JOURNAL ABSTRACTS

Manual therapy for the pediatric population: a systematic review

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ABSTRACT

Background: This systematic review evaluates the use of manual therapy for clinical conditions in the pediatric population, assesses the methodological quality of the studies found, and synthesizes findings based on health condition. We also assessed the reporting of adverse events within the included studies and compared our conclusions to those of the UK Update report. **Methods:** Six databases were searched using the following inclusion criteria: children under the age of 18 years old; treatment using manual therapy; any type of healthcare profession; published between 2001 and March 31, 2018; and English. Case reports were excluded from our study. Reference tracking was performed on six published relevant systematic reviews to find any missed article. Each study that met the inclusion criteria was screened by two authors to: (i) determine its suitability for inclusion, (ii) extract data, and (iii) assess quality of study. **Results:** Of the 3563 articles identified, 165 full articles were screened, and 50 studies met the inclusion criteria. Twenty-six articles were included in prior reviews with 24 new studies identified. Eighteen studies were judged to be of high quality. **Conditions evaluated were:** attention deficit hyperactivity disorder (ADHD), autism, asthma, cerebral palsy, clubfoot, constipation, cranial asymmetry, cuboid syndrome, headache, infantile colic, low back pain, obstructive apnea, otitis media, pediatric dysfunctional voiding, pediatric nocturnal enuresis, postural asymmetry, preterm infants, pulled elbow, suboptimal infant breastfeeding, scoliosis, suboptimal infant breastfeeding, temporomandibular dysfunction, torticollis, and upper cervical dysfunction. Musculoskeletal conditions, including low back pain and headache, were evaluated in seven studies. Twenty studies reported adverse events, which were transient and mild to moderate in severity. **Conclusions:** Fifty studies investigated the clinical effects of manual therapies for a wide variety of pediatric conditions. Moderate-positive overall assessment was found for 3 conditions: low back pain, pulled elbow, and premature infants. Inconclusive unfavorable outcomes were found for 2 conditions: scoliosis (OMT) and torticollis (MT). All other condition's overall assessments were either inconclusive favorable or unclear. Adverse events were uncommonly reported. More robust clinical trials in this area of healthcare are needed.

Effect of Vitamin D3 Supplementation on Severe Asthma Exacerbations in Children With Asthma and Low Vitamin D Levels: The VDKA Randomized Clinical Trial

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JAMA, 2020;324(8):752—760. doi:10.1001/jama.2020.12384

ABSTRACT

Importance: Severe asthma exacerbations cause significant morbidity and costs. Whether vitamin D3 supplementation reduces severe childhood asthma exacerbations is unclear. **Objective:** To determine whether vitamin D3 supplementation improves the time to a severe exacerbation in children with asthma and low vitamin D levels. **Design, setting, and participants:** The Vitamin D to Prevent Severe Asthma Exacerbations (VDKA) Study was a randomized, double-blind, placebo-controlled clinical trial of vitamin D3 supplementation to improve the time to severe exacerbations in high-risk children with asthma aged 6 to 16 years taking low-dose inhaled corticosteroids and with serum 25-hydroxyvitamin D levels less than 30 ng/mL. Participants were recruited from 7 US centers. Enrollment started in February 2016, with a goal of 400 participants; the trial was terminated early (March 2019) due to futility, and follow-up ended in September 2019. **Interventions:** Participants were randomized to vitamin D3, 4000 IU/d (n = 96), or placebo (n = 96) for 48 weeks and maintained with fluticasone propionate, 176 µg/d (6-11 years old), or 220 µg/d (12-16 years old). **Main outcomes and measures:** The primary outcome was the time to a severe asthma exacerbation. Secondary outcomes included the time to a viral-induced severe exacerbation, the proportion of participants in whom the dose of inhaled corticosteroid was reduced halfway through the trial, and the cumulative fluticasone dose during the trial. **Results:** Among 192 randomized participants (mean age, 9.8 years; 77 girls [40%]), 180 (93.8%) completed the trial. A total of 36 participants (37.5%) in the vitamin D3 group and 33 (34.4%) in the placebo group had 1 or more severe exacerbations. Compared with placebo, vitamin D3 supplementation did not significantly improve the time to a severe exacerbation: the mean time to exacerbation was 240 days in the vitamin D3 group vs 253 days in the placebo group (mean group difference, -13.1 days [95% CI, -42.6 to 16.4]; adjusted hazard ratio, 1.13 [95% CI, 0.69 to 1.85]; P = .63). Vitamin D3 supplementation, compared with placebo, likewise did not significantly improve the time to a viral-induced severe exacerbation, the proportion of participants whose dose of inhaled corticosteroid was reduced, or the cumulative fluticasone dose during the trial. Serious adverse events were similar in both groups (vitamin D3 group, n = 11; placebo group, n = 9). **Conclusions and relevance:** Among children with persistent asthma and low vitamin D levels, vitamin D3 supplementation, compared with placebo, did not significantly improve the time to a severe asthma exacerbation. The findings do not support the use of vitamin D3 supplementation to prevent severe asthma exacerbations in this group of patients.

Association of Exposure to Endocrine-Disrupting Chemicals During Adolescence With Attention-Deficit/Hyperactivity Disorder—Related Behaviors

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JAMA Netw Open, 2020;3(8):e2015041. doi:10.1001/jamanetworkopen.2020.15041

ABSTRACT

Importance: Attention-deficit/hyperactivity disorder (ADHD) is the most common childhood neurobehavioral disorder. Studies suggest that prenatal and early childhood exposure to endocrine-disrupting chemicals may be associated with ADHD, but the association during adolescence has not been studied to date. **Objective:** To evaluate the association between exposure to select endocrine-disrupting chemicals during adolescence and ADHD-related behaviors. **Design, setting, and participants:** For this cross-sectional analysis, data were collected from 205 adolescents in the New Bedford Cohort, an ongoing prospective birth cohort, between June 18, 2011, and June 10, 2014. The adolescents provided spot urine samples and underwent neurodevelopmental testing. Statistical analyses performed from January 15 to December 31, 2019, used a repeated-measures analysis with multivariate modified Poisson models to estimate the adjusted relative risk of ADHD-related behaviors associated with exposure to endocrine-disrupting chemicals. **Exposures:** Urinary biomarker concentrations of endocrine-disrupting chemicals or their metabolites, including phthalates, parabens, phenols, and triclocarban, were quantified. Summary exposure measures were created, combining biomarker concentrations of chemicals with a shared mechanism of action, exposure pathway, or chemical class. **Main outcomes and measures:** Behaviors related to ADHD were assessed with up to 14 indices from self-, parent-, and teacher-completed behavioral checklists using validated and standardized instruments; specifically, the Conners Attention Deficit Scale and the Behavior Assessment System for Children, Second Edition. Scores on each index were dichotomized to identify those with evidence of a significant behavioral problem, defined by each scale's interpretive guidelines. **Results:** Among the 205 participants, the mean (SD) age at assessment was 15.3 (0.7) years, with 112 girls (55%) and 124 non-Hispanic White participants (61%). The median urine concentrations were 0.45 µmol/L of Σantiandrogenic phthalates, 0.13 µmol/L of ΣDEHP metabolites, 0.49 µmol/L of Σpersonal care product phthalates, 0.35 µmol/L of Σparabens, 0.02 µmol/L of Σbisphenols, and 0.02 µmol/L of Σdichlorophenols. A total of 82 (40%) had scores consistent with a significant behavioral problem, whereas 39 (19%) had an ADHD diagnosis. Each 2-fold increase in the sum of antiandrogenic phthalate concentrations was associated with a 1.34 (95% CI, 1.00-1.79) increase in the risk of significant ADHD-related behavior problems, whereas a 2-fold increase in the sum of dichlorophenols was associated with a 1.15 (95% CI, 1.01-1.32) increased risk. These associations tended to be stronger in male participants, but comparisons of sex-specific differences were imprecise. **Conclusions and relevance:** Endocrine-disrupting chemicals are used in a wide variety of consumer products resulting in ubiquitous exposure. The study findings suggest that exposure to some of these chemicals, particularly certain phthalates, during adolescence may be associated with behaviors characteristic of ADHD.

Associations Between Screen Use and Child Language Skills: A Systematic Review and Meta-analysis

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JAMA Pediatr., 2020;174(7):665—675. doi:10.1001/jamapediatrics.2020.0327

ABSTRACT

Importance: There is considerable public and scientific debate as to whether screen use helps or hinders early child development, particularly the development of language skills. **Objective:** To examine via meta-analyses the associations between quantity (duration of screen time and background television), quality (educational programming and co-viewing), and onset of screen use and children's language skills. **Data Sources:** Searches were conducted in MEDLINE, Embase, and PsycINFO in March 2019. The search strategy included a publication date limit from 1960 through March 2019. **Study Selection:** Inclusion criteria were a measure of screen use; a measure of language skills; and statistical data that could be transformed into an effect size. Exclusion criteria were qualitative studies; child age older than 12 years; and language assessment preverbal. **Data Extraction and Synthesis:** The following variables were extracted: effect size, child age and sex, screen measure type, study publication year, and study design. All studies were independently coded by 2 coders and conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. **Main Outcomes and Measures:** Based on a priori study criteria, quantity of screen use included duration of screen time and background television, quality of screen use included co-viewing and exposure to educational programs, and onset of screen use was defined as the age children first began viewing screens. The child language outcome included assessments of receptive and/or expressive language. **Results:** Participants totaled 18 905 from 42 studies included. Effect sizes were measured as correlations (r). Greater quantity of screen use (hours per use) was associated with lower language skills (screen time [n = 38; r = -0.14; 95% CI, -0.18 to -0.10]; background television [n = 5; r = -0.19; 95% CI, -0.33 to -0.05]), while better-quality screen use (educational programs [n = 13; r = 0.13; 95% CI, 0.02-0.24]; co-viewing [n = 12; r = 0.16; 95% CI, 0.07-.24]) were associated with stronger child language skills. Later age at screen use onset was also associated with stronger child language skills [n = 4; r = 0.17; 95% CI, 0.07-0.27]. **Conclusions and Relevance:** The findings of this meta-analysis support pediatric recommendations to limit children's duration of screen exposure, to select high-quality programming, and to co-view when possible.

Early Formula Supplementation Trends by Race/Ethnicity Among US Children Born From 2009 to 2015

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ABSTRACT

Breastfeeding is the best source of nutrition for most infants. It is associated with a reduction in the risk for some health conditions for both infants and mothers.1,2 The American Academy of Pediatrics recommends that infants be fed only human milk for about the first 6 months of life, with continued breastfeeding along with complementary foods for at least 1 year.3 Previous studies have indicated that early formula supplementation is associated with the exclusivity and duration of breastfeeding,4 but, to our knowledge, trend analysis on formula supplementation among US children is lacking. This survey study examines the trends in early formula supplementation by race/ethnicity using data from the National Immunization Survey—Child (NIS-Child) of US children born from 2009 to 2015.

Predictors of Behavioral Changes After Adenotonsillectomy in Pediatric Obstructive Sleep Apnea: A Secondary Analysis of a Randomized Clinical Trial

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ABSTRACT

Key Points

Question: Are polysomnographic parameters superior to parent-reported symptoms of upper-airway obstruction in predicting posttreatment behavioral outcomes in children with obstructive sleep apnea (OSA)? **Findings:** In this secondary analysis of the Childhood Adenotonsillectomy Trial involving 453 children, parent-reported symptoms of upper-airway obstruction were better indicators of most changes in children's behavior than were polysomnographic parameters. **Meaning:** Results of this secondary analysis suggest that most treatment-related behavioral changes in children with OSA were mediated by the changes in parent-reported sleep-disordered breathing severity alone.

Abstract

Importance: Adenotonsillectomy (AT) is associated with improved behavior in children with obstructive sleep apnea (OSA). However, it is unknown whether polysomnographic parameters are superior to the parent-reported severity of sleep-disordered breathing (SDB) in predicting behavioral changes after AT. **Objective:** To ascertain whether polysomnographic parameters vs parent-reported severity of SDB are better predictors of treatment-related behavioral changes in children with OSA. **Design, Setting, and Participants:** This ad hoc secondary analysis of the Childhood Adenotonsillectomy Trial (CHAT) downloaded and analyzed data from January 1 to January 31, 2020. Children aged 5 to 9 years with a polysomnographic diagnosis of OSA were enrolled in the CHAT and subsequently randomized to undergo either early AT or watchful waiting with supportive care. All outcome measures were obtained at baseline and at follow-up (7 months after randomization). **Interventions:** Early AT vs watchful waiting with supportive care. **Main Outcomes and Measures:** Postrandomization changes between the baseline and follow-up periods were derived from (1) T scores in 4 validated behavioral assessments (Conners Global Index parent and teacher versions, Behavior Rating Inventory of Executive Function metacognition index, and Child Behavior Checklist of total, internalizing, and externalizing behavior subscales); (2) 8 aggregated polysomnographic parameters representing the severity of obstruction, hypoxemia, sleep quality, and structure; and (3) the parent-reported severity of SDB measured by the Pediatric Sleep Questionnaire—Sleep-Related Breathing Disorder (PSQ-SRBD) scale. The treatment-related changes in each of the behavioral outcomes attributable to changes in SDB severity (represented by the subjective PSQ-SRBD score and objective polysomnographic parameters) were measured and compared using mediation analysis. **Results:** A total of 453 children were assessed at baseline, of whom 234 were girls (52%) and the mean (SD) age was 6.6 (1.4) years. The postrandomization changes in 7 of 8 behavioral outcome measures between the baseline and follow-up periods were partially mediated by the changes in PSQ-SRBD scores (range of nonzero causally mediated effects, 2.4-3.5), without contribution from any of the polysomnographic parameters. **Conclusions and Relevance:** This secondary analysis of a national randomized clinical trial found that most treatment-related behavioral changes in children with OSA were mediated by the changes in parent-reported SDB severity alone. These findings suggest that polysomnographic parameters provide clinicians with limited means to predict the improvement in neurobehavioral morbidity in OSA.

Defining the Anatomy of the Neonatal Lingual Frenulum

Nikki Mills; Natalie Keough; Donna T. Geddes, Seth M. Pransky and S. Ali Mirjalili
Clinical Anatomy, 32:824—835 (2019) https://doi.org/10.1002/ca.23410

ABSTRACT

The lingual frenulum is recognized as having the potential to limit tongue mobility, which may lead to difficulties with breastfeeding in some infants. There is extensive variation between individuals in the appearance of the lingual frenulum but an ambiguous relationship between frenulum appearance and functional limitation. An increasing number of infants are being diagnosed with ankyloglossia, with growing uncertainty regarding what can be considered "normal" lingual frenulum anatomy. In this study, microdissection of four fresh tissue premature infant cadavers shows that the lingual frenulum is a dynamic, layered structure formed by oral mucosa and the underlying floor of mouth fascia, which is mobilized into a midline fold with tongue elevation and/or retraction. Genioglossus is suspended from the floor of mouth fascia, and in some individuals can be drawn up into the fold of the frenulum. Branches of the lingual nerve are located superficially on the ventral surface of the tongue, immediately beneath the fascia, making them vulnerable to injury during frenotomy procedures. This research challenges the longstanding belief that the lingual frenulum is a midline structure formed by a submucosal "band" or "string" and confirms that the neonatal lingual frenulum structure replicates that recently described in the adult. This article provides an anatomical construct for understanding and describing variability in lingual frenulum morphology and lays the foundation for future research to assess the impact of specific anatomic variants of lingual frenulum morphology on tongue mobility. Clin. Anat. 32:824—835, 2019. © 2019 The Authors. *Clinical Anatomy* published by Wiley Periodicals, Inc. on behalf of American Association of Clinical Anatomists.

Etiology of Autism Spectrum Disorders and Autistic Traits Over Time

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ABSTRACT

Key Points

Question: Has association between genetic factors and autism spectrum disorders (ASDs) changed over time? **Findings:** In this study, data were available from 2 twin cohorts, one born between 1982 and 2008 (n = 22 678 pairs) and the other between 1992 and 2008 (n = 15 279 pairs). Genetic factors were associated with ASD and autistic traits and the relative importance of these factors was consistent over time, whereas environmental factors played a smaller role. **Meaning:** Environmental factors associated with ASD have not increased in importance over time and are unlikely to explain the apparent increase in the prevalence of ASD.

Abstract

Importance: The frequency with which autism spectrum disorders (ASDs) are diagnosed has shown a marked increase in recent years. One suggestion is that this is partly because of secular changes in the environment, yet to our knowledge this hypothesis lacks evidence **Objective:** To assess whether the relative importance of genetic and environmental associations with ASD and autistic traits has changed over a 16-year and 26-year period. **Design, Setting, and Participants:** A twin design was used to assess whether the heritability of ASD and autistic traits has changed over time. Data from 2 nationwide Swedish twin cohorts was used: the Swedish Twin Registry (STR; participants born between January 1982 and December 2008) and the Child and Adolescent Twin Study in Sweden (CATSS; participants born between January 1992 and December 2008). Autism spectrum disorder diagnoses were identified for twins in the STR, with follow-up to 2013. Questionnaires assigned screening diagnoses of ASD to CATSS participants and assessed autistic traits. Analyses were performed from September 1, 2018, to March 31, 2019. **Exposures:** Each sample was divided into several birth cohorts covering 1982 to 1991 (for the STR only), 1992-1995, 1996-1999, 2000-2003, and 2004-2008. **Outcomes:** We assessed whether the genetric and environment variance underlying autistic traits changed across birth cohorts and examined whether the relative contribution of genetics and environment to liability for autism changed across birth cohorts. **Results:** Data were available for 22 678 twin pairs (5922 female same-sex pairs [26.1%], 5563 male same-sex pairs [24.5%], and 11193 opposite-sex pairs [49.4%]) in the STR and 15 280 pairs (4880 female same-sex pairs [31.9%], 5092 male same-sex pairs [33.3%], and 5308 opposite-sex pairs [34.7%]) in CATSS. The heritability of ASD diagnoses in the STR ranged from 0.88 (95% CI, 0.74-0.96) to 0.97 (95% CI, 0.89-0.99). The heritability of screening diagnoses in CATSS varied from 0.75 (95% CI, 0.58-0.87) to 0.93 (95% CI, 0.84-0.98). Autistic traits showed a modest variance increase over time that was associated with increases in genetic and environmental variance, with the total variance increasing from 0.95 (95% CI, 0.92-0.98) to 1.17 (95% CI, 1.13-1.21) over time. **Conclusions and Relevance:** Weak evidence was found for changes in the genetic and environmental factors underlying ASD and autistic traits over time. Genetic factors played a consistently larger role than environmental factors. Environmental factors are thus unlikely to explain the increase in the prevalence of ASD.

Comparison of Acetaminophen (Paracetamol) With Ibuprofen for Treatment of Fever or Pain in Children Younger Than 2 Years A Systematic Review and Meta-analysis

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ABSTRACT

IMPORTANCE: Acetaminophen (paracetamol) and ibuprofen are the most widely prescribed and available over-the-counter medications for management of fever and pain in children. Despite the common use of these medications, treatment recommendations for young children remain divergent. **Objective:** To compare acetaminophen with ibuprofen for the short-term treatment of fever or pain in children younger than 2 years. **Data sources:** Systematic search of the databases MEDLINE, Embase, CINAHL, and the Cochrane Central Register of Controlled Trials and the trial registers ClinicalTrials.gov and the Australian New Zealand Clinical Trials Registry from inception to March 2019, with no language limits. **Study selection:** Studies of any design that included children younger than 2 years and directly compared acetaminophen with ibuprofen, reporting antipyretic, analgesic, and/or safety outcomes were considered. There were no limits on length of follow-up. **Data extraction and synthesis:** Following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guideline, 2 authors independently extracted data and assessed quality. Data were pooled using a fixed-effects method if I2 was less than 50% and using a random-effects method if I2 was 50% or greater. **Main outcomes and measures:** The primary outcomes were fever or pain within 4 hours of treatment onset. Safety outcomes included serious adverse events, kidney impairment, gastrointestinal bleeding, hepatotoxicity, severe soft tissue infection, empyema, and asthma and/or wheeze. **Results:** Overall, 19 studies (11 randomized; 8 nonrandomized) of 241 138 participants from 7 countries and various health care settings (hospital-based and community-based) were included. Compared with acetaminophen, ibuprofen resulted in reduced temperature at less than 4 hours (4 studies with 435 participants; standardized mean difference [SMD], 0.38; 95% CI, 0.08-0.67; P = .01; I2 = 49%; moderate quality evidence) and at 4 to 24 hours (5 studies with 879 participants; SMD, 0.24; 95% CI, 0.03-0.45; P = .03; I2 = 57%; moderate-quality evidence) and less pain at 4 to 24 hours (2 studies with 535 participants; SMD, 0.20; 95% CI, 0.03-0.37; P = .02; I2 = 25%; moderate-quality evidence). Adverse events were uncommon. Acetaminophen and ibuprofen appeared to have similar serious adverse event profiles (7 studies with 27 932 participants; ibuprofen vs aceteminophen: odds ratio, 1.08; 95% CI, 0.87-1.33; P = .50, I2 = 0%; moderate-quality evidence). **Conclusions and relevance:** In this study, use of ibuprofen vs acetaminophen for the treatment of fever or pain in children younger than 2 years was associated with reduced temperature and less pain within the first 24 hours of treatment, with equivalent safety.

Racial Differences in Food Allergy Phenotype and Health Care Utilization among US Children

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The Journal of Allergy and Clinical Immunology: In Practice, Volume 5, Issue 2, March—April 2017, Pages 352-357.e1
https://pubmed.ncbi.nlm.nih.gov/27888035/

ABSTRACT

Background: Food allergy (FA) is a prevalent condition in the United States, but little is known about its phenotypes in racial minority groups. **Objective:** The objective of this study was to characterize disease phenotypes and disparities in health care utilization among African American (AA), Hispanic, and white children with FA. **Methods:** We conducted a large, 2-center, retrospective cohort study of children aged 0-17 years with FA seen in allergy/immunology clinics at 2 urban tertiary care centers in the United States. We used multiple logistic regression analyses adjusted for age, gender, and insurance. **Results:** The cohort of 817 children was composed of 35% AA, 12% Hispanic, and 53% non-Hispanic white. Compared with non-Hispanic white children, AA children had significantly higher odds of having asthma and eczema (P < .01), and significantly higher odds of allergy to wheat, soy, corn, fish, and shellfish (P < .01). Compared with non-Hispanic white children, Hispanic children had significantly higher odds of allergy to corn, fish, and shellfish (P < .01), and higher odds of eczema (P < .01), but a similar rate of asthma (P = .44). In this cohort, 55%, 18%, and 11% of AA, Hispanic, and white children were covered by Medicaid, respectively (P < .00001). Compared with whites, AA and Hispanic children had a shorter duration of follow-up for FA with an allergy specialist and higher rates of FA-related anaphylaxis and emergency department visits (P < .01). **Conclusions:** FA phenotypes and health care utilization differ among children of different racial and/or ethnic backgrounds in the United States that put AA and Hispanic children at higher risks of adverse outcome than white children. These differences include coexistent atopic conditions, less well recognized food allergens, and higher rates of anaphylaxis.

CURRENT ARTICLES PUBLISHED ON COVID-19:

Editor's note: *We and our patients are flooded daily with ever evolving information on COVID -19. Sorting out science, pseudoscience and politics has become the HCP's challenge daily. It is important to be aware of what is being published and read by health care providers and the public (our patients include) seeking information to navigate these challenging time. It is important to remain current so that we are prepared to offer thoughtful guidance.*

Mask Exemptions During the COVID-19 Pandemic – A New Frontier for Clinicians

Dorfman D, Raz M.

JAMA Health Forum, Published online July 10, 2020. Accessed at https://jamanetwork.com/channels/health-forum/fullarticle/2768376

ABSTRACT

Masking or face covering amid the global coronavirus disease 2019 (COVID-19) pandemic has emerged as a highly polarizing practice, with surprising partisan divisions. While masking remains contentious, there is bipartisan agreement among policy makers that medical exemptions for masking are necessary and appropriate. Yet there is a dearth of guidance for clinicians on how to approach a request for an exemption. We analyze the medical and legal standards to guide this debate.

Pregnancy Outcomes Among Women With and Without Severe Acute Respiratory Syndrome Coronavirus 2 Infection

Adhikari EH, Moreno W, Zofkie AC, et al.

JAMA Netw Open, 2020;3(11):e2029256. doi:10.1001/jamanetworkopen.2020.29256

ABSTRACT

Importance: Published data suggest that there are increased hospitalizations, placental abnormalities, and rare neonatal transmission among pregnant women with coronavirus disease 2019 (COVID-19). **Objectives:** To evaluate adverse outcomes associated with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in pregnancy and to describe clinical management, disease progression, hospital admission, placental abnormalities, and neonatal outcomes. **Design, Setting, and Participants:** This observational cohort study of maternal and neonatal outcomes among delivered women with and without SARS-CoV-2 during pregnancy was conducted from March 18 through August 22, 2020, at Parkland Health and Hospital System (Dallas, Texas), a high-volume prenatal clinic system and public maternity hospital with widespread access to SARS-CoV-2 testing in outpatient, emergency department, and inpatient settings. Women were included if they were tested for SARS-CoV-2 during pregnancy and delivered. For placental analysis, the pathologist was blinded to illness severity. **Exposures:** SARS-CoV-2 infection during pregnancy. **Main Outcomes and Measures:** The primary outcome was a composite of preterm birth, preeclampsia with severe features, or cesarean delivery for abnormal fetal heart rate among women delivered after 20 weeks of gestation. Maternal illness severity, neonatal infection, and placental abnormalities were described. **Results:** From March 18 through August 22, 2020, 3374 pregnant women (mean [SD] age, 27.6 [6] years) tested for SARS-CoV-2 were delivered, including 252 who tested positive for SARS-CoV-2 and 3122 who tested negative. The cohort included 2520 Hispanic (75%), 619 Black (18%), and 125 White (4%) women. There were no differences in age, parity, body mass index, or diabetes among women with or without SARS-CoV-2. SARS-CoV-2 positivity was more common among Hispanic women (230 [91%] positive vs 2290 [73%] negative; difference, 17.9%; 95% CI, 12.3%-23.5%; P < .001). There was no difference in the composite primary outcome (52 women [21%] vs 684 women [23%]; relative risk, 0.94; 95% CI, 0.73-1.21; P = .64). Early neonatal SARS-CoV-2 infection occurred in 6 of 188 tested infants (3%), primarily born to asymptomatic or mildly symptomatic women. There were no placental pathologic differences by illness severity. Maternal illness at initial presentation was asymptomatic or mild in 239 women (95%), and 6 of those women (3%) developed severe or critical illness. Fourteen women (6%) were hospitalized for the indication of COVID-19. **Conclusions and Relevance:** In a large, single-institution cohort study, SARS-CoV-2 infection during pregnancy was not associated with adverse pregnancy outcomes. Neonatal infection may be as high as 3% and may occur predominantly among asymptomatic or mildly symptomatic women. Placental abnormalities were not associated with disease severity, and hospitalization frequency was similar to rates among nonpregnant women.

Best Practices for COVID-19—Positive or Exposed Mothers–Breastfeeding and Pumping Milk

Sandra E. Sullivan, MD, IBCLC and Lindsay A. Thompson, MD, MS .
JAMA Pediatr, Published online October 26, 2020. doi:10.1001/jamapediatrics.2020.3341

ABSTRACT

Breast milk protects infants from many illnesses and is the best food for most infants. During the coronavirus disease 2019 (COVID-19) pandemic, mothers who may be exposed or infected might be unsure about feeding their infant breast milk. Mothers, along with their family and health care professionals, should decide whether and how to start or continue breastfeeding.We do notknow ifmotherswith COVID-19 can spread the virus to infants through breast milk, but it is unlikely based on what we do know. Women who have had COVID-19 have high amounts of antibodies to the virus in their breast milk, which coat the inside of infants' noses and mouths, helping to block infection. Fresh (not frozen) milk is ideal because it is has live infectionfighting cells and offers the most protection.

Factors associated with US adults' likelihood of accepting COVID-19 vaccination

Sarah Kreps, PhD, Sandip Prasad, MD, John S. Brownstein, PhD, et al.
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ABSTRACT

IMPORTANCE: The development of a coronavirus disease 2019 (COVID-19) vaccine has progressed at unprecedented speed. Widespread public uptake of the vaccine is crucial to stem the pandemic. **Objective:** To examine the factors associated with survey participants' self-reported likelihood of selecting and receiving a hypothetical COVID-19 vaccine. **Design, Setting, and Participants:** A survey study of a nonprobability convenience sample of 2,000 recruited participants including a choice-based conjoint analysis was conducted to estimate respondents' probability of choosing a vaccine and willingness to receive vaccination. Participants were asked to evaluate their willingness to receive each hypothetical vaccine individually. The survey presented respondents with 5 choice tasks. In each, participants evaluated 2 hypothetical COVID-19 vaccines and were asked whether they would choose vaccine A, vaccine B, or neither vaccine. Vaccine attributes included efficacy, protection duration, major adverse effects, minor adverse effects, US Food and Drug Administration (FDA) approval process, national origin of vaccine, and endorsement. Levels of each attribute for each vaccine were randomly assigned, and attribute order was randomized across participants. Survey data were collected on July 9, 2020. **Main Outcomes and Measures:** Average marginal component effect sizes and marginal means were calculated to estimate the relationship between each vaccine attribute level and the probability of the respondent choosing a vaccine and self-reported willingness to receive vaccination. **Results:** A total of 1971 US adults responded to the survey (median age, 43 [interquartile range, 30-58] years); 999 (51%) were women, 1,432 (73%) White, 277 (14%) were Black, and 190 (10%) were Latinx. An increase in efficacy from 50% to 70% was associated with a higher probability of choosing a vaccine (coefficient, 0.07; 95% CI, 0.06-0.09), and an increase from 50% to 90% was associated with a higher probability of choosing a vaccine (coefficient, 0.16; 95% CI, 0.15-0.18). An increase in protection duration from 1 to 5 years was associated with a higher probability of choosing a vaccine (coefficient, 0.05 95% CI, 0.04-0.07). A decrease in the incidence of major adverse effects from 1 in 10,000 to 1 in 1,000,000 was associated with a higher probability of choosing a vaccine (coefficient, 0.07; 95% CI, 0.05-0.08). An FDA emergency use authorization was associated with a lower probability of choosing a vaccine (coefficient, -0.03; 95% CI, -0.04 to -0.01) compared with full FDA approval. A vaccine that originated from a non-US country was associated with a lower probability of choosing a vaccine (China: -0.13 [95% CI, -0.15 to -0.11]; UK: -0.04 [95% CI, -0.06 to -0.02]). Endorsements from the US Centers for Disease Control and Prevention (coefficient, 0.09; 95% CI, 0.07-0.11) and the World Health Organization (coefficient, 0.06; 95% CI, 0.04-0.08), compared with an endorsement from President Trump were associated with higher probabilities of choosing a vaccine. Analyses of participants' willingness to receive each vaccine when assessed individually yielded similar results. An increase in efficacy from 50% to 90% was associated with a 10% higher marginal mean willingness to receive a vaccine (from 0.51 to 0.61). A reduction in the incidence of major side effects was associated with a 4% higher marginal mean willingness to receive a vaccine (from 0.54 to 0.58). A vaccine originating in China was associated with a 10% lower willingness to receive a vaccine vs one developed in the US (from 0.60 to 0.50) Endorsements from the Centers for Disease Control and Prevention and World Health Organization were associated with increases in willingness to receive a vaccine (7% and 6%, respectively) from a baseline endorsement by President Trump (from 0.52 to 0.59 and from 0.52 to 0.58, respectively. **Conclusions and Relevance:** In this survey study of US adults, vaccine-related attributes and political characteristics were associated with self-reported preferences for choosing a hypothetical COVID-19 vaccine and self-reported willingness to receive vaccination. These results may help inform public health campaigns to address vaccine hesitancy when a COVID-19 vaccine becomes available.