient-tailored therapy and long-term management of children with OSAS. Children with congenital diseases or severe comorbidities should be studied by overnight polysomnography⁸. Similarly to children requiring upper airway or maxillo-facial surgery, they will be inpatients.

The document approved by the Italian Minister of Health consists of three levels. The first level concerns the formulation of a clinical suspicion of OSAS, actively involving and engaging dentists and paediatricians in outpatient clinics. The second level concerns confirmation of diagnosis and prescription of treatment by ear-nose-throat specialists, orthodontists and paediatricians in outpatient functional units; these specialists are also responsible for multidisciplinary management and long-term care of children. The third level concerns inpatient studies in sleep laboratories and/or surgical or other treatments.

The document highlights the need for the three levels to be functionally connected, such that first-level paediatricians and dentists have at least an adequate knowledge of OSAS and such that second and third-level ear-nose-throat

specialists, orthodontists and paediatricians are experts in the diagnosis, treatment and long-term management of these patients. It is expected that this new and holistic approach can meet criteria for effectiveness and efficiency, and will allow easy access to diagnosis and treatment to an increasing number of children with suspected OSAS.

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