

Demographic profile of chiropractors who treat children: A multinational survey

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ABSTRACT

Objective: The purpose of this study was to survey the demographic profile and educational background of chiropractors with pediatric patients on a multinational scale. **Methods:** A multinational online cross-sectional demographic survey conducted over a 15-day period in July 2010. The survey was electronically administered via chiropractic associations in 17 countries, using SurveyMonkey for data acquisition, transfer, and descriptive analysis. **Results:** The response rate was 10.1%, and 1498 responses were received from 17 countries on 6 continents. Of these, 90.4% accepted pediatric cases. The average practitioner was male (61.1%) and 41.4 years old, had 13.6 years in practice, and saw 107 patient visits per week. Regarding educational background, 63.4% had a bachelor's degree or higher in addition to their chiropractic qualification, and 18.4% had a postgraduate certificate or higher in pediatric chiropractic. **Conclusion:** This is the first study about chiropractors who treat children from the United Arab Emirates, Peru, Japan, South Africa, and Spain. Although the response rate was low, the results of this multinational survey suggest that pediatric chiropractic care may be a common component of usual chiropractic practice on a multinational level for these respondents.

The safety of spinal manipulative therapy in children under 10 years: a rapid review

Corso M., Cancelliere C., Mior S., Taylor-Vaisey A., Côté P

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ABSTRACT

INTRODUCTION: The safety of spinal manipulative therapy (SMT) in children is controversial. We were mandated by the College of Chiropractors of British Columbia to review the evidence on this issue. **OBJECTIVES:** We conducted a rapid review of the safety of SMT in children (<10 years). We aimed to: 1) describe adverse events; 2) report the incidence of adverse events; and 3) determine whether SMT increases the risk of adverse events compared to other interventions. **EVIDENCE REVIEW:** We searched MEDLINE, CINAHL, and Index to Chiropractic Literature from January 1, 1990 to August 1, 2019. We used rapid review methodology recommended by the World Health Organization. Eligible studies (case reports/series, cohort studies and randomized controlled trials) were critically appraised. Studies of high and acceptable methodological quality were included. The lead author extracted data. Data extraction was independently validated by a second reviewer. We conducted a qualitative synthesis of the evidence. **FINDINGS:** Most adverse events are mild (e.g., increased crying, soreness). One case report describes a severe adverse event (rib fracture in a 21-day-old) and another an indirect harm in a 4-month-old. The incidence of mild adverse events ranges from 0.3% (95% CI: 0.06, 1.82) to 22.22% (95% CI: 6.32, 54.74). Whether SMT increases the risk of adverse events in children is unknown. **CONCLUSION:** The risk of moderate and severe adverse events is unknown in children treated with SMT. It is unclear whether SMT increases the risk of adverse events in children <10 years.

KEYWORDS: Adverse event; Child; Pediatric; Safety; Spinal manipulation; Spinal mobilization.

Chiropractic care of the pregnant woman and neonate

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Full article can be accessed by requesting a copy at: https://www.researchgate.net/publication/332827266_Chiropractic_care_of_the_pregnant_woman_and_neonate

ABSTRACT

The history and values of the chiropractic profession are part of the complementary and alternate medicine model. Chiropractic care in pregnancy is used for relief of back pain, turning breech presenting fetuses, and treatment of colic, breastfeeding and constipation issues in the neonate.

Added sugars intake among US infants and toddlers

Herrick KA, Fryar CD, Hamner HC, Park S, Ogden CL.

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ABSTRACT

BACKGROUND: Limited information is available on added sugars consumption in US infants and toddlers. **OBJECTIVES:** To present national estimates of added sugars intake among US infants and toddlers by sociodemographic characteristics, to identify top sources of added sugars, and to examine trends in added sugars intake. **DESIGN:** Cross-sectional analysis of 1 day of 24-hour dietary recall data. **PARTICIPANTS/SETTING:** A nationally representative sample of US infants aged 0 to 11 months and toddlers aged 12 to 23 months (n=1,211) during the period from 2011 through 2016 from the National Health and Nutrition Examination Survey. Trends were assessed from 2005-2006 through 2015-2016 (n=2,795). **MAIN OUTCOME MEASURES:** Among infants and toddlers, the proportion consuming any added sugars, the average amount of added sugars consumed, percent of total energy from added sugars, and top sources of added sugars intake. **STATISTICAL ANALYSIS:** Paired t tests were used to compare differences by age, sex, race/Hispanic origin, family income level, and head of household education level. Trends were tested using orthogonal polynomials. Significance was set at P<0.05. **RESULTS:** During 2011 to 2016, 84.4% of infants and toddlers consumed added sugars on a given day. A greater proportion of toddlers (98.3%) consumed added sugars than infants (60.6%). The mean amount of added sugars toddlers consumed was also more compared with infants (5.8 vs 0.9 tsp). Non-Hispanic black toddlers (8.2 tsp) consumed more added sugars than non-Hispanic Asian (3.7 tsp), non-Hispanic white (5.3 tsp), and Hispanic (5.9 tsp) toddlers. A similar pattern was observed for percent energy from added sugars. For infants, top sources of added sugars were yogurt, baby food snacks/sweets, and sweet bakery products; top sources among toddlers were fruit drinks, sugars/sweets, and sweet bakery products. The mean amount of added sugars decreased from 2005-2006 through 2015-2016 for both age groups; however, percent energy from added sugars only decreased among infants. **CONCLUSION:** Added sugars intake was observed among infants/toddlers and varied by age and race and Hispanic origin. Added sugars intake, as a percent of energy, decreased only among infants from 2005 to 2016.

KEYWORDS: Added sugars; Infants; Nutrition; Survey; Toddlers

Clinical consensus statement: Ankyloglossia in children

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Otolaryngology—Head and Neck Surgery, <https://doi.org/10.1177/0194599820915457>

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ABSTRACT

Objective: To identify and seek consensus on issues and controversies related to ankyloglossia and upper lip tie in children by using established methodology for American Academy of Otolaryngology—Head and Neck Surgery clinical consensus statements. **Methods:** An expert panel of pediatric otolaryngologists was assembled with nominated representatives of otolaryngology organizations. The target population was children aged 0 to 18 years, including breastfeeding infants. A modified Delphi method was used to distill expert opinion into clinical statements that met a standardized definition of consensus, per established methodology published by the American Academy of Otolaryngology—Head and Neck Surgery. **Results:** After 3 iterative Delphi method surveys of 89 total statements, 41 met the predefined criteria for consensus, 17 were near consensus, and 28 did not reach consensus. The clinical statements were grouped into several categories for the purposes of presentation and discussion: ankyloglossia (general), buccal tie, ankyloglossia and sleep apnea, ankyloglossia and breastfeeding, frenotomy indications and informed consent, frenotomy procedure, ankyloglossia in older children, and maxillary labial frenulum. **Conclusion:** This expert panel reached consensus on several statements that clarify the diagnosis, management, and treatment of ankyloglossia in children 0 to 18 years of age. Lack of consensus on other statements likely reflects knowledge gaps and lack of evidence regarding the diagnosis, management, and treatment of ankyloglossia. Expert panel consensus may provide helpful information for otolaryngologists treating patients with ankyloglossia.

Keywords: ankyloglossia, tongue-tie, lip tie, frenotomy, frenuloplasty, lingual frenulum, frenectomy, frenulotomy, frenuloplasty, maxillary labial frenulum, maxillary frenotomy, breastfeeding.

The role of nutrition in asthma prevention and treatment

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ABSTRACT

Asthma is a chronic respiratory condition characterized by airway inflammation and hyperreactivity. Prevalence has continued to rise in recent decades as Western dietary patterns have become more pervasive. Evidence suggests that diets emphasizing the consumption of plant-based foods might protect against asthma development and improve asthma symptoms through their effects on systemic inflammation, oxidation, and microbial composition. Additionally, increased fruit and vegetable intake, reduced animal product consumption, and weight management might mediate cytokine release, free radical damage, and immune responses involved in the development and course of asthma. The specific aim of this review paper is to examine the current literature on the associations between dietary factors and asthma risk and control in children and adults. Clinical trials examining the mechanism(s) by which dietary factors influence asthma outcomes are necessary to identify the potential use of nutritional therapy in the prevention and management of asthma.

KEYWORDS: asthma, diet, inflammation, plant-based, vegan.

The effects of early nutritional interventions on the development of atopic disease in infants and children: The role of maternal dietary restriction, breastfeeding, hydrolyzed formulas, and timing of introduction of allergenic complementary foods

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Full paper Accessed at: <https://pediatrics.aappublications.org/content/143/4/e20190281>

ABSTRACT

This clinical report updates and replaces a 2008 clinical report from the American Academy of Pediatrics, which addressed the roles of maternal and early infant diet on the prevention of atopic disease, including atopic dermatitis, asthma, and food allergy. As with the previous report, the available data still limit the ability to draw firm conclusions about various aspects of atopy prevention through early dietary interventions. Current evidence does not support a role for maternal dietary restrictions during pregnancy or lactation. Although there is evidence that exclusive breastfeeding for 3 to 4 months decreases the incidence of eczema in the first 2 years of life, there are no short- or long-term advantages for exclusive breastfeeding beyond 3 to 4 months for prevention of atopic disease. The evidence now suggests that any duration of breastfeeding ≥ 3 to 4 months is protective against wheezing in the first 2 years of life, and some evidence suggests that longer duration of any breastfeeding protects against asthma even after 5 years of age. No conclusions can be made about the role of breastfeeding in either preventing or delaying the onset of specific food allergies. There is a lack of evidence that partially or extensively hydrolyzed formula prevents atopic disease. There is no evidence that delaying the introduction of allergenic foods, including peanuts, eggs, and fish, beyond 4 to 6 months prevents atopic disease. There is now evidence that early introduction of peanuts may prevent peanut allergy.

Pediatric Spine Disorders

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ABSTRACT

Pediatric spine disorders are numerous and are quite different when compared with the adult population. This article focuses on some of the more common pediatric spine disorders. This article summarizes such disorders and discusses typical treatment options in the pediatric orthopedic armamentarium.

KEYWORDS: Adolescent idiopathic scoliosis; Back pain; Congenital scoliosis; Early onset scoliosis; Juvenile scoliosis; Scheurmann kyphosis; Spondylolisthesis; Spondylolysis.

Effectiveness of craniosacral therapy in the treatment of infantile colic. A randomized controlled trial

Castejón-Castejón M, Murcia-González MA, Martínez Gil JL, Todri J, Suárez Rancel M, Lena O4, Chillón-Martínez R. *Complement Med Ther.*, December, 2019 doi:[10.1016/j.ctim.2019.07.023](https://doi.org/10.1016/j.ctim.2019.07.023). Epub 2019 Aug 13. Copyright © 2019. Published by Elsevier Ltd.

ABSTRACT

OBJECTIVES: To determine the effectiveness of Craniosacral Therapy (CST) for the treatment of infantile colic. **MATERIAL AND METHODS:** This randomized controlled trial was conducted on 58 infants, aged 0-84 days, diagnosed with infantile colic. The babies received a 30-40 minute CST session once a week (experimental group) or no treatment (control group). Babies in the CST group received either 1, 2 or 3 CST sessions over a 14-day period. Data were collected at 4 different times over the 24-day period, day 0 (baseline), day 7, day 14 and day 24. Crying (primary outcome) and sleep (secondary outcome) were evaluated using a crying and sleep diary, and colic severity was measured using the Infant Colic Severity Questionnaire (secondary outcome). **RESULTS:** There was a statistically significant difference between groups (CST and control) in crying hours ($F = 188.47$; $p < 0.0005$; $\eta^2 = 0.78$), sleep hours ($F = 61.20$; $p < 0.0005$, $\eta^2 = 0.54$) and colic severity ($F = 143.74$; $p < 0.0005$, $\eta^2 = 0.73$) across all the time points. In comparison with the control group, CST babies reported significant and clinically relevant effects in crying hours on day 7 (-2.47 h (95%CI, -2.95 to -1.99); $p < 0.0005$; $d = 1.73$), on day 14 (-3.29 h (95%CI, -3.7 to -2.8); $p < 0.0005$; $d = 2.87$) and on day 24 (-3.20 h (95%CI, -3.7 to -2.6); $p < 0.0005$; $d = 2.54$); in sleep hours on day 7 (-2.47 h (95%CI, -2.95 to -1.99); $p < 0.0005$; $d = 1.73$) on day 14 (-3.29 h (95%CI, -3.7 to -2.8); $p < 0.0005$; $d = 2.87$) and on day 24 (-3.20 h (95%CI, -3.7 to -2.6); $p < 0.0005$; $d = 2.54$). **CONCLUSIONS:** Craniosacral therapy appears to be effective and safe for infantile colic by reducing the number of crying hours, the colic severity and increasing the total hours of sleep.

Surface Electromyographic Analysis of the Suprahyoid Muscles in Infants Based on Lingual Frenulum Attachment during Breastfeeding

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ABSTRACT

Muscle electrical activity analysis can aid in the identification of oral motor dysfunctions, such as those resulting from an altered lingual frenulum, which consequently impairs feeding. Here, we aim to analyze the suprahyoid muscle electrical activity of infants via surface electromyography, based on lingual frenulum attachment to the sublingual aspect of the tongue and floor of the mouth during breastfeeding. In the present study, we have studied full-term infants of both genders, aged between 1 and 4 months old. The mean muscle activities were recorded in microvolts and converted into percent values of the reference value. Associations between the root mean square and independent variables were tested by one-way analysis of variance and Student's t-test, with a significance level of 5% and test power of 95%, respectively. We evaluated 235 infants. Lower mean muscle electrical activity was observed with the lingual frenulum attached to apex/lower alveolar ridge, followed by attachment to the middle third/lower alveolar ridge, and between the middle third and apex/lower alveolar ridge. Greater suprahyoid muscle activity was observed with lingual frenulum attachment to the middle third of the tongue/sublingual caruncles, showing a coordination between swallowing, sucking, and breathing. Surface electromyography is effective in diagnosing lingual frenulum alterations, the attachment points of which raises doubt concerning the restriction of tongue mobility. Thus, it is possible to identify oral motor dysfunctions. View Full-Text

Keywords: lingual frenulum; tongue tie; electromyography; suprahyoid muscles; breastfeeding.

Milk and Health

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New England Journal of Medicine, <https://www.nejm.org/doi/full/10.1056/NEJMra1903547>

ABSTRACT

This review summarizes the evidence for the benefits and possible risks associated with consumption of cow's milk. The authors describe the relationship of milk consumption to the risks of fracture, obesity, cardiovascular disease, allergies, and various cancers.

Breakfast consumption, family breakfast, and adiposity trajectory in adolescence – The adolescent nutritional assessment longitudinal cohort study

Hassan BK, Cunha DB, da Veiga GV, Pereira RA, Hoffman DJ and Sichieri R.

J Acad Nutr Diet., 2019 Jun;119(6):944-956. doi:[10.1016/j.jand.2018.11.014](https://doi.org/10.1016/j.jand.2018.11.014). Epub 2019 Feb 8

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ABSTRACT

Background: The relationship between breakfast and family breakfast and adiposity gain during adolescence remains inconclusive. **OBJECTIVE:** This study aimed to investigate the relationship between breakfast and family breakfast frequency and adiposity trajectory in adolescence. **DESIGN:** Prospective cohort study with middle school students aged 10 to 16 years enrolled in 2010 (baseline) and followed for 3 years. **PARTICIPANTS/SETTING:** A total of 945 students from two public and four private schools in the metropolitan area of Rio de Janeiro were included. Among 945 students, 809 participated in the study at baseline. Pregnant or lactating students and those with physical or mental disabilities were excluded. **MAIN OUTCOME MEASURES:** Body mass index (BMI) was assessed by measuring the participants' weight and height, and percent body fat (%BF) was assessed by performing bioelectrical impedance analysis. **STATISTICAL ANALYSES PERFORMED:** Linear mixed-effect models were used to examine the relationship between baseline and persistence of breakfast consumption and family breakfast over a 3-year period and change in BMI and %BF. Breakfast and family breakfast were assessed by questions on frequency of consumption. Both variables were classified as regular, intermediate, and no consumption at baseline. Persistence was divided into persistently regular, persistently irregular, changing from regular to irregular, and contrariwise. **RESULTS:** Overall, frequent breakfast consumption and family breakfast did not have protective effects against adiposity. At baseline, these behaviors were associated with low BMI and %BF among girls. During follow-up, these behaviors and persistence of regular breakfast consumption were associated with an increase in %BF ($P < 0.05$). In boys, those who increased or decreased family breakfast frequency had greater decrease in %BF compared with those persistently regular at both time points. **CONCLUSION:** Breakfast had no consistent relationship with adolescence adiposity trajectory, which is in line with the results of experimental studies and in contrast with those of many cross-sectional studies.

KEYWORDS: Adiposity; Adolescents; Breakfast frequency; Cohort studies; Family breakfast frequency.

Adherence to timely vaccinations in the United States

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ABSTRACT

OBJECTIVES: To estimate (1) the proportion of children not adhering to the Advisory Committee on Immunization Practices (ACIP) recommended early childhood immunization schedule and (2) associations between schedule adherence, sociodemographic characteristics, and up-to-date immunization status by 19 to 35 months of age. **METHODS:** We used 2014 National Immunization Survey provider-verified vaccination data to classify vaccination patterns as “recommended” (ie, in line with ACIP dose- and age-specific recommendations), “alternate” (ie, in line with either limiting the number of shots per visit or skipping at least 1 vaccine series), or “unknown or unclassifiable” (ie, not in line with ACIP recommendations or clearly limiting shots per visit or vaccine series). We evaluated the association between vaccination patterns and up-to-date status for all ACIP-recommended vaccinations (including rotavirus and hepatitis A vaccines) using Poisson regression. **RESULTS:** The majority of children's patterns were classified as “recommended” (63%), with 23% and 14% following alternate or unknown or unclassifiable patterns, respectively; 58% of children were up-to-date with all ACIP-recommended immunizations by 19 to 35 months. Not being up-to-date was associated with alternate (prevalence ratio = 4.2, 95% confidence interval: 3.9–4.5) and unknown or unclassifiable (prevalence ratio = 2.4, 95% confidence interval: 2.2–2.7) patterns. **CONCLUSIONS:** High vaccine coverage by 19 to 35 months of age may miss nonadherence to the recommended immunization schedule in the first 18 months of life, leaving children vulnerable to preventable diseases. With more than one-third of US children not following the ACIP schedule, targeted interventions are needed to minimize vaccine delays and disease susceptibility

Changes in motor skill proficiency after equine-assisted activities and brain-building tasks in youth with neurodevelopmental disorders

B. Rhett Rigby, Ronald W. Davis, Melissa D. Bittner, Robin W. Harwell, Eileen J. Leek, Geoben A. Johnson and David L. Nichols
Front. Vet. Sci., 31 January 2020 <https://doi.org/10.3389/fvets.2020.00022>

ABSTRACT

There is a lack of current research to support the efficacy of a combination of equine-assisted activities (EAA) and brain building activities to influence motor skill competencies in youth with neurodevelopmental disorders (ND). The primary objective of this study was to quantify changes in motor skill proficiency before and after 8 weeks of EAA and brain-building activities in youth with ND. A secondary objective was to quantify changes in motor skill proficiency before and after 1 year of EAA and brain-building activities in youth with ND. Twenty-five youth completed the same 32-week protocol that was separated into 4, 8-week blocks, in the following order: (1) control; (2) EAA-only; (3) washout; (4) GaitWay block (EAA and brain building activities). Before and after each block, motor skills were assessed using the Short Form of the Bruininks-Oseretsky Test of Motor Proficiency-Version 2 (BOT-2). Seven youth continued with the GaitWay intervention for one additional year, and the BOT-2 Short Form was also administered following this intervention. A repeated-measures analysis-of-variance was performed to compare BOT-2 subtest and overall scores between interventions with a significance of 0.05. Manual dexterity was higher at Post-Washout [3.3 (2.4)] vs. Pre-Control [2.2 (2.1); $p = 0.018$] and Post-Control [2.6 (2.0); $p = 0.024$], and at Post-GaitWay vs. Pre-Control [3.2 (2.4) vs. 2.2 (2.1); $p = 0.037$]. Upper-limb coordination was higher at Post-GaitWay vs. Post-Control [6.0 (4.1) vs. 3.9 (3.8); $p = 0.050$]. When compared to Pre-Control [3.2 (3.0)], strength was higher at Post-EAA [4.9 (3.5); $p = 0.028$] and at Post-GaitWay [5.2 (2.9); $p = 0.015$]. Overall scores were higher at Post-GaitWay [39.1 (22.2)] when compared to Pre-Control [32.4 (21.6); $p = 0.003$] and Post-Control [32.5 (21.9); $p = 0.009$]. Additionally, motor skills were maintained for 1 year following the Post-GaitWay testing session among seven participants. This is the first known study to include and demonstrate the short-term and long-term effects of a combination of EAA and brain building activities with motor proficiency in youth with ND.

Clinical Trial Registration: Motor Skill Proficiency After Equine-Assisted Activities and Brain-building Tasks; www.ClinicalTrials.gov, identifier: NCT04158960.

Dairy, soy, and risk of breast cancer: those confounded milks

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International Journal of Epidemiology, dyaa007, <https://doi.org/10.1093/ije/dyaa007>
 Published February 25, 2020.

ABSTRACT

Background: Associations between soy, dairy intakes and breast cancer risk are inconsistent. No studies exist with large numbers of dairy consumers and soy consumers to assess mutual confounding. **Methods:** The study cohort contains 52 795 North American women, initially free of cancer, followed for 7.9 years (29.7% were Black). Dietary intakes were estimated from food frequency questionnaires and, for 1011 calibration study subjects, from six structured 24-h dietary recalls. Incident invasive breast cancers were detected mainly by matching with cancer registries. Analyses used multivariable proportional hazards regression. **Results:** The participants (mean age of 57.1 years) experienced 1057 new breast cancer cases during follow-up. No clear associations were found between soy products and breast cancer, independently of dairy. However, higher intakes of dairy calories and dairy milk were associated with hazard ratios (HRs) of 1.22 [95% confidence interval (CI): 1.05–1.40] and 1.50 (95% CI 1.22–1.84), respectively, comparing 90th to 10th percentiles of intakes. Full fat and reduced fat milks produced similar results. No important associations were noted with cheese and yogurt. Substituting median intakes of dairy milk users by those of soy milk consumers was associated with HR of 0.68 (95% CI: 0.55–0.85). Similar-sized associations were found among pre- and post-menopausal cases, with CIs also excluding the null in estrogen receptor (ER+, ER-), and progesterone receptor (PR+) cancers. Less biased calibrated measurement-error adjusted regressions demonstrated yet stronger, but less precise, HRs and CIs that still excluded the null. **Conclusions:** Higher intakes of dairy milk were associated with greater risk of breast cancer, when adjusted for soy intake. Current guidelines for dairy milk consumption could be viewed with some caution.

KEYWORDS: Soy isoflavones, soy intake, meat analogues, soy milk, tofu, breast cancer, Western population.

Health impacts of early complementary food introduction between formula-fed and breastfed infants

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J Pediatr Gastroenterol Nutr. 2020 Mar;70(3):375-380. doi:[10.1097/MPG.0000000000002581](https://doi.org/10.1097/MPG.0000000000002581).

ABSTRACT

BACKGROUND: Global health agencies agree that infants should not be fed complementary foods before 4 to 6 months of age. However, given the World Health Organization (WHO) definition of complementary food as “anything other than breast milk,” little is known about the relative risks of formula compared with other complementary foods on infant health. This article aims to fill this gap in the literature, by assessing how differences in the timing of the introduction of nonformula complementary food between breastfed and formula-fed infants impacts infant health. **METHODS:** Eight health outcomes by complementary food introduction, breast-feeding, formula feeding, and mixed feeding (breastfed and formula-fed) were predicted using logistic regression with generalized estimating equations on the newborn through 6-month waves of the Infant Feeding Practices Study II (IFPS-II). **RESULTS:** Complementary foods increased the likelihood for all health risks measured. Given greater prevalence of early complementary food introduction among formula-fed infants, most health differences between breast-feeding groups shift to nonsignificance in full models, with the exception of higher rates of hard stool and cough/wheeze among formula-fed and mixed-fed infants but lower rates of diarrhea (LO=-0.577; 95% confidence interval [CI]=-1.074 to 0.080) and runny nose or cold (LO=-3.19; 95% CI=-0.552 to -0.086) for mixed-fed than breastfed infants. **CONCLUSIONS:** Our results confirm health benefits of exclusive breast-feeding and that the introduction of complementary foods before 4 to 6 months poses a greater risk to infant health than does formula. Greater attention to the early introduction of complementary foods is needed in research and clinical practice.

Therapeutic use of cannabis and cannabinoids: an evidence mapping and appraisal of systematic reviews

Montero-Oleas N, Arevalo-Rodríguez I, Nuñez-González S, Viteri-García A and Simancas-Racines D.

BMC Complementary Medicine and Therapies, 20, Article number: 12 (2020) <https://doi.org/10.1186/s12906-019-2803-2>

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ABSTRACT

Background: Although cannabis and cannabinoids are widely used with therapeutic purposes, their claimed efficacy is highly controversial. For this reason, medical cannabis use is a broad field of research that is rapidly expanding. Our objectives are to identify, characterize, appraise, and organize the current available evidence surrounding therapeutic use of cannabis and cannabinoids, using evidence maps. **Methods:** We searched PubMed, EMBASE, The Cochrane Library and CINAHL, to identify systematic reviews (SRs) published from their inception up to December 2017. Two authors assessed eligibility and extracted data independently. We assessed methodological quality of the included SRs using the AMSTAR tool. To illustrate the extent of use of medical cannabis, we organized the results according to identified PICO questions using bubble plots corresponding to different clinical scenarios. **Results:** A total of 44 SRs published between 2001 and 2017 were included in this evidence mapping with data from 158 individual studies. We extracted 96 PICO questions in the following medical conditions: multiple sclerosis, movement disorders (e.g. Tourette Syndrome, Parkinson Disease), psychiatry conditions, Alzheimer disease, epilepsy, acute and chronic pain, cancer, neuropathic pain, symptoms related to cancer (e.g. emesis and anorexia related with chemotherapy), rheumatic disorders, HIV-related symptoms, glaucoma, and COPD. The evidence about these conditions is heterogeneous regarding the conclusions and the quality of the individual primary studies. The quality of the SRs was moderate to high according to AMSTAR scores. **Conclusions:** Evidence on medical uses of cannabis is broad. However, due to methodological limitations, conclusions were weak in most of the assessed comparisons. Evidence mapping methodology is useful to perform an overview of available research, since it is possible to systematically describe the extent and distribution of evidence, and to organize scattered data.

KEYWORDS: Cannabinoids; Cannabis; Evidence mapping; Evidence synthesis; Medical marijuana.

Cow's milk substitutes for children: Nutritional aspects of milk from different mammalian species, special formula and plant-based beverages

Elvira Verduci [OrcID] , Sofia D'Elios, Lucia Cerrato, Pasquale Comberati [OrcID] , Mauro Calvani, Samuele Palazzo, Alberto Martelli, *Nutrients*. 2019 Aug; 11(8): 1739.

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Full paper Accessed at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6723250/>.

ABSTRACT

Cow's milk and dairy are commonly consumed foods in the human diet and contribute to maintaining a healthy nutritional state, providing unique sources of energy, calcium, protein, and vitamins, especially during early childhood. Milk formula is usually made from cow's milk and represents the first food introduced into an infant's diet when breastfeeding is either not possible or insufficient to cover nutritional needs. Very recently, increased awareness of cow's milk protein allergy and intolerance, and higher preference to vegan dietary habits have influenced parents towards frequently choosing cows' milk substitutes for children, comprising other mammalian milk types and plant-based milk beverages. However, many of these milk alternatives do not necessarily address the nutritional requirements of infants and children. There is a strong need to promote awareness about qualitative and quantitative nutritional compositions of different milk formulas, in order to guide parents and medical providers selecting the best option for children. In this article, we sought to review the different compositions in terms of macronutrients and micronutrients of milk from different mammalian species, including special milk formulas indicated for cow's milk allergy, and of plant-based milk alternatives.

Keywords: allergy, children, cow's milk allergy, goat's milk, non-dairy milk, plant-based beverages, plant-based milk, milk formula, nutrition.

Production-related contaminants (pesticides, antibiotics and hormones) in organic and conventionally produced milk samples sold in the USA

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ABSTRACT

Objective: Consumption of cow's milk, which is associated with diet and health benefits, has decreased in the USA. The simultaneous increase in demand for more costly organic milk suggests consumer concern about exposure to production-related contaminants may be contributing to this decline. We sought to determine if contaminant levels differ by the production method used. **Design:** Half-gallon containers of organic and conventional milk (four each) were collected by volunteers in each of nine US regions and shipped on ice for analysis. Pesticide, antibiotic and hormone (bovine growth hormone (bGH), bGH-associated insulin-like growth factor 1 (IGF-1)) residues were measured using liquid or gas chromatography coupled to mass or tandem mass spectrometry. Levels were compared against established federal limits and by production method. **Setting:** Laboratory analysis of retail milk samples. **Results:** Current-use pesticides (5/15 tested) and antibiotics (5/13 tested) were detected in several conventional (26–60 %; n 35) but not in organic (n 34) samples. Among the conventional samples, residue levels exceeded federal limits for amoxicillin in one sample (3 %) and in multiple samples for sulfamethazine (37 %) and sulfathiazole (26 %). Median bGH and IGF-1 concentrations in conventional milk were 9.8 and 3.5 ng/ml, respectively, twenty and three times that in organic samples ($P < 0.0001$). **Conclusions:** Current-use antibiotics and pesticides were undetectable in organic but prevalent in conventionally produced milk samples, with multiple samples exceeding federal limits. Higher bGH and IGF-1 levels in conventional milk suggest the presence of synthetic growth hormone. Further research is needed to understand the impact of these differences, if any, on consumers.

Vaping-associated respiratory distress syndrome: Case classification and clinical guidance

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ABSTRACT

Objectives: Exposure to vaping is associated with a growing list of respiratory syndromes including an acute progressive form with life-threatening hypoxemic respiratory failure and pathologic changes of lung injury termed vaping-associated respiratory distress syndrome. **Data Sources:** Center from Disease Control, Departments of Public Health, MEDLINE (via PubMed), and the Cochrane Library. **Study Selection, Data Extraction and Data Synthesis:** Cases, series, and public health reports of cases that met the Centers for Disease Control and Prevention case definition of vaping-associated respiratory disease were extracted by an author with perfect verification by a second. Cases were classified on the basis of toxin exposure, symptoms, oxygen saturation, progression to respiratory failure, and pathologic features, and a clinically actionable system of classification was based on expert opinion. **Conclusions:** The reported spectrum of vaping-associated respiratory diseases allows clinical classification of cases into groups with distinct evaluation, management, and recommendations for prevention and follow-up. Clinical stratification also identifies a small proportion of vaping-exposed patients who are at risk for progression to hypoxemic respiratory failure and an acute respiratory distress syndrome—like illness.

Re-examination of dairy as a single commodity in US dietary guidance

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ABSTRACT

Dairy products have been a key component of dietary guidance in the United States for more than 100 years. In light of major advances in the understanding of dietary intake and metabolism, the aim of this review was to examine whether dairy should remain a single commodity in federal guidance. Considerations include recognizing that a substantial proportion of the world's adult population (65%—70%) exhibits lactase nonpersistence, a reduced ability to metabolize lactose to glucose and galactose. Shifts in the US population, including a greater proportion of African Americans and Asians, are of key importance because several studies have shown a markedly higher prevalence of lactase nonpersistence and, consequently, a lower dairy intake among these groups. While cow's milk alternatives are available, families who use them will pay up to an additional \$1400 per year compared with those who are able to consume dairy products. Dietary guidance also contains downstream effects for government assistance, such as the US Department of Agriculture's National School Lunch Program and School Breakfast Program. For reasons like these, Canada has recently removed dairy as a separate food group in national dietary guidance. The results of the present review suggest that consideration of this modification when developing population-level guidelines in the United States is warranted.

KEYWORDS: Dairy, dietary guidelines for Americans, food guidance, milk, RDA.

Altered gut microbiota is present in newly diagnosed pediatric patients with inflammatory bowel disease

Sila S, Jeli M, Trivi I, Tambi Andraševi A, Hojsak I and Kolaek S
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ABSTRACT

BACKGROUND AND AIMS: Clinical and experimental data suggest that gut microbiota plays an important role in the pathogenesis of inflammatory bowel disease (IBD). The aim of this study was to determine intestinal microbiota in newly diagnosed patients with IBD and to compare it with patients' healthy siblings who share same genetic and environmental background and to healthy unrelated controls. **METHODS:** Molecular approach targeting 16S ribosomal RNA was employed for analyzing the gut microbiota of participants' stool samples. Terminal restriction fragment length polymorphism analysis was performed. **RESULTS:** Newly diagnosed pediatric patients with IBD (n=19, 68.4% Crohn disease [CD], mean age 14.8±0.65 years), their unaffected healthy siblings (n=20, mean age 12.8±0.85 years), and unrelated healthy controls (n=19, mean age 10.7±0.8 years) were included. Microbial diversity differed significantly between IBD patients, healthy siblings, and healthy controls (P=0.018 for MspI digestion, P=0.013 for HhaI digestion). No significant difference in microbial diversity was found between healthy siblings and healthy controls. In patients reduced presence of genus Eubacterium, Lactobacillus, Enterobacter and Clostridium, and increased presence of genus Streptococcus, Prevotella and Escherichia, compared with healthy siblings and healthy controls, was found. **CONCLUSION:** Newly diagnosed pediatric patients with IBD show significantly less diverse microbiota and microbial composition compared with healthy siblings and healthy controls.

Acupuncture or acupressure for pain management during labour

Smith CA, Collins CT, Levett KM, Armour M, Dahlen HG, Tan AL, Mesgarpour B.

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Update of *Acupuncture or acupressure for pain management in labour*. [Cochrane Database Syst Rev. 2011]

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ABSTRACT

BACKGROUND: Many women would like to avoid pharmacological or invasive methods of pain management in labour and this may contribute towards the popularity of complementary methods of pain management. This review examined evidence about the use of acupuncture and acupressure for pain management in labour. This is an update of a review last published in 2011. **OBJECTIVES:** To examine the effects of acupuncture and acupressure for pain management in labour. **SEARCH METHODS:** For this update, we searched Cochrane Pregnancy and Childbirth's Trials Register, (25 February 2019), the Cochrane Central Register of Controlled Trials (the Cochrane Library 2019, Issue 1), MEDLINE (1966 to February 2019), CINAHL (1980 to February 2019), ClinicalTrials.gov (February 2019), the WHO International Clinical Trials Registry Platform (ICTRP) (February 2019) and reference lists of included studies. **SELECTION CRITERIA:** Published and unpublished randomised controlled trials (RCTs) comparing acupuncture or acupressure with placebo, no treatment or other non-pharmacological forms of pain management in labour. We included all women whether nulliparous or multiparous, and in spontaneous or induced labour. We included studies reported in abstract form if there was sufficient information to permit assessment of risk of bias. Trials using a cluster-RCT design were eligible for inclusion, but quasi-RCTs or cross-over studies were not. **DATA COLLECTION AND ANALYSIS:** Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy. We assessed the certainty of the evidence using the GRADE approach. **MAIN RESULTS:** We included 28 trials with data reporting on 3960 women. Thirteen trials reported on acupuncture and 15 trials reported on acupressure. No study was at a low risk of bias on all domains. Pain intensity was generally measured on a visual analogue scale (VAS) of 0 to 10 or 0 to 100 with low scores indicating less pain. Acupuncture versus sham acupuncture Acupuncture may make little or no difference to the intensity of pain felt by women when compared with sham acupuncture (mean difference (MD) -4.42, 95% confidence interval (CI) -12.94 to 4.09, 2 trials, 325 women, low-certainty evidence). Acupuncture may increase satisfaction with pain relief compared to sham acupuncture (risk ratio (RR) 2.38, 95% CI 1.78 to 3.19, 1 trial, 150 women, moderate-certainty evidence), and probably reduces the use of pharmacological analgesia (RR 0.75, 95% CI 0.63 to 0.89, 2 trials, 261 women, moderate-certainty evidence). Acupuncture may have no effect on assisted vaginal birth (very low-certainty evidence), and probably little to no effect on caesarean section (low-certainty evidence). Acupuncture compared to usual care We are uncertain if acupuncture reduces pain intensity compared to usual care because the evidence was found to be very low certainty (standardised mean difference (SMD) -1.31, 95% CI -2.14 to -0.49, 4 trials, 495 women, I² = 93%). Acupuncture may have little to no effect on satisfaction with pain relief (low-certainty evidence). We are uncertain if acupuncture reduces the use of pharmacological analgesia because the evidence was found to be very low certainty (average RR 0.72, 95% CI 0.60 to 0.85, 6 trials, 1059 women, I² = 70%). Acupuncture probably has little to no effect on assisted vaginal birth (low-certainty evidence) or caesarean section (low-certainty evidence). Acupuncture compared to no treatment One trial compared acupuncture to no treatment. We are uncertain if acupuncture reduces pain intensity (MD -1.16, 95% CI -1.51 to -0.81, 163 women, very low-certainty evidence), assisted vaginal birth or caesarean section because the evidence was found to be very low certainty. Acupuncture compared to sterile water injection We are uncertain if acupuncture has any effect on use of pharmacological analgesia, assisted vaginal birth or caesarean section because the evidence was found to be very low certainty. Acupressure compared to a sham control We are uncertain if acupressure reduces pain intensity in labour (MD -1.93, 95% CI -3.31 to -0.55, 6 trials, 472 women) or assisted vaginal birth because the evidence was found to be very low certainty. Acupressure may have little to no effect on use of pharmacological analgesia (low-certainty evidence). Acupressure probably reduces the caesarean section rate (RR 0.44, 95% CI 0.27 to 0.71, 4 trials, 313 women, moderate-certainty evidence). Acupressure compared to usual care We are uncertain if acupressure reduces pain intensity in labour (SMD -1.07, 95% CI -1.45 to -0.69, 8 trials, 620 women) or increases satisfaction with pain relief (MD 1.05, 95% CI 0.75 to 1.35, 1 trial, 105 women) because the evidence was found to be very low certainty. Acupressure may have little to no effect on caesarean section (low-certainty evidence). Acupressure compared to a combined control Acupressure probably slightly reduces the intensity of pain during labour compared with the combined control (measured on a scale of 0 to 10 with low scores indicating less pain) (SMD -0.42, 95% CI -0.65 to -0.18, 2 trials, 322 women, moderate-certainty evidence). We are uncertain if acupressure has any effect on the use of pharmacological analgesia (RR 0.94, 95% CI 0.71 to 1.25, 1 trial, 212 women), satisfaction with childbirth, assisted vaginal birth or caesarean section because the certainty of the evidence was all very low. No studies were found that reported on sense of control in labour and only one reported on satisfaction with the childbirth experience. **AUTHORS' CONCLUSIONS:** Acupuncture in comparison to sham acupuncture may increase satisfaction with pain management and reduce use of pharmacological analgesia. Acupressure in comparison to a combined control and usual care may reduce pain intensity. However, for other comparisons of acupuncture and acupressure, we are uncertain about the effects on pain intensity and satisfaction with pain relief due to very low-certainty evidence. Acupuncture may have little to no effect on the rates of caesarean or assisted vaginal birth. Acupressure probably reduces the need for caesarean section in comparison to a sham control. There is a need for further high-quality research that include sham controls and comparisons to usual care and report on the outcomes of sense of control in labour, satisfaction with the childbirth experience or satisfaction with pain relief.

Trends in diet quality among youth in the United States, 1999-2016

Liu J, Rehm CD, Onopa J, Mozaffarian D.

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ABSTRACT

IMPORTANCE: Prior studies of dietary trends among US youth have evaluated major macronutrients or only a few foods or have used older data. **OBJECTIVE:** To characterize trends in diet quality among US youth. **DESIGN, SETTING, AND PARTICIPANTS:** Serial cross-sectional investigation using 24-hour dietary recalls from youth aged 2 to 19 years from 9 National Health and Nutrition Examination Survey (NHANES) cycles (1999-2016). **EXPOSURES:** Calendar year and population sociodemographic characteristics. **MAIN OUTCOMES AND MEASURES:** The primary outcomes were the survey-weighted, energy-adjusted mean consumption of dietary components and proportion meeting targets of the American Heart Association (AHA) 2020 continuous diet score (range, 0-50; based on total fruits and vegetables, whole grains, fish and shellfish, sugar-sweetened beverages, and sodium). Additional outcomes were the AHA secondary score (range, 0-80; adding nuts, seeds, and legumes; processed meat; and saturated fat) and Healthy Eating Index (HEI) 2015 score (range, 0-100). Poor diet was defined as less than 40% adherence (scores, <20 for primary and <32 for secondary AHA scores); intermediate as 40% to 79.9% adherence (scores, 20-39.9 and 32-63.9, respectively); and ideal, as at least 80% adherence (scores, ≥ 40 and ≥ 64 , respectively). Higher diet scores indicate better diet quality; a minimal clinically important difference has not been quantified. **RESULTS:** Of 31 420 youth aged 2 to 19 years included, the mean age was 10.6 years; 49.1% were female. From 1999 to 2016, the estimated AHA primary diet score significantly increased from 14.8 (95% CI, 14.1-15.4) to 18.8 (95% CI, 18.1-19.6) (27.0% improvement), the estimated AHA secondary diet score from 29.2 (95% CI, 28.1-30.4) to 33.0 (95% CI, 32.0-33.9) (13.0% improvement), and the estimated HEI-2015 score from 44.6 (95% CI, 43.5-45.8) to 49.6 (95% CI, 48.5-50.8) (11.2% improvement) ($P < .001$ for trend for each). Based on the AHA primary diet score, the estimated proportion of youth with poor diets significantly declined from 76.8% (95% CI, 72.9%-80.2%) to 56.1% (95% CI, 51.4%-60.7%) and with intermediate diets significantly increased from 23.2% (95% CI, 19.8%-26.9%) to 43.7% (95% CI, 39.1%-48.3%) ($P < .001$ for trend for each). The estimated proportion meeting ideal quality significantly increased but remained low, from 0.07% (95% CI, 0.01%-0.49%) to 0.25% (95% CI, 0.10%-0.62%) ($P = .03$ for trend). Persistent dietary variations were identified across multiple sociodemographic groups. The estimated proportion of youth with a poor diet in 2015-2016 was 39.8% (95% CI, 35.1%-44.5%) for ages 2 to 5 years (unweighted $n = 666$), 52.5% (95% CI, 46.4%-58.5%) for ages 6 to 11 years (unweighted $n = 1040$), and 66.6% (95% CI, 61.4%-71.4%) for ages 12 to 19 years (unweighted $n = 1195$), with persistent differences across levels of parental education, household income, and household food security status. **CONCLUSIONS AND RELEVANCE:** Based on serial NHANES surveys from 1999 to 2016, the estimated overall diet quality of US youth showed modest improvement, but more than half of youth still had poor-quality diets.

What is the effect of spinal manipulation on the pressure pain threshold in young, asymptomatic subjects? A randomized placebo-controlled trial, with a cross-over design

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ABSTRACT

BACKGROUND: Spinal manipulation (SM) has been shown to have an effect on the pressure pain threshold (PPT) in asymptomatic subjects, but SM has never been compared in studies on this topic to a validated sham procedure. We investigated the effect of SM on the PPT when measured i) in the area of intervention and ii) in an area remote from the intervention. In addition, we measured the size and duration of the effect. **METHOD:** In a randomized cross-over trial, 50 asymptomatic chiropractic students had their PPT measured at baseline, immediately after and every 12 min after intervention, over a period of 45 min, comparing values after SM and a previously validated sham. The trial was conducted during two sessions, separated by 48h. PPT was measured both regionally and remotely from the 'treated' thoracic segment. Blinding of study subjects was tested with a post-intervention questionnaire. We used mixed linear regression with the baseline value and time as co-variables. If a significant difference were found between groups, then an effect size would be calculated using Cohen's d or Hedge's h coefficient. Statistical significance was set at $p < 0.05$. **RESULTS:** Study subjects had been successfully blinded. No statistically significant differences were found between SM and sham estimates, at any time or anatomical location. **CONCLUSION:** When compared to a valid sham procedure and with successfully blinded subjects, there is no regional or remote effect of spinal manipulation of the thoracic spine on the pressure pain threshold in a young pain-free population.

KEYWORDS: Asymptomatic subjects; Duration; Effect; Effect size; Pressure pain threshold; Randomized controlled trial; Sham; Spinal manipulation.

Mental health status among children in home confinement during the coronavirus disease 2019 outbreak in Hubei Province, China

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ABSTRACT

As the coronavirus disease 2019 (COVID-19) epidemic progressed in Wuhan, Hubei province, China, the Chinese government ordered a nationwide school closure. More than 180 million students in China were restricted to their homes (<http://www.chinanews.com/sh/2020/02-17/9094648.shtml>). The COVID-19 infection has become a global pandemic. As of April 9, 2020, the infection has caused 188 countrywide closures around the world and has affected 1,576,021,818 learners (<https://zh.unesco.org/themes/education-emergencies/coronavirus-school-closures>). The caution about protecting the mental health of children in home confinement is warranted. This study investigated depressive and anxiety symptoms among students in Hubei province, China, which can help optimize interventions on the mental health of children for stakeholders in all countries affected by COVID-19.

Characteristics and outcomes of children with coronavirus disease 2019 (COVID-19) infection admitted to US and Canadian pediatric intensive care units

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ABSTRACT

Importance: The recent and ongoing coronavirus disease 2019 (COVID-19) pandemic has taken an unprecedented toll on adults critically ill with COVID-19 infection. While there is evidence that the burden of COVID-19 infection in hospitalized children is lesser than in their adult counterparts, to date, there are only limited reports describing COVID-19 in pediatric intensive care units (PICUs). **Objective:** To provide an early description and characterization of COVID-19 infection in North American PICUs, focusing on mode of presentation, presence of comorbidities, severity of disease, therapeutic interventions, clinical trajectory, and early outcomes. **Design, Setting, and Participants:** This cross-sectional study included children positive for COVID-19 admitted to 46 North American PICUs between March 14 and April 3, 2020, with follow-up to April 10, 2020. **Main Outcomes and Measures:** Prehospital characteristics, clinical trajectory, and hospital outcomes of children admitted to PICUs with confirmed COVID-19 infection. **Results:** Of the 48 children with COVID-19 admitted to participating PICUs, 25 (52%) were male, and the median (range) age was 13 (4.2-16.6) years. Forty patients (83%) had significant preexisting comorbidities; 35 (73%) presented with respiratory symptoms and 18 (38%) required invasive ventilation. Eleven patients (23%) had failure of 2 or more organ systems. Extracorporeal membrane oxygenation was required for 1 patient (2%). Targeted therapies were used in 28 patients (61%), with hydroxychloroquine being the most commonly used agent either alone (11 patients) or in combination (10 patients). At the completion of the follow-up period, 2 patients (4%) had died and 15 (31%) were still hospitalized, with 3 still requiring ventilatory support and 1 receiving extracorporeal membrane oxygenation. The median (range) PICU and hospital lengths of stay for those who had been discharged were 5 (3-9) days and 7 (4-13) days, respectively. **Conclusions and Relevance:** This early report describes the burden of COVID-19 infection in North American PICUs and confirms that severe illness in children is significant but far less frequent than in adults. Prehospital comorbidities appear to be an important factor in children. These preliminary observations provide an important platform for larger and more extensive studies of children with COVID-19 infection.