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Child Maltreatment During the COVID-19 Pandemic

A Systematic Rapid Review



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KEYWORDS

• COVID-19 • Pandemic • Child maltreatment • Abuse • Neglect

KEY POINTS

- Findings of the included articles are mixed; 5 articles documented an increase in child maltreatment, 6 articles documented a decrease, and 1 study found no significant difference in child maltreatment rates.
- Of the included articles, rates of child maltreatment reports decreased while hospital cases of child maltreatment increased, calling the accuracy of reporting during the COVID-19 pandemic into question.
- Most articles (11 of 12) did not include perspectives of children affected by child maltreatment.

It is estimated that each year more than 1 million children worldwide are victims of physical, sexual, or emotional violence. Collectively, this violence has been termed child maltreatment (CM) and defined by the World Health Organization as “the abuse and neglect that occurs to children under 18 years of age.”¹ The impacts of CM are multifaceted, having short- and long-term consequences on a child’s attitudes and behaviors, as well as their mental and physical well-being.^{2–6} Increases in CM have been well-documented in association with increased parental stress,⁷ during and after recessions and epidemics, such as the Ebola and AIDS crises.^{8–10} Continuing to understand the situations that create, perpetuate, and amplify CM are of the utmost importance to then lower the rates of CM and decrease their impact. Thus, the ongoing coronavirus disease 2019 (COVID-19) pandemic and its subsequent impacts have become an area of interest and concern for linkages to CM.

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The ongoing COVID-19 pandemic has permeated daily life and activities, with more than 2.3 million global deaths at the time of this publication.¹¹ Mass lockdowns, stay-at-home orders, shelter-in-place orders, and general encouragement or enforcement to distance from anyone outside of the household have been implemented to mitigate COVID-19 infection rates, hospitalizations, and deaths.^{1,12,13} Although the infection and death rates do require drastic isolation measures, there may be negative impacts of such measures as well. The crisis, along with government-implemented isolating measures, have led to economic, psychological, and social hardship for people across the globe.^{14–16} These other effects of the pandemic, or the country's response to it, might impact CM.

The pandemic has exacerbated factors that contribute to CM. For parents, quarantines and stay-at-home orders have led to high rates of unemployment, difficulties in relationships, increased rates of depression, and unsurmountable stress.^{17–19} Emerging research has suggested that parents experiencing pandemic-related social isolation report an increase in verbal aggression, physical punishment such as spanking or hitting, and neglectful behaviors toward their children.²⁰ The COVID-19 pandemic has caused significant economic challenges and could have long lasting effects on the global economy.^{21,22} Last, more than 80% of children worldwide were affected by school closures during the pandemic.²³ In some countries, educational personnel make up the largest proportion of reporters in cases of CM.²⁴ Research has shown that because of school closures owing to the COVID-19 pandemic, there is a decrease in CM reports.²⁵ Routine pediatric medical care has also decreased as a function of the COVID-19 pandemic, leaving fewer opportunities for health care providers to find out about and report a CM case. Although it is clear the COVID-19 pandemic has created a variety of circumstances that are known to be indicative of an increase in CM, the pandemic is still evolving, and currently available studies cannot fully assess the lasting impacts.

The examination of CM during the COVID-19 pandemic has proven to be difficult, with mixed reports of increased, decreased, or varied results in cases of child abuse and neglect.²⁵ At a time when many victims are isolated within a violent household and are unable to disclose events while separated from the perpetrator,¹⁰ instances of CM are difficult to trace. Thus, a need to better understand and synthesize the existing literature surrounding the COVID-19 pandemic and CM is needed. To the authors' knowledge, this is the first review of its kind to explore the current literature in this field of study and, therefore, this systematic rapid review aims to address (1) the types of study designs used to analyze an ongoing situation, (2) whether CM trends vary by reporting type, and (3) the sources (primary vs secondary) used to gain insight into CM. Synthesizing this information, all published during the pandemic, provides a glimpse into the academic dialogue on this topic in real time.

METHODS

Article Inclusion and Exclusion Criteria

To be included, an article had to (1) include a measure of CM during the COVID-19 pandemic, (2) be published in a peer-reviewed journal, (3) be written in English, and (4) present original empirical findings (eg, no reviews, case studies, or news articles were eligible). Articles were excluded if they were inaccessible to reviewers or if they described the development of a tool or measure. Inaccessible articles are those that did not have a full-text download available or charged a fee.

Search Strategy

The systematic rapid review was conducted in accordance with the 2009 PRISMA statement.²⁶ Two experienced research librarians independently conducted a literature search on December 28, 2020. Both developed their search strategies in MEDLINE, and translated these searches into Embase, PsycInfo, and CINAHL. The searches were based on a combination of terms related to “maltreatment” (eg, “physical abuse,” “sexual abuse,” “neglect”) AND “child” (eg, “adolescent,” “girl,” “boy,” “young”). It was limited to the COVID-19 pandemic and English language. After their separate searches, the librarians met to compare search results. Duplicate articles between databases and librarians were removed, and the remaining articles were sent to the study team.

Data Extraction

Two independent reviewers (G.F. and A.C.R.) conducted an abstract review of the resulting 234 unique articles. Reviewers indicated whether an article fit or did not fit the inclusion criteria, and each article they disagreed on was discussed among 3 reviewers (G.F., A.C.R., and A.R.) until consensus was reached. A total of 27 articles remained and were retrieved for full-text review and abstraction.

Quality Assessment

Three reviewers (G.F., A.C.R., and A.R.) used the National Institutes of Health National Heart, Lung, and Blood Institute Study Quality Assessment Toolbox²⁷ to ensure that all of the included articles were free of significant bias.

Ethics

This study was not submitted to an institutional review board because a rapid literature review does not involve human participants.

RESULTS

A total of 234 unique citations were generated from the databases. After the initial abstract screen, 207 articles were removed. Most commonly, articles were removed because they were not original empirical research ($n = 131$), meaning that they were either a letter to the editor, a viewpoint or debate piece, a review paper, or a news report. Articles were also excluded if they did not include any current child abuse ($n = 55$), meaning that child abuse was either not mentioned, not included in the statistical analysis, or that child abuse history was only used as a study inclusion factor for adult subjects. Articles that did not include COVID-19 ($n = 5$) and articles that included neither COVID-19 nor present child abuse ($n = 6$) were excluded as well. Other reasons for exclusion were that the article was not accessible to reviewers ($n = 3$ did not have a full-text download available, $n = 1$ charged a fee to view), only the abstract was published ($n = 1$), the article was an animal study ($n = 1$), the article was a program evaluation ($n = 1$), the research was conducted for development of a clinical tool ($n = 1$), or the article was a workshop description ($n = 1$). Each reason for exclusion with only 1 article is categorized as other in [Fig. 1](#).

Of the remaining 27 full-text articles that were reviewed, 15 articles were excluded. Articles were removed because they had no current child abuse ($n = 6$), were not peer reviewed ($n = 2$), were not original empirical research ($n = 5$), or did not include COVID-19 ($n = 2$). A final count of 12 articles were ultimately included in this systematic rapid review, outlined in [Table 1](#). Each of these articles were deemed appropriate

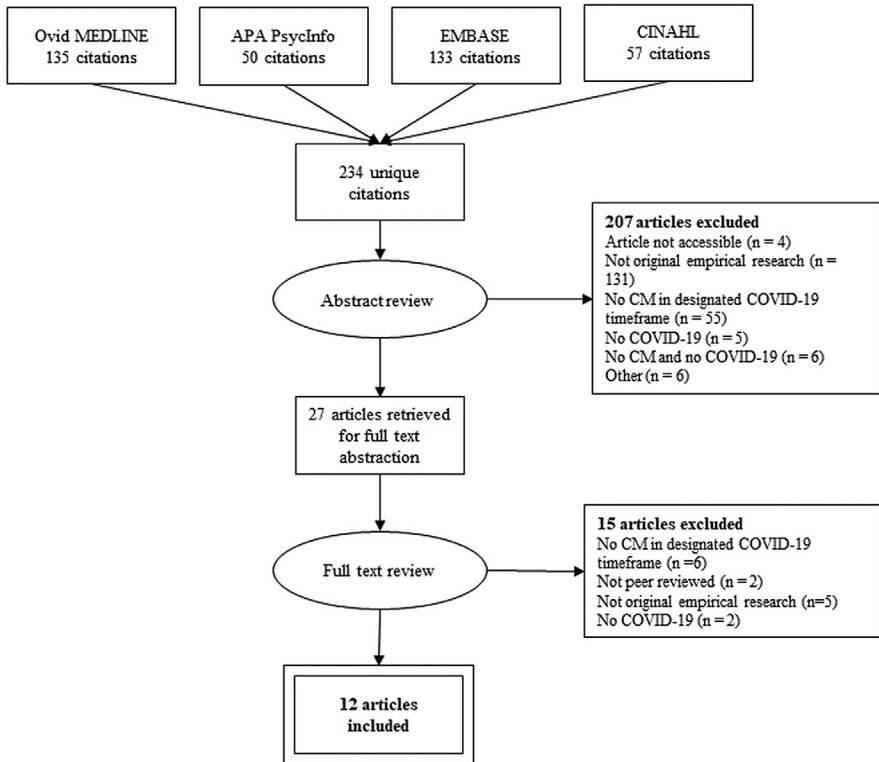


Fig. 1. PRISMA flowchart of the article identification, selection, and abstraction process. APA, American Psychological Association.

for inclusion based on the quality assessment measure.²⁷ Overall, 10 articles received a score of good and 2 received a score of fair. According to the tool, “a ‘good’ study has the least risk of bias, and results are considered valid, while a ‘fair’ study is susceptible to some bias deemed not sufficient to invalidate its results.”²⁷ None of the included articles were deemed poor, which would indicate significant bias.

Sample Characteristics

Reflective of the global scale of the COVID-19 pandemic, there is geographic diversity among the included articles. Four evaluations took place in the United States,^{28–31} and the other 8 are from outside of the United States, including Brazil, the Netherlands, and the UK.^{32–39} The articles ranged in sample size, with the smallest sample including 12 children,³⁸ the median 2 samples including 392 children in one³¹ and 414 parents in the other,³² and the largest sample coming from hospital records of CM for 58,367 children.³³ Of the articles, one was a survey of parents,³² and one included responses from children.³⁹ All other articles synthesized information from child abuse reporting or presentation to a hospital. Maltreated children were from all age groups. At the youngest end of the spectrum, Sidpra and associates³⁸ looked at children from 17 days to 401 days old, with a mean age of 192 days. Conversely, Platt and colleagues³⁷ included children aged 0 to 19 years, based on the 2002 definition the authors used

Table 1
Articles assessing CM during the COVID-19 pandemic

Author (Year)	Study Design	Sample Source and Sample Size	Sample Characteristics	Data Time Frame (MM/DD/YYYY)	Child Maltreatment Operational Definition	Findings	NIH NHLBI Study Quality Assessment
Barboza (2020) ²¹	Negative binomial regression analysis of surveillance data	<ul style="list-style-type: none"> Los Angeles, USA Reports of CAN to the Los Angeles Police Department Pre-COVID-19: n = 661 reports COVID-19: n = 614 reports 	<ul style="list-style-type: none"> Pre-COVID-19: 50% Female; 65% Hispanic, 23% Black, 8% White, 1% Asian, 3% Other Race; COVID-19: 49% Female; 60% Hispanic, 27% Black, 8% White, 1% Asian, 5% Other Race; No age data reported 	07/24/2019–01/20/2020 compared to 01/21/2020–07/19/2020	Physical abuse and neglect <ul style="list-style-type: none"> Abuse: Penal Code 273d Neglect: Penal Code 270 	Compared to the time period immediately preceding it, there was a 7.95% decrease in the number of child abuse and neglect reports during the COVID-19 pandemic.	Good
Bérubé (2020) ³³	Cross sectional analysis from a prospective longitudinal cohort	<ul style="list-style-type: none"> Quebec, Canada MAVIPAN cohort: parents of children aged 0–17 n = 414 parents 	85.7% Female; mean age = 40.2; no race data reported	04/29/2020–05/10/2020	Neglect <ul style="list-style-type: none"> MNBS Parent-Report short version Room for Parents Questionnaire Cognitive and Affective Needs Scale 	Compared to parents of children aged 0–12, parents of teenaged children were significantly less likely to be able to respond to their child's basic care needs ($P < .001$).	Fair

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Table 1
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Author (Year)	Study Design	Sample Source and Sample Size	Sample Characteristics	Data Time Frame (MM/DD/YYYY)	Child Maltreatment Operational Definition	Findings	NIH NHLBI Study Quality Assessment
Chong (2020) ³⁴	Retrospective review	<ul style="list-style-type: none"> • Singapore • Medical records from KK Women's and Children's Hospital, a major pediatric hospital • n = 58,367 children 	<ul style="list-style-type: none"> • Pre-DORSCON Orange (1): 53% Female; mean age = 8.0 y (SD = 4.7); • Post-DORSCON Orange (2): 48% Female; mean age = 7.0 y (SD = 4.3); • During Lockdown (3): 18% Female; mean age = 6.9 y (SD = 4.2); • Post Lockdown (4): 44% Female; mean age = 7.7 y (SD = 4.4); <p>No race data reported</p>	<ul style="list-style-type: none"> • (1): 01/01/2020–02/06/2020; • (2): 02/07/2020–04/06/2020; • (3): 04/07/2020–06/01/2020; • (4): 06/02/2020–08/08/2020 	<ul style="list-style-type: none"> • Basic Care Needs Scale • Physical abuse • SNOMED-CT and ICD codes for child abuse related diagnoses 	The hospital saw a greater proportion of child abuse-related emergencies during lockdown (44 children, 0.5% of emergencies) and post-lockdown (79%, 0.6%) compared to pre-DORSCON orange (36%, 0.2%) (P<.001).	Good

Degiorgio (2020) ³⁵	Retrospective review	<ul style="list-style-type: none"> • Malta • Mater Dei health records and computer databases of all acute paediatric hospital admissions for children aged 0–15 • Pre-COVID: n = 729 admissions; • COVID Wave 1: n = 266 admissions 	<ul style="list-style-type: none"> • Pre-COVID, 2019: 44% Female; • COVID Wave 1: 50% Female; <p>No race data reported</p>	<ul style="list-style-type: none"> • Pre-COVID, 2019: 03/01/2019–05/09/2019; • COVID Wave 1: 03/01/2020–05/09/2020 	<p>Physical abuse</p> <ul style="list-style-type: none"> • EHR 	<p>Compared to the same period in 2019, there was a higher percentage of child abuse or social paediatric cases in 2020 (0.14% vs 3.5% of cases) ($P < .001$)</p>	Good
Garstang (2020) ³⁶	Retrospective review	<ul style="list-style-type: none"> • Birmingham, England • CPME referrals for children aged 0–18 at Birmingham Community Healthcare Trust • EPR for the children referred • 2018: n = 78 referrals • 2019: n = 75 referrals • 2020: n = 47 referrals 	<p>37% Female; median age = 69 mo; no race data reported</p>	<p>compared 03/2018–6/2018; 03/2019–6/2019; 03/2020–6/2020</p>	<p>Physical abuse and neglect</p> <ul style="list-style-type: none"> • Conclusion from CPME • History from EHR 	<p>Compared to the same period in 2018 and 2019, there was a decrease in CPME referrals in 2020 (39% reduction; 95% CI: (14%, 57%)).</p>	Good

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Author (Year)	Study Design	Sample Source and Sample Size	Sample Characteristics	Data Time Frame (MM/DD/YYYY)	Child Maltreatment Operational Definition	Findings	NIH NHLBI Study Quality Assessment
Kovler (2020) ³⁰	Retrospective review	<ul style="list-style-type: none"> • Maryland, England • Cases taken from the trauma registry at a Level 1 pediatric trauma center for children under age 15 • 2018: n = 60 patients • 2019: n = 111 patients • 2020: n = 86 patients 	<ul style="list-style-type: none"> • 2018: 0% Female; 33% Black, median age = 21 mo; • 2019: 50% Female; 75% Black, median age = 10 mo; • 2020: 62% Female; 75% Black; median age = 11.5 mo 	compared 3/28/2018–04/27/2018; 3/28/2019–04/27/2019; 3/28/2020–04/27/2020	Physical abuse <ul style="list-style-type: none"> • Hospital evaluation • Injury pattern 	Compared to the same period in 2018 and 2019, there was a significantly higher proportion of trauma patients treated for child-abuse related injuries in 2020 ($P = .009$)	Good

Martins-Filho (2020) ³⁷	Retrospective population-based study	<ul style="list-style-type: none"> • State of Sergipe, Brazil • Official child maltreatment registries • 2019: n = 70 cases of child abuse • 2020: n = 53 cases of child abuse 	<ul style="list-style-type: none"> • 2019: 78.6% Female; 25.7% aged 0–11% and 74.3% aged 12–17%; 24.3% White, 7.1% Black, 60.0% Brown, 8.6% missing race data; • 2020: 71.7% Female; 30.2% aged 0–11% and 69.8% aged 12–17%; 15.1% White, 11.3% Black, 62.3% Brown, 11.3% missing race data 	01/01/2019–06/30/2019 compared to 01/01/2019–06/30/2020	Physical abuse <ul style="list-style-type: none"> • Official child maltreatment database 	Compared to 2019, child physical injury decreased by 24.3% in 2020. Decreasing rates occurred in January, February, March, and May.	Good
Platt (2020) ³⁸	Cross-sectional descriptive analysis	<ul style="list-style-type: none"> • State of Santa Catarina, Brazil • Notifications of violence against children age 0–19 in the Information System for Notifiable Diseases • n = 1851 notifications of interpersonal or self-inflicted violence 	–	compared 01/01/2020–03/15/2020; 03/16/2020–05/31/2020	Physical abuse, psychological abuse, sexual abuse, neglect <ul style="list-style-type: none"> • Municipality notifications 	Compared to the period before the lockdown, there was a decrease of 55.3% in notifications during the isolation period (1192 vs 659 notifications).	Good

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Table 1
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Author (Year)	Study Design	Sample Source and Sample Size	Sample Characteristics	Data Time Frame (MM/DD/YYYY)	Child Maltreatment Operational Definition	Findings	NIH NHLBI Study Quality Assessment
Rapoport (2020) ³¹	Retrospective analysis using SARIMA modeling	<ul style="list-style-type: none"> New York City, USA CAN allegations to NYC's Administration for Children's Services Count of NYC CPS investigations warranting child welfare preventative services stratified CAN allegations data from January 2015 to May 2020 observed and predicted values generated for March 2019 to February 2020 	–	<ul style="list-style-type: none"> Created models based on 01/2015–02/2020 Observed actual values from 03/2020–05/2020 	Physical abuse and neglect <ul style="list-style-type: none"> Allegations to NYC's Administration for Children's Services 	Fewer allegations than forecasted from March to May. <ul style="list-style-type: none"> March: (Expected-Observed = 1848, 95%CI: (1272, 2423), %Change = –28.8%) April: (Expected-Observed = 2976, 95%CI: (2382, 3570), %Change = –51.5%) May: (Expected-Observed = 2959, 95%CI: (2347, 3571), %Change = –46.0%) 	Good

Sidpra (2020) ³⁹	Retrospective Review	<ul style="list-style-type: none"> London, UK Cases of suspected abusive head trauma at Great Ormond Street Hospital For Children 2017: n = 0 cases; 2018: n = 1 case; 2019: n = 1 case; 2020: n = 10 cases 	40% Female; mean age = 192 d (range = 17–401 d); no race data reported	compared 03/23/2020–04/23/2020 with incidence in the previous 3 y (no dates provided)	Physical abuse <ul style="list-style-type: none"> Suspected AHT cases at hospital 	Compared to the same period in the previous 3 years, there was a 1493% increase in cases of AHT between March 23 and April 23, 2020.	Good
Tierolf (2020) ⁴⁰	mixed methods study: quantitative analysis is longitudinal, qualitative analysis is a sub-study	<ul style="list-style-type: none"> The Netherlands Quant: Families that had been reported to CPS for suspected partner violence or child abuse in the Netherlands. Recruited both before and during the pandemic; n = 159 families recruited before COVID and n = 87 families recruited during lockdown; Qual: these same families and 	Parents <ul style="list-style-type: none"> Before COVID-19: 66% Female; 0% aged 18%–24%, 22% aged 25%–34%, 42% aged 35%–44%, 30% aged 45%–55%, and 6% aged 55+; During Lockdown (after 03/16/2020): 63% Female, 2% aged 18%–24%, 15% aged 25%–34%, 43% aged 35%–44%, 34% aged 45%–55%, and 6% aged 55+; 	~ 1.5 y prior to 03/16/2020; 03/16/2020 – ongoing parent study	Physical abuse, psychological abuse, neglect <ul style="list-style-type: none"> Self-report of parents and teenagers on the CTSPC 	No significant difference in number of child abuse and neglect incidents reported by parents or teenagers before the COVID-19 crisis and after 03/16/2020.	Fair

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Table 1
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Author (Year)	Study Design	Sample Source and Sample Size	Sample Characteristics	Data Time Frame (MM/DD/YYYY)	Child Maltreatment Operational Definition	Findings	NIH NHLBI Study Quality Assessment
		professionals that work with vulnerable families recruited through "contacts with researchers from previous studies" • n = 30 parents, n = 9 children, and n = 13 professionals	No race data reported, no child demographics reported				

Whelan (2020) ³²	Retrospective analysis using ARIMA modeling	<ul style="list-style-type: none"> • Oklahoma, USA • Publicly available court filings from the Oklahoma State Court Network • Feb 2020: n = 87 crimes; • March 2020: n = 100 crimes; • April 2020: n = 83 crimes; • May 2020: n = 80 crimes; • June 2020: n = 42 crimes 	–	<ul style="list-style-type: none"> • Created models based on period starting on 01/01/2010 • Observed actual values from 02/01/2020–06/30/2020 	Physical abuse, sexual abuse, neglect	<ul style="list-style-type: none"> • Criminal charges 	<p>25.7% fewer allegations than forecasted from February to June.</p> <ul style="list-style-type: none"> • February: Difference = –21.1, 95% CI: (–47.9, 5.7), %Change = –19.5% • March: Difference = 0.3, 95% CI: (–27.1, 27.6), % Change = 0.3% • April: Difference = –23.6, 95% CI: (–51.6, 4.3), % Change = –22.2% • May: Difference = –29.2, 95% CI: (–57.7, 0.6), % Change = –26.7% • June: Difference = –63.2, 95% CI: (–92.3, 34.1), % Change = –60.1% 	Good
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Abbreviations: AHT, abusive head trauma; ARIMA, auto regressive integrated moving average; CAN, child abuse and neglect; CI, confidence interval; COVID -19, coronavirus disease 2019; CPS, Child Protective Services; DORSCON, Disease Outbreak Response System Condition; EHR, electronic health record; ICD, *International Classification of Diseases*; MAVIPAN, "Ma vie et la pandémie au Québec"; MNBS, Multidimensional Neglectful Behavior Scale; NHLBI, National Heart, Lung, and Blood Institute; NIH, National Institutes of Health; SNOMED-CT, Systematized Nomenclature of Medicine – Clinical Terms; SARIMA, seasonal auto regressive integrated moving average.

to define children and adolescents. Three articles did not report a mean age or age range.^{30,31,38}

Study Designs

A variety of study designs were used to assess the relationship between the COVID-19 pandemic and CM. The most common study design was retrospective review. Six articles used this method.^{29,33–36,38} Two articles use retrospective data to compare forecasted trends in CM to actual reports of CM.^{30,31} One was a cross-sectional analysis of survey data,³² and another was a cross-sectional analysis of violence notifications.³⁷

Definition of Child Maltreatment

CM was operationalized with some nuance across articles. Some relied solely on diagnostic codes,^{33,34} whereas others also considered suspicions or allegations of maltreatment.^{29,30,35,37,38} Additionally, the scope of CM varied: 11 of the articles included physical abuse against a child,^{28–31,33–39} 7 were inclusive of child neglect,^{28,30–32,35,37,39} and 2 included psychological abuse.^{37,39}

Qualitative Synthesis of Findings

Overall, 5 articles documented increased CM, 6 articles documented decreased CM, and 1 article found no significant difference in CM trends between the prepandemic period and during the pandemic.

Setting of reports

Four articles discussed incidence of CM in a hospital setting.^{29,33,34,38} Six articles discussed incidence of CM from crime reports and Child Protective Services reports.^{28,30,31,35–37} Each of the 4 articles that generated reports from a hospital setting found an increased incidence of CM. Contrastingly, each of the 6 articles based on crime and Child Protective Services reports found a decreased incidence of CM.

Forecasted versus actual

Two articles comparing forecasted versus actual trends in CM reports.^{30,31} These articles used similar modeling techniques (seasonal autoregressive integrated moving average and autoregressive integrated moving average), in different settings. Rapoport and associates³¹ examined New York City, and Whelan and coworkers³² examined the state of Oklahoma. Both analyses found significantly less allegations during the COVID-19 pandemic than expected. Rapoport and coworkers³¹ saw less reports than expected from March to May 2020, and Whelan and colleagues³² saw less reports than expected in February and April to June 2020.

DISCUSSION

This study used systematic rapid review methodology to explore the impact of the COVID-19 pandemic on CM. The variability in findings across the included articles expose the complexity of this relationship, especially as the situation is developing in real time. The type of study design, the report setting, and the source of the information on the CM were explored and are discussed in detail elsewhere in this article.

The most common study design used was retrospective review, where researchers compared trends in CM from previous time periods with a time period during the lockdown. The lockdown period was defined differently across articles, with one using

“COVID Wave One” and the timepoint of interest,³⁴ another using Disease Outbreak Response System Condition, or DORSCON, stages,³³ and still others defining date ranges of a few months at the height of the lockdown orders.^{28,30,31} Thus, data cannot be directly compared owing to differing date ranges.

The rising trends of CM in hospitals and falling trends of CM crime reports during the COVID-19 pandemic is concerning. This trend begets the question of whether reporting is accurate during this time. Access to mandated reporters such as school teachers has been severely limited owing to stay-at-home orders and the transition to virtual schooling, leading to an underreporting of CM.⁴⁰ Additionally, during the COVID-19 pandemic, there was an increased hesitancy to visit hospitals and clinics.^{41–43} The fear of going to the hospital for issues unrelated to COVID-19 could have different implications: less contact with medical professionals who are mandated reporters or only the most severe cases presenting to the hospital. Telemedicine replaced in-person visits for many medical professionals at the height of the pandemic, and providers may have missed usual warning signs of CM. The hospital-based articles included in the present review, however, reported an increase in CM cases, potentially contradicting this hypothesis.^{29,33,34,38}

The articles presented here are predominantly secondary reports. Articles relied on crime reports, health record data, and surveys of parents to understand CM. Just 1 article reported surveying children (aged 3–18 years), but only reported data from the teenagers in the study.³⁹ It was also unclear whether children were completing surveys away from parental influence. Other reports, like the allegations of abuse documented by Rapoport and associates,³¹ also primarily came from adults such as law enforcement, social services, educational personnel, and caregivers. There is absence of information directly from the children affected by CM, despite how useful it could be. Past year incidence data collected directly from young children and adolescents are both reliable and developmentally appropriate, meaning that they have the cognitive capacity to recall and understand instances of CM.⁴⁴ The reliance on physical evidence of maltreatment in many of our included articles could result in the underreporting of CM cases, particularly cases where bruises or injuries have healed, where psychological or sexual abuse occurred, or where neglect was involved.^{29,33,34,38}

When parents were surveyed,³² no comparative analyses by sex were completed. Mothers and fathers of children affected by CM were analyzed together as a unit, despite the possibility that parental perspective could vary by gender. It is well-known that parent sex is associated with likelihood of abusing a child and typology of maltreatment committed, although the results are mixed across countries and cultures.^{45–48} Sex is also implicated in the relationship between parenting stress and CM potential.⁴⁹

The associations shown here are subject to confounding. One potential confounder in the relationship between the COVID-19 pandemic and CM is parental stress. It is known that parental stress is a major risk factor of CM.^{50–52} Parental stress also increased during the COVID-19 pandemic: fear of the virus, job loss, new rules and mandates, and transitions to virtual work and schooling, among other stressors, were rampant during this time.^{4,18} Additionally, it is documented that economic hardship is a predictor of child neglect.^{53–56} The mass layoffs, financial threats to small businesses, and sometimes minimal relief from governments during the COVID-19 pandemic could all be sources of economic hardship for parents.

The greatest strength of the present study is the rigor with which it was conducted at every stage. A.R. trained G.F. and A.C.R. extensively in data abstraction and article selection using the PRISMA method. Three reviewers took part in the multi-pronged

article selection process, and all selected articles were screened for quality assurance using the National Institutes of Health National Heart, Lung, and Blood Institute Study Quality Assessment Toolbox.²⁷ A limitation of our study is that it was conducted during the ongoing COVID-19 pandemic. Thus, it is likely that additional articles will be published on this topic as the COVID-19 pandemic develops, and of the articles that are included here, some have small sample sizes.^{36,38} This factor could impact the potential for generalizability to larger samples or populations.

SUMMARY

The global nature of the COVID-19 pandemic warrants future research conducted by geography. Different countries, states, and even different cities define and handle CM cases differently. This variability could contribute to different rates of reporting and incidence of CM. Policy implications on the accuracy of reports should be explored, as should the efficacy of policy measures on CM prevention.

CLINICS CARE POINTS

- Children are particularly vulnerable during the COVID-19 pandemic because stay-at-home orders, minimized access to mandated reporters, and increased parental stress may be associated with increased CM.
- Providers should take extra care to ask children whether CM is occurring in the home and give examples of the different types of CM. Some children, especially those affected by neglect or psychological violence, may not show visible signs of CM. Other children may not know that what they are experiencing is CM.
- Discourse on school, daycare, church, and other institutional reopenings should include special considerations for children at risk of CM and children with a history of CM victimization.

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DISCLOSURE

The authors of this publication declare that they have no relevant or material financial interests that relate to the research described in this paper.

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