



Sample of selected research on yoga interventions with children

Primary school aged children research

Reviews

Birdee, Gurjeet S. Yeh, Gloria Y. Wayne, Peter M. Phillips, Russell S. Davis, Roger B. Gardiner, Paula.

Division for Research and Education in Complementary and Integrative Medical Therapies, Harvard Medical School, 401 Park Drive, Suite 22-AWest, Boston, Massachusetts 02215, USA. gurjeet_birdee@hms.harvard.edu

Clinical applications of yoga for the pediatric population: a systematic review. [Review] [53 refs]

Academic pediatrics. 9(4):212-220.e1-9, 2009 Jul-Aug

OBJECTIVE: The aim of this study was to evaluate the evidence for clinical applications of yoga among the pediatric population.

We conducted an electronic literature search including CINAHL, Cochrane Central Register of Controlled Trials (CENTRAL), EMBASE, Medline, PsycINFO, and manual search of retrieved articles from inception of each database until December 2008. Randomized controlled trials (RCTs) and nonrandomized controlled trials (NRCTs) were selected that included yoga or yoga-based interventions for individuals aged 0 to 21 years. Data were extracted and articles critically reviewed using a modified Jadad score and descriptive methodological criteria, with summarization in tables.

RESULTS:

Thirty-four controlled studies published from 1979 to 2008 were identified, with 19 RCTs and 15 NRCTs. Many studies were of low methodological quality.

Clinical areas for which yoga has been studied include **physical fitness, cardiorespiratory effects, motor skills/strength, mental health and psychological disorders, behavior and development, irritable bowel syndrome, and birth outcomes following prenatal yoga**. No adverse events were reported in trials reviewed. Although a large majority of studies were positive, methodological limitations such as randomization methods, withdrawal/dropouts, and details of yoga intervention preclude conclusive evidence.

There are limited data on the clinical applications of yoga among the pediatric population. Most published controlled trials were suggestive of benefit, but results are preliminary based on low quantity and quality of trials. Further research of yoga for children by using a higher standard of methodology and reporting is warranted.



Brands MM. Purperhart H. Deckers-Kocken JM. **A pilot study of yoga treatment in children with functional abdominal pain and irritable bowel syndrome. Complementary Therapies in Medicine.**

19(3):109-14, 2011 Jun.[Clinical Trial.

Journal Article] OBJECTIVES: The aim of this pilot study was to evaluate the effect of yoga exercises on pain frequency and intensity and on quality of life in children with functional abdominal pain.

DESIGN: 20 children, aged 8-18 years, with irritable bowel syndrome (IBS) or functional abdominal pain (FAP) were enrolled and received 10 yoga lessons. Pain intensity and pain frequency were scored in a pain diary and quality of life was measured with the Kidscreen quality of life questionnaire (KQoL).

RESULTS:

In the 8-11 year old group and the 11-18 year old group pain frequency was significantly decreased at the end of therapy ($p=0.031$ and $p=0.004$) compared to baseline. In the 8-11 year group pain intensity was also significantly decreased at this time point ($p=0.015$). After 3 months there still was a significant decrease in pain frequency in the younger patient group ($p=0.04$) and a borderline significant decrease in pain frequency in the total group ($p=0.052$). Parents reported a significantly higher KQoL-score after yoga treatment.

CONCLUSION: This pilot study suggests that yoga exercises are effective for children aged 8-18 years with FAP, resulting in significant reduction of pain intensity and frequency, especially in children of 8-11 years old. Copyright 2011 Elsevier Ltd. All rights reserved.



Chaya MS. Nagendra H. Selvam S. Kurpad A. Srinivasan K.

Effect of yoga on cognitive abilities in schoolchildren from a socioeconomically disadvantaged background: a randomized controlled study.

Journal of Alternative & Complementary Medicine. 18(12):1161-7, 2012 Dec. [Comparative Study. Journal Article. Randomized Controlled Trial. Research Support, Non-U.S. Gov't]

OBJECTIVE: The objective of this study was to assess the effect of yoga, compared to physical activity on the cognitive performance in 7-9 year-old schoolchildren from a socioeconomic disadvantaged background.

DESIGN: Two hundred (200) schoolchildren from Bangalore, India, after baseline assessment of cognitive functioning were randomly allocated to either a yoga or a physical-activity group. **Cognitive functions (attention and concentration, visuo-spatial abilities, verbal ability, and abstract thinking)** were assessed using an Indian adaptation of the Wechsler Intelligence Scale for Children at baseline, after 3 months of intervention, and later at a 3-month follow-up.

RESULTS:

Of the 200 subjects, 193 were assessed at 3 months after the study, and then 180 were assessed at the 3-month follow-up. There were no significant differences in cognitive performance between the two study groups (yoga versus physical activity) at postintervention, after controlling for grade levels. Improvement in the mean scores of cognitive tests following intervention varied from 0.5 (Arithmetic) to 1.4 (Coding) for the yoga group and 0.7 (Arithmetic) to 1.6 (Vocabulary) in the physical-activity group.

CONCLUSIONS: Yoga was as effective as physical activity in improving cognitive performance in 7-9 year old schoolchildren. Further studies are needed to examine the dose-response relationship between yoga and cognitive performance.