

Acupuncture Use in Pediatric Disease: A Short Review

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Abstract

Acupuncture is increasingly used in children; however, the safety of pediatric acupuncture has yet to be reported from systematic review. Acupuncture has become a dominant complementary and alternative modality in clinical practice today but its associated risk has been questioned. The National Institutes of Health Consensus Statement states “one of the advantages of acupuncture is that the incidence of adverse effects is substantially lower than that of many drugs or other accepted procedures for the same conditions.

Keywords: Acupuncture, Children, Pediatrics disease.

Introduction

Complementary and alternative medicine (CAM) therapies have become increasingly popular in pediatric populations. Yet, little is known about children's preferences for CAM. This topic will provide an overview of the use of CAM therapies in pediatrics. The percentage of general pediatric patients using CAM care increased. Chiropractors, acupuncturists, naturopaths, and massage therapists are the professional CAM providers most often used by children (1-3).

What is CAM, CM, AT, IM ?

CAM: Is a group of diverse medical and health care systems, practices, and products that are not generally considered to be part of conventional medicine.

Complementary Medicine (CM): Is used together with conventional medicine.

Alternative Medicine (AM): Is used in place of conventional medicine.

Integrative Medicine (IM):

Combines treatments from conventional medicine and CAM for which there is evidence of safety and effectiveness.

CAM THERAPIES:

The number and types of complementary and alternative medicine (CAM) therapies and professionals who practice CAM continue to grow (Table 1).

These professionals include:

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Table 1: The number and types of complementary and alternative medicine (CAM) therapies

Alternative Medical Systems	Ayurveda, Chinese (Acupuncture), Homeopathy, Naturopathy
Mind-Body Interventions	Cognitive-behavioral approaches, meditation, hypnosis, dance, music, art therapy, prayer, mental healing
Biological Base Therapies	Dietary supplements, herbs, orthomolecular (vitamins),
Manipulative	Chiropractic, osteopathic manipulation, massage
Energy Therapies	Qi gong, Reiki, therapeutic touch

Acupuncture has been used therapeutically in China for thousands of years and is growing in prominence in Europe and the United States (4). Acupuncture, a component of traditional Chinese medicine, is based upon the theory of a vital energy or chi (qi) that circulates through the body in channels called meridians. Disease occurs when the flow of vital energy is disrupted or blocked. Health returns when the flow is restored, balanced, and harmonized. Acupuncture restores the flow of vital energy through stimulation of specific points along the energy meridians. Most acupuncturists rarely treat children; less than 10 percent of acupuncturists see three or more children per week. Most acupuncturists who treat children use special techniques, including non-needle methods (eg, heat, magnets, lasers, and vigorous massage or tapping) to stimulate points along the energy meridians.

In pediatrics, acupuncture can be used to treat most acute conditions (i.e. fever, upper respiratory infections, ear infections, acute wheezing, allergies, headaches, gastroenteritis), as well as a variety of chronic conditions (i.e. infant colic/reflux, weakened immune system, chronic urticaria, eczema, constipation, asthma, failure to thrive). There is general consensus that acupuncture is safe if performed by appropriately trained practitioners, and no distinction has been made between adults and children in this conclusion (5-7).

Materials and Methods

We searched Medline, Embase, Cochrane Library, Scopus, all from time of inception to 2013. The search terms used were “Acupuncture, acupuncture therapy, pediatrics, infant, neonate, newborn, child, and adolescent.” Only randomized controlled clinical trials, meta-analysis reviews, and systematic reviews were included. We did not include nonrandomized trials, case series, or case reports. We sorted published material on the basis of their indications and included the most significant, pertinent, and recent data for review.

Gastrointestinal Disorders

Acupuncture is thought to be applicable in treating gastrointestinal (GI) disorders because it conceivably alters GI motility, acid secretion, and visceral pain (8). 1. Use acupuncture to treat functional constipation: study protocol for a randomized controlled trial (Ying Li and al):

Functional constipation

Is a common disease, both in adult s and in children. The prevalence in children ranges from (0.7%) to (29.6%). Several therapies (such as lifestyle changes, osmotic agents, bulking agents, and so on) (9,10) have been used in clinical practice, which is believed to be helpful in relieving symptoms. Nonetheless, many of these therapies were not proven to be effective for the

condition, or were difficult to tolerate because of adverse events (11-13). Results of several randomized controlled trials (RCTs) showed that acupuncture may be an effective treatment for functional constipation, by improving frequency and time of defecation, and the patient's quality of life (14-16). The result of this above trial (which will be available in 2012) will confirm whether acupuncture is effective to treat functional constipation and whether traditional acupuncture theories play an important role in it. However, convincing evidence for the effectiveness of treating functional constipation with acupuncture is still inadequate, due to the poor quality of current studies.

2. Nausea and Vomiting

In traditional Chinese medicine, the acupoint P6 (Neiguan) of the Pericardium Meridian is commonly known to control symptoms of nausea and vomiting (16). P6 is located 2 cun above the transverse crease of the wrist, between the tendons of palmaris longus and flexor radialis. Some evidence shows acupressure may be effective in controlling chemotherapy-induced nausea and after postoperative procedures with local or systemic anesthesia. A cochrane database systematic review of 26 trials showed significant reduction in the risk of nausea with P6 stimulation compared with sham treatment groups, without prophylaxis medication (RR=0.72, 95% CI= 0.59–0.89) (18).

Neurologic Disorders

1. Nocturnal enuresis is the involuntary loss of urine at a developmental age of 5 years. A Cochrane review by Glazener et al found that acupuncture seems to offer some benefits over sham acupuncture and a combination of drug therapies, but too few study participants render conclusions on efficacy difficult to make (19). 2. With many neurologic disorders, insufficient

information is available for adult populations and very little, if any, data relevant to pediatrics. Acupuncture shows some promise for depression, anxiety, cerebral palsy, neuropathy, and visual impairment, but limited information is available to date. Preliminary information shows acupuncture may be effective in relieving chronic headaches and migraines. In a randomized controlled trial by Allais et al (20), 150 women received no treatment for 2 months (run-in period) and were then treated with acupuncture or with an oral course of flunarizine (a common drug used for migraine therapy) for 6 months.

Pain

One of the most common applications of acupuncture in children and teenagers is in managing pain. The most common causes of chronic pain in children are headache, abdominal pain, back pain, chest pain, and cancer pain (21). Most systematic reviews have found current research for the acupuncture's efficacy for pain relief insufficient because of inadequate methodologic quality, sample size, and controls (22-25).

Cancer

For cancer patients, pain becomes a dominant physical and psychologic symptom. Acupuncture is also being researched in combination with other complementary therapies, such as massage and hypnosis, to treat pain. Acupuncture does seem to have some efficacy in pain, but investigations specifically targeting the pediatric population need to be carried out.

Conclusions

Overall, acupuncture is applicable to the pediatric population. There are conditions in which acupuncture has been proven to be effective when treating adults, but there is a clear need for further information about pediatrics. The safety of acupuncture is a serious concern, particularly in pediatrics. We hope that this and other studies will

expand our knowledge about the role and efficacy of acupuncture in pediatrics and stimulate additional investigations in the field.

References

1. Eisenberg DM, Cohen MH, Hrbek A. Credentialing complementary and alternative medical providers. *Ann Intern Med* 2002; 137(12):965-973.
2. United States Department of Labor. Bureau of Labor Statistics. Occupational Outlook Handbook. <http://www.bls.gov/ooh/> (Accessed on August 26, 2013).
3. Noras MR, Yousefi M, Kiani MA. Complementary and Alternative Medicine (CAM) Use in Pediatric Disease: A Short Review. *International J of Pediatrics* 2013;1(2): 45-9.
4. Spigelblatt L. Alternative medicine: A pediatric conundrum. *Contemp Pediatr* 1997; 14(1):51-61.
5. Kaptchuk TJ, Eisenberg DM. The persuasive appeal of alternative medicine. *Ann Intern Med* 1998 Dec 15;129(12):1061-5.
6. Astin JA. Why patients use alternative medicine: results of a national study. *JAMA* 1998 May 20;279(19):1548-53.
7. Lee AC, Li DH, Kemper KJ. Chiropractic care for children. *Arch Pediatr Adolesc Med* 2000 Apr;154(4):401-7.
8. Takahashi T. Acupuncture for functional gastrointestinal disorders. *J Gastroenterol* 2006; 41(5):408-17.
9. Gordon M, Naidoo K, Akobeng AK, Thomas AG. Osmotic and stimulant laxatives for the management of childhood constipation. *Cochrane Database Syst Rev* 2012;7: C D009118.
10. Speed C, Heaven B, Adamson A, Bond J, Corbett S, Lake AA, et al. LIFELAX - diet and LIFeStyle versus LAXatives in the management of chronic constipation in older people: randomised controlled trial. *Health Technol Assess* 2010;14(52):1-251.
11. Pare P, Bridges R, Champion MC, Ganguli SC, Gray JR, Irvine EJ, et al. Recommendations on chronic constipation (including constipation associated with irritable bowel syndrome) treatment. *Can J Gastroenterol* Apr 2007; 21(Suppl B): 3B-22B.
12. Ford AC, Suares NC. Effect of laxatives and pharmacological therapies in chronic idiopathic constipation: systematic review and meta-analysis. *Gut*. 2011;60(2):209-18.
13. Wong SW, Lubowski DZ. Slow-transit constipation: evaluation and treatment. *ANZ J Surg* 2007; 77(5):320-8.
14. Ouyang H, Chen JD: Review article: therapeutic roles of acupuncture in functional gastrointestinal disorders. *Aliment Pharmacol Ther* 2004; 20(8):831-41.
15. Guerra PV, Lima LN, Souza TC, Mazochi V, Penna FJ, Silva AM, et al. Randomized controlled study on chronic functional constipation treated with grain-shaped moxibustion and acupuncture. *J Pediatr* 2012; 161(4):710-5.e1.
16. Jin X, Ding YJ, Wang LL, Ding SQ, Shu L, Jiang YW, et al. Clinical study on acupuncture for treatment of chronic functional constipation. *Zhongguo Zhen Jiu* 2010;30(2):97-101. Chinese.
17. Ezzo JM, Richardson MA, Vickers A, Allen C, Dibble SL, Issell BF, et al. Acupuncture-point stimulation for chemotherapy-induced nausea or vomiting. *Cochrane Database Syst Rev*. 2006; (2): CD002285.
18. Lee A, Fan LT. Stimulation of the wrist acupuncture point P6 for preventing postoperative nausea and vomiting. *Cochrane Database Syst Rev* 2009; (2):CD003281.
19. Glazener CM1, Evans JH, Cheuk DK. Complementary and miscellaneous interventions for nocturnal enuresis in children. *Cochrane Database Syst Rev*. 2005; (2): CD005230.
20. Allais G1, De Lorenzo C, Quirico PE, Airola G, Tolardo G, Mana O, et al. Acupuncture in the prophylactic treatment of migraine without aura: a comparison with flunarizine. *Headache* 2002; 42(9):855-61.
21. Suresh S. Chronic and cancer pain management. *Curr Opin Anaesthesiol* 2004;17 (3): 253-59.
22. Vas J, Perea-Milla E, Méndez C, Sánchez Navarro C, León Rubio JM, Brioso M, et al. Efficacy and safety of acupuncture for chronic uncomplicated neck pain: a randomised controlled study. *Pain* 2006; 126(1-3):245-55.
23. Smith LA, Oldman AD, McQuay HJ, Moore RA. Teasing apart quality and validity in systematic reviews: an example from acupuncture trials in chronic neck and back pain. *Pain* 2000; 86(1-2):119-32.
24. Furlan AD, van Tulder M, Cherkin D, Tsukayama H, Lao L, Koes B, et al. Acupuncture and dry-needling for low back pain: an updated systematic review within the framework of the Cochrane collaboration. *Spine* 2005; 30(8):944-63.
25. Noras MR, Kiani MA. Viewpoints of Traditional Iranian Medicine (TIM) about Etiology of Pediatric Constipation. *International J of Pediatrics* 2014;2(1): 89-92.