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Guidelines to evaluate the possible contribution of osteopathy in paediatrics

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Osteopathy is a non-invasive manual therapy with no iatrogenic effects, ranked by WHO among the traditional medicines (WHO 2016).
Although it shares the most part of medical and biological knowledge with Conventional Medicine, it is based on osteopathic analysis, an evaluation system differing from the typical diagnostic tests used in medicine, and uses a different terminology. The osteopathic evaluation is aimed to identify somatic dysfunctions (ICD-9 CM 739.0-9 and ICD-10-CM M99.00-09), i.e. body areas characterized by physiologic motion restrictions which can be the origin of the common clinical problems affecting both the musculoskeletal as well as other body systems. The osteopathic manipulative treatment (OMT) is performed in order to etiologically and non-symptomatically normalize somatic dysfunctions, tapping into the intrinsic auto-regulative capability of the human body and influencing the autonomous nervous system.

Clinical application of OMT in pediatrics has gained relevance and clinical evidence – as confirmed by the following studies – achieving success in treating various pediatric diseases and/or paraphysiological problems, e.g. cranial dysmorphisms, intestinal colics, gastro-esophageal reflux, scoliosis, and even delays in the neuromotor development (Carreiro 2013 Frymann 2009). The management of these conditions, however, must be tailored to suit the clinical condition of the patient and care accessibility.

ASTHMA

Guiney et al. conducted the first RCT (N=140) on the effectiveness of OMT in patients with asthma, measuring the variations in peak expiratory flow (PEF). The study group obtained a 4.8% average increase in PEF, from 7L to 9L as compared to the control group (sham group) which settled at 1.4%. Therefore, the authors concluded that the improvement in thoracic mobility reduces asthma attacks – as clinically confirmed by the increase in lung capacity – although this result is not clinically relevant because PET improvement must reach 10% to be medically defined as an improvement (Guiney et al 2005).

OBSTRUCTIVE APNEA

OMT has been shown to cut the number of obstructive apnea events, as measured by 8-hour long polysomnography in children aged between 1.5 and 4 months, with a two-week follow-up (Vandenplas et al 2008).

SUCKING DISORDERS

Craniosacral treatment has proven an effective approach in case of sucking problems, etiopathologically originated by childbirth and breastfeeding disorders (Wescott 2004).

MIDDLE EAR INFLAMMATION

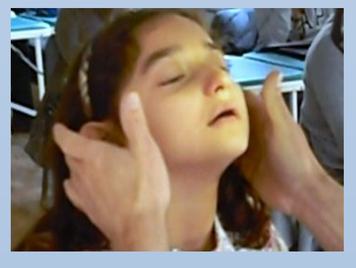
OMT could be a viable adjunct therapy for otitis media management, in combination with medical aid, as confirmed by 3 studies. A pilot study on the effectiveness of OMT in reducing morbidity of recurrent acute otitis media (N=8) reported that 62.5% (N = 5) of treated patients did not report otitis media events at a follow-up after 1 year (Degenhardt et al 2006). A randomized study on recurrent otitis media (N = 57 using tympanography, audiometry and other clinical parameters showed a statistically significant improvement in all parameters for the study group compared to the control group (Mills et al 2003), as recently confirmed (Steele et al 2014).

CEREBRAL PALSY

An RC pilot study – on subjects aged from 20 months to 12 years, examined during a six month time period – evaluated the effectiveness of various approaches (osteopathy, acupuncture and myofascial release) in cerebral palsy, showing that best results were obtained with osteopathic medicine (Duncan et al 2008). Marginal improvements have been confirmed in an RCT studying the effect of OMT on motor improvement, quality of life, sleep, and pain in 142 children with cerebral palsy (Wyatt et al 2011).

PARAMORPHISMS

No clinical evidence in the scientific literature corroborates the positive experiences often reported by applying OMT to solve paramorphisms in the pediatric field. One not significant study even reports its ineffectiveness (Amiel et al 2008). More robustly designed are needed.



The images show three different osteopathic manipulations in children:

- evaluation of the thoracic outlet (above);
- evaluation of foot mobility (below left); and
- cranio-temporal evaluation (below right).

SCOLIOSIS

The success of OMT in treating scoliosis, idiopathic scoliosis and scoliotic attitudes in children and adolescents (Canavese 2011, Carreiro 2013, Posadzki 2013, Roman 2008) is currently not yet supported by proper studies (Romano et al 2008). More studies and a protocol design are needed.

NEONATOLOGY

Various studies have been published on the efficacy of OMT on **Preterm Babies**. Overall, these studies report an average 3-day reduction in the length of hospital stay in the OMT group (Lanaro et al 2017).
Furthermore, Cerritelli et al (2015, 2013) estimated an average cost reduction by € 1.500 per child per length of stay. Pizzolorusso et al (2011) reported a 55% reduction in gastrointestinal events in the OMT group compared to control. No study found adverse reactions nor side effects after the administration of OMT, thereby suggesting the safety of this approach.
A potential adjunct value of the osteopathic approach on infants with **Congenital Talipes Equinovarus** has been highlighted in a case report: early osteopathic treatment in addition to the conventional orthopedic treatment led to a faster resolution of clubfoot, reducing surgical risks (Andreoli et al 2014).
A recent review suggests that OMT could be useful in speeding up recovery of infants with **Neonatal Jaundice**, minimizing long-term consequences (Click 2013).
Interestingly, a RCT on 28 infants with colic symptoms revealed a decrease in the number of colic events and crying episodes, and an improvement in sleep quality on infants with **Colics** after 4 OMT sessions (Hayden and Mullinger 2009).

PLAGIOCEPHALY

Lessard et al (2011) showed that 4 OMT sessions improve cranial asymmetry in a sample of 10 infants (aged 6 months in average).

ATTENTION DISORDERS

An RCT – carried out to evaluate attention capacity using the Biancardi Stroppa bell test in children aged between 5 and 15 years after OMT – showed a significant improvement in attention performance (selective and sustained) in the study group (N=14) compared to control (N=14) after 4 weekly treatments (Accorsi et al 2014).

AUTISM

As confirmed by preliminary evidence, children with autism may benefit from OMT. After 6 weeks of treatment, a group 49 autistic children obtained a significant improvement in gastrointestinal functions, as well as in appetite and eye contact, as measured by questionnaires on social-communicative interaction and gastrointestinal disorders (Bramati-Castellarin et al 2016.

ADEQUATE OSTEOPATHIC TRAINING

We hereby recommend that pediatricians cooperate only with DO osteopaths who completed a proper five-year training and subsequently attended further post-graduate and/or training courses in pediatrics.
Current recommendations by the WHO indicate that students possessing a high-school diploma should attend an appropriate training course before obtaining an osteopathic diploma, envisaging at least 4,500 hours of lesson, at least 1,000 of which should be dedicated to clinical practice under supervision.
We would also deem it beneficial if Medical Doctors specialized in Pediatrics followed further training courses in osteopathy.