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# Prevalence of reported violence in children and adolescents in the clinical work of health professionals: a systematic review and meta-analysis

# Prevalência de relato de violência em crianças e adolescentes no trabalho clínico de profissionais da saúde: uma revisão sistemática e meta-análise

Lucas Jampersa (https://orcid.org/0000-0002-2016-9749) [1]
Adriele Barbosa Paisca (https://orcid.org/0000-0003-1966-7705) [1]
Karinna Veríssimo Meira Taveira (https://orcid.org/0000-0001-6978-4083) [2]
Cristiano Miranda de Araújo (https://orcid.org/0000-0003-1325-4248) [1]
Giselle Aparecida de Athayde Massi (https://orcid.org/0000-0002-3017-3688) [1]

**Abstract** *This article aims to analyze the prevalence of reporting and notification of violence in children and adolescents in the work of clinical health professionals. The search was performed in six electronic databases and the gray literature for studies published until June 1, 2022. Estimates of interest were calculated using random effects meta-analyses. Two reviewers independently evaluated the potentially eligible studies according to the following criteria: cross-sectional studies carried out with health professionals who provided clinical care for children and adolescents and dealt with violence cases. Two reviewers extracted data on included trial characteristics, methods, and outcomes. Expectations of interest were transformed using random effects meta-analyses. The meta-analysis of the prevalence of reports of violence performed with 42 articles was 41%. The notification meta-analysis occurred with 39 articles and was 30%. About one in two health professionals face situations of violence against children and adolescents in their clinical practice (41%), and approximately one in three health professionals report the cases (30%).*

**Key words** *Prevalence, Health professionals, Violence, Notification, Systematic review*

**Resumo** *O objetivo do artigo é analisar a prevalência de relato e notificação de violência em crianças e adolescentes no trabalho de profissionais clínicos da saúde. A busca foi realizada em seis bases de dados eletrônicas e na literatura cinzenta para estudos publicados até 1º de junho de 2022. As estimativas de interesse foram calculadas usando meta-análises de efeitos aleatórios. Dois revisores avaliaram de maneira independente os estudos potencialmente elegíveis de acordo com os seguintes critérios: estudos transversais com profissionais da saúde que prestavam atendimentos clínicos voltados a crianças e adolescentes e que se depararam com casos de violência. Dois revisores extraíram dados sobre as características dos estudos incluídos, métodos e resultados. As estimativas de interesse foram calculadas usando meta-análises de efeitos aleatórios. A meta-análise de prevalência de relato de violência realizada com 42 artigos foi de 41%. A meta-análise da notificação ocorreu com 39 artigos e foi de 30%. Aproximadamente um a cada dois profissionais da saúde se deparam com situações de violência contra crianças e adolescentes em sua prática clínica (41%) e cerca de um a cada três profissionais da saúde notificam os casos (30%).*

**Palavras-chave** *Prevalência, Profissionais da saúde, Violência, Notificação, Revisão sistemática*

[1] Universidade Tuiuti do Paraná. R. Luiz Gurgel do Amaral Valente 104. 81925-230 Curitiba PR Brasil. ljampersa@gmail.com
[2] Universidade Federal do Rio Grande do Norte. Natal RN Brasil.

## Introduction

Intra-family violence against children and adolescents is a worldwide reality. It consists of any violent act committed by a family member, even without blood ties, against another member under 19 years of age. Defined based on family and affective relationships established between those involved and not by the physical space in which it occurs, this phenomenon is predominantly manifested through physical, sexual, and psychological violence, in addition to negligence attitudes[1]. Worldwide, it is estimated that one in two children between the ages of 2 and 17 suffers some form of violence each year. That is, half of the children are victims of violence annually, which represents approximately 1 billion children around the planet[2].

This violence suffered in childhood can generate physical and emotional symptoms in the victim and delays in intellectual, motor, and language development. These consequences may appear with the time elapsed between the situation of violence and the appearance of health problems, with immediate, mediate, or long-term effects. Furthermore, some late manifestations are frequently observed, including suicidal behavior, anxiety, depression, sleep disturbances, heightened sexuality, criminality, and excessive use of illicit substances[1].

The world health organization describes that one of the risk factors for health problems until adulthood and the involvement of other forms of violence is mainly due to abuse experienced in the first decade of the child's life. Sexual violence is the threshold of cases of depression, drug addiction, and suicide attempts[3]. Overall, the violent situations experienced by children lead them to develop harmful practices associated with smoking, high-risk sexual behavior, and eating disorders[3]. Therefore, the sooner the situation of violence is interrupted, the better the prognosis presented by the victim[4].

Health professionals are in a favorable position to identify probable situations of violence, given that victims often seek health services due to their symptoms[5]. Pediatricians generally know their patients emotional, educational, and physical characteristics before the beginning of an eventual abuse[6]. The dental surgeon, the speech therapist, and the psychologist are very close to the child and the family during the service, from the first consultation to filling out the clinical forms. This proximity helps these professionals to know the family routine of their patients. Thus, throughout clinical care, these professionals understand the family dynamics in which situations of violence may be present[7,8].

No systematic literature review was found on reports of violence against children and adolescents identified by health professionals working in the clinical setting. Thus, this systematic review aims to analyze the prevalence of reporting and notification of violence in children and adolescents in the clinical work of health professionals.

## Methodology

This systematic review was developed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Checklist (PRISMA)[9].

### Eligibility criteria

Studies that met the criteria related to the acronym 'PECOS' were considered eligible for this systematic review:

P = health professionals; E = acting in a clinical environment and reporting care for children and/or adolescents; C = no comparison because it is a prevalence study; O = primary outcome: prevalence of reports of intrafamily violence; Secondary outcome: prevalence of notification of cases of intrafamily violence; S = Study design: cross-sectional studies.

### Inclusion criteria

Cross-sectional studies involving health professionals who perform clinical care aimed at children and adolescents were included. Studies that portray the prevalence of reports of violence in childhood and adolescence and studies capable of indicating the prevalence of notification of cases of intrafamily violence against children and adolescents were also included.

### Exclusion criteria

Publications were excluded following four pre-established criteria: 1 – studies carried out with data from the coroner's office, hospitals, waiting, or with university students. 2 – studies that did not respond to the stipulated research question. 3 – reviews, letters, books, conference abstracts, case reports, research reports, case series, opinion articles, articles and technical guidelines, brief and/or ethnographic communications. 4 – studies that were not found to be read in full, even when requested to the authors via email.

**Information sources and research strategies**

The following databases were used to identify the studies: EMBASE, Latin American and Caribbean Literature on Health Sciences (LILACS), LIVIVO, PubMed/Medline, Scopus, and Web of Science. In addition, a search of the gray literature was performed on Google Scholar, MedRxiv, OpenGrey, and Proquest Dissertations & Theses. The complete search used for each database is described in Appendix 1 (available from: https://doi.org/10.48331/scielodata.159ACH).

EndNote® software was used to organize and remove duplicate references.

**Selection of studies**

The selection of studies eligible for the review was performed by two independent reviewers (A.B.P. and L.J.). In order to calibrate the reviewers before starting the selection, an independent pre-selection was performed based on a partial literature search, and the value of the Kappa coefficient of agreement was calculated. The definitive reading started after obtaining agreement values > 0.8 between the two reviewers.

The study selection process was carried out independently and in two phases. In the first phase, titles and abstracts of retrieved references were evaluated, and potentially eligible studies were selected for a full reading. In the second phase, the full text was evaluated to confirm eligibility. The selection process was carried out through the website Rayyan – Intelligent Systematic Review, promoting blinding between the reviewers in all evaluations. A team member (C.M.A) did not participate in the selection and performed the moderation. Disagreements were decided by consensus, with a third reviewer (G.A.A.M).

**Data collect**

Two reviewers (A.B.P. and L.J.) collected information from the included studies, which was discussed. The data collected consisted of the following aspects: study characteristics (authors, year of publication, and country), population characteristics (sample size and health professionals included), evaluation characteristics (instruments used), results characteristics (results presented in outcome), and main conclusions.

When data were missing or incomplete in the article, the authors were contacted via email to obtain the relevant information. In these cases, three attempts were made with all the article's authors, with a time interval of one week. When there was no response, the article was excluded with due justification.

**Risk of bias assessment**

The included studies were evaluated for methodological quality with the "Meta-Analysis of Statistics Assessment and Review Instrument" (MASTARI) tool[10]. Two reviewers (A.B.P and L.J) separately performed the risk of bias assessment and judged the included articles, marking each evaluation criterion with "yes", "no", "uncertain", and "not applicable". The risk of bias was classified as high when the study reached 49% "Yes"; moderate when the study reached 50% to 69% "Yes"; and low when the study reached more than 70% "Yes"[11]. Disagreements were resolved through discussion with a third reviewer (C.M.A) when necessary. Revman 5.4 Software was used to create the figures.

**Data items and effect measure**

The number of events and the total sample size for the outcomes of interest were extracted from the included studies. The global prevalence for the reporting and notification of domestic violence against children and adolescents was then calculated, with the respective 95% confidence intervals (95%CI).

**Strategy for data synthesis**

A meta-analysis of proportions with a random effect model was performed using the inverse variance method and the DerSimonian and Laird estimator. Heterogeneity was evaluated using the inconsistency index ($I^2$). The Freeman-Tukey double arcsine transformation method was used so that the data followed an approximately normal distribution. Confidence intervals of 95% (95%CI) were calculated using the Clopper-Pearson method.

**Assessment of reporting bias**

Publication bias was assessed through visual analysis of the funnel plot and the Egger test, considering a significance level of 5%. A sensitivity analysis was also performed to evaluate the estimates based on studies with a sample size with sufficient statistical power to assess this outcome in the population. Thus, a sample calculation was performed considering the global estimate of mean prevalence for each outcome evaluated,

taking into account an infinite population, a sampling error of 10%, and a confidence level of 95%. A subgroup analysis was performed in the presence of heterogeneity, considering the category of professionals participating in the study.

### Assessment of the certainty of cumulative evidence

The certainty of the evidence was evaluated using the "Grading of Recommendations Assessment, Development and Evaluation tool" (GRADE)[12]. This tool considers five domains to assess the certainty of evidence: risk of bias, inconsistency of results, indirect evidence, imprecision, and publication bias. Then, it judges the cumulative evidence generated as not serious, serious, and very serious. The GRADE level of evidence was determined by three authors (L.J, C.M.A, and K.V.M.T.), and the consensus was reached by discussion. A 'Summary of Findings' table was produced using GRADEpro software.

## Results

### Selection of studies

The databases retrieved 6181 references. After the repeated studies removal, 4285 references remained. After completing the first phase, 4213 references were removed, which did not meet the inclusion criteria, thus leaving 72 studies for the second phase. In the search update in June 2022, 842 references were retrieved, ten selected, totaling 82 studies for the second phase.

The reading of the full text of the 82 references excluded 30 studies, as they did not meet the eligibility criteria (Appendix 2, available at: https://doi.org/10.48331/scielodata.159ACH). Thus, 52 studies met the inclusion criteria and were selected for this review (Figure 1).

### Characteristics of the studies

Of the 52 selected studies, 30 were carried out in Brazil[7,13-41], five in the United States[42-46], two in Norway[47,48], two in Australia49, 50), and the 13 remaining studies were conducted in Saudi Arabia[51], Colombia[52], Croatia[53], Egypt[54], Greece[55], India[56], Northern Ireland[57], Netherlands[58], New Zealand[59], Pakistan[60], Sweden[61], Turkey[62], and a multicenter study carried out in 22 European countries[63].

The 52 studies were cross-sectional and for data collection. Eight studies used validated instruments, with five studies[28,32,36,37,41] relying on the Questionnaire on Childhood Trauma (QUESI)[64]. In two studies, the authors developed the validation of a new questionnaire[56,62]. A survey used the ISPCAN Child Abuse Screening Tool[63], and the other studies used non-validated self-administered instruments.

The sample size ranged from 19[21] to 1,200[47,48] participants. Regarding the professionals included, 24 studies with physicians[14,19,25,26,28,30-32,34-37,42-46,49,51,57,59,61,63], three studies with speech therapists[7,15,29], 38 studies with dentists[13,16-28,32-41,45,47,48,50-58,60,62], and a study with psychologists (45). The year of publication of these studies ranged from 1978[43] to 2022[54,62]. Table 1 shows the characteristics description of the included studies.

### Risk of bias

Regarding the overall risk of bias, of the 52 studies included in this review, nine were classified as low risk of bias[7,29,36,37,41,51,54,60,62], 28 were classified as moderate risk of bias[15-18,21,23-26,30-34,36,39,40,44-46,48,49,52,53,55,58,61,65], and 15 as high risk of bias[14,19,20,22,27,35,38,42,43,47,50,56,57,59,63] (Appendix 3, available at: https://doi.org/10.48331/scielodata.159ACH).

### Individual study results

Regarding the identification or suspicion of cases of violence against children and adolescents, most studies were carried out with dentists[13,16-28,32-41,45,47,48,50-58,60,62] and physicians[14,19,25,26,28,30-32,34-37,42-46,49,51,57,59,61,63]. The professionals with the highest rates of suspicion, identification, and notification of cases were doctors and dentists.

The identification and notification of cases included professionals with more than ten years of training. Female professionals were the ones who most identified and reported cases of violence[14-18,20,26,32,33,36-39,44,45,47,48,52-54,57,61]. The identifications occurred due to body marks on the child or adolescent[7,15-17,19,21,23,25,26,29,30,33,34,36-38,42,47,51,53,55,57,59,60,62], emotional symptoms[7,16,17,19,21,22,24-26,29,33,38,42,43,47,48,53,55,66], patient's own reports[7,19,29,32,39,44,47], absences from appointments[47], treatment abandonment[43,58], suspicious social behavior[7,17,22,29,33,40,48,49,58], and inappropriate clothing[46].

The most common type of violence was physical[7,15,21,25,29,30,32-34,36,37,39-41,44,46,47,49,53,54,56-60,62,63], neglect and/or abandonment[7,15,22,29,30,42,44,47,49,50,53,55-57,59,62,63], sexual violence[7,25,29,30,34,43,44,46,47,49,50,54,58,63], and psychological violence[7,21,29,30,54,63]. Females predominated among the victims[13,15-17,19,20,22,25,27,30,32-39,42,

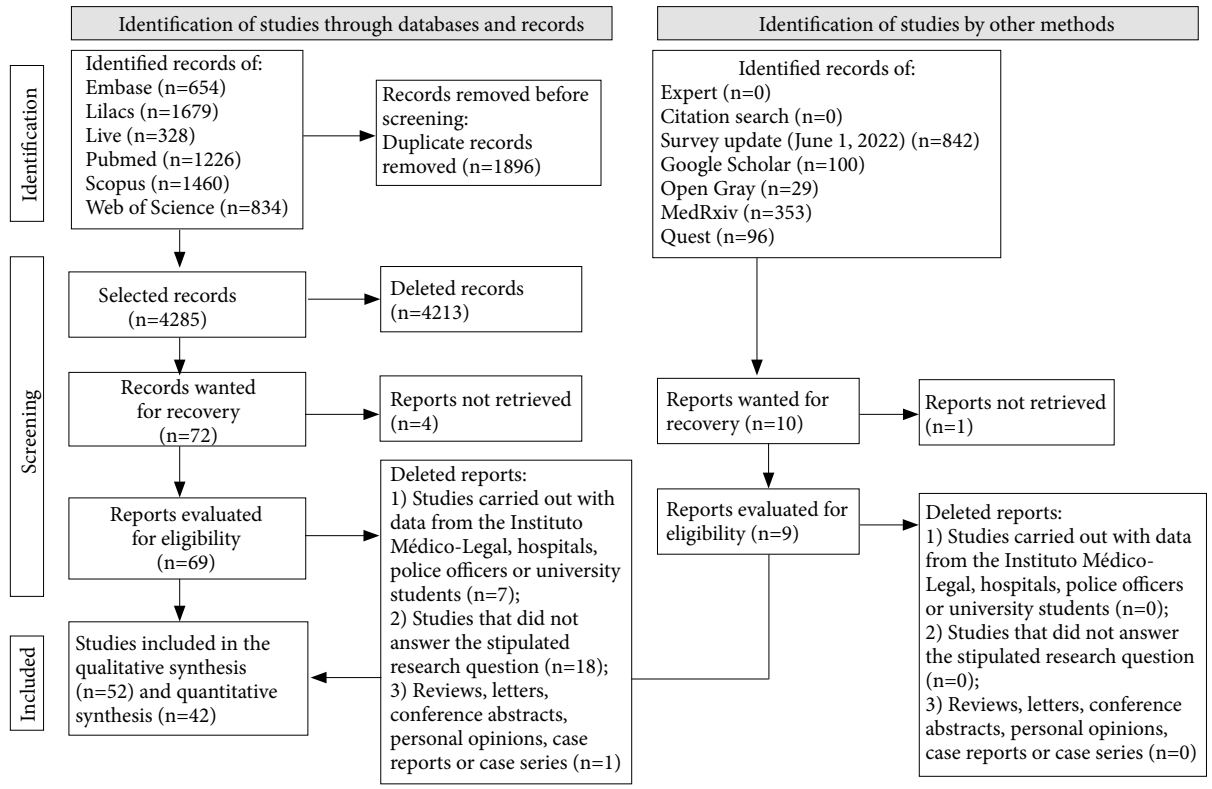


**Figure 1.** Process of identification of studies through databases.

From: page MJ, MacKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement; an updated doi: 10.1136./bmj. n71. For more information, visit: http://www.prisma-statement.org/

[43,46,47,52,53,57,59,61,66,67]. The aggressors were fathers, mothers, stepfathers, stepmothers, uncles, or close relatives of the victim[16-18,22-24,27,28,34,36,38,45,47,48,51,53,55].

Regarding speech therapists, the most common type of violence identified by this professional was physical[15,29]. Language delay was the victim's most frequently reported speech-language pathology complaint[29]. In most cases, treatment was abandoned[15,29].

Regarding physicians, a significant percentage did not have the conditions to recognize, evaluate, and refer victims of child abuse[14,31,63]. Small-town physicians, recent college graduates, and physicians who attended child abuse workshops were more likely and more confident to recognize victims of violence[46].

Most physicians said they had not received information about violence during graduation[19,31,63]. Furthermore, the training on child abuse provided specifically in the residency in pediatrics was insufficient[63]. Professionals did not know the means of notification nor the institutions that assist children and adolescents victims of abuse[26,31,34,63]. They also stated that the subject was not the focus of training and discussion in the work environment itself[26,31,34,63].

Physicians pointed out difficulties in notifying the cases to the responsible bodies. These difficulties include the lack of knowledge about the laws and processes for reporting cases[26,28,34,42,61], negative experiences with child service agencies[30,42], distrust in victim protection bodies[30,61], the fear of legal involvement[34], uncertainty about the veracity of the violence[26,34,51,61], or even the fact of working exclusively in the private sector[30].

The training time was significant for physicians to notify cases[26,28]. Likewise, knowing the notification form and how to refer cases increases the chances of professionals reporting situations of abuse in children and adolescents[65].

In the case of dentists, these professionals they recognize the importance of their profes-

**Table 1.** Description of the characteristics of the included studies.

| Authors, year, country | Sample size and professionals included | Instrument used | Prevalence of professionals who suspected/identified cases of violence | Prevalence of professionals who reported |
|---|---|---|---|---|
| Acioli et al., 2011, Brazil | 89 speech therapists | Questionnaire not validated | 43.8% (39) | 2.9% (2) |
| Azevedo et al., 2012, Brazil | 187 dentists | Questionnaire not validated | 14.3% (25) | 24% (6) |
| Badger e Tuscaloosa 1989, Alabama | 276 physicians | Questionnaire not validated | 324 cases of physical violence, 70% reported by pediatricians and 26% by family doctors. 226 cases of sexual violence were detected, 76% by pediatricians and 20% by family physicians | 89% of cases of physical violence were reported and 94% of cases of sexual violence |
| Buldur et al., 2022, Turkey | 229 physicians and dentists | Questionnaire developed and validated by the study authors themselves | 21.8% (50) | 39.6% |
| Brattabo et al., 2016, Norway | 1.200 dentists and dental hygienists | Questionnaire not validated | NR | 60% (720) |
| Brattabo et al., 2018, Norway | 1.200 dentists and dental hygienists | Questionnaire not validated | 67.4% (818) | 60% (720) |
| Campos, 2010, Brazil | 123 pediatric dentists | Questionnaire not validated | 36.4% (43) | 78.9% (15) |
| Carvalho et al., 2010, Brazil | 96 pediatricians | Questionnaire not validated | 55% (53) | NR |
| Carvalho et al., 2013, Brazil | 40 dentists from the public service and 40 from the private service | Questionnaire not validated | 16% in the public network and only 3% in the private network. | 60% of dentists in the public network and 50% in the private network |
| Cavalcanti et al., 2002, Brazil | 84 dentists | Questionnaire not validated | 11% (9) | NR |
| Cavalcanti e Martins, 2009, Brazil | 28 pediatricians and 35 dentists | Questionnaire not validated | 78.6% (22) of pediatricians and 34.3% (12) of dentists suspected cases. | 95% (19) of pediatricians and 5% (1) of dentists |
| Cukovic-Bagic et al., 2015, Croatia | 510 dentists | Questionnaire not validated | 26.27% (134) | 7.20% |
| Dalledone et al., 2015, Brazil | 146 dentists and 77 oral health technicians | Questionnaire on Childhood Trauma (QUESI) by Marengo et al., 2013 | 52.73% (77) of dentists and 46.75% (36) of technicians | 35.67% (66) of dentists and 22.08% (17) of technicians |
| De Lima e Pieri, 2021, Brazil | 45 dentists | Questionnaire not validated | 24.44% (11) | 36.36% triggered the Guardianship Council |
| Denny et al., 2001, New Zealand | 148 pediatricians | Questionnaire not validated | 18 | 61% (11) |
| El Tantawi et al., 2022, Egypt | 821 dentists | Questionnaire not validated | 43.1% (354) | 4.3% |
| Francon et al., 2011, Brazil | 19 dentists | Questionnaire not validated | 26.31% (5) | 0% (There was no notification) |
| Garcia et al., 2008, Brazil | 54 dentists | Questionnaire not validated | 33% | 89% |

it continues

**Table 1.** Description of the characteristics of the included studies.

| Authors, year, country | Sample size and professionals included | Instrument used | Prevalence of professionals who suspected/identified cases of violence | Prevalence of professionals who reported |
|---|---|---|---|---|
| Gunn et al., 2005, USA | 195 pediatricians | Questionnaire not validated | 96% | NR |
| Gurgel et al., 2001, Brazil | 199 dentists | Questionnaire not validated | 32.70% | 64.8% |
| James et al., 1978, USA | 96 physicians | Questionnaire not validated | 53% (51) | 42% |
| Kugananthan et al., 2021, Australia | 228 DHPs, dentists, hygienists and dental therapists | Questionnaire not validated | 55% | 20 |
| Laud et al., 2012, Greece | 368 dentists | Questionnaire not validated | 13% suspected physical and psychological violence and 35% of neglect | 6 dentists notified |
| Lima et al., 2005, Brazil | 70 pediatric dentists | Non-validated questionnaire applied via phone call | 27.1% (19) | 5% (1) |
| Lima et al., 2011, Brazil | 506 professionals, 188 from the Basic Health Units and 318 from the Family Health Team | Questionnaire not validated | 34.8% (54) of the workers of the Basic Health Units and 42.3% (121) of the Family Health Team identified some case of violence | 50% |
| Losso et al., 2012, Brazil | 56 dentists | Questionnaire not validated | 18% (10) | 3.5% (2) |
| Luna et al., 2010, Brazil | 77 physicians and 130 dentists | Questionnaire not validated | 25.4% (43) of physicians and 26.1% (44) of dentists | 30% (21) of physicians and 25.8% (18) of dentists |
| Martins Júnior et al., 2019, Brazil | 27 dentists and 10 physicians | Questionnaire not validated | 40.7% (11) dentists. 100% (10) physicians | 7.4 (2) dentists and 90% (9) physicians |
| Merwass et al., 2021, Saudi Arabia | 371 health professionals | Questionnaire not validated | NR | 102% of participants a case of abuse and child abuse |
| Moreira et al., 2013, Brazil | 9 physicians, 26 nurses and 16 dentists | Questionnaire not validated | 37.20% | 60% |
| Moreira et al., 2014, Brazil | 207 nurses, 91 doctors and 83 dentists | Questionnaire not validated | 40.7% | 34.8% |
| Moreira et al., 2015, Brazil | 212 dentists | Questionnaire not validated | 28.3% (60) | 16.9% |

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sion regarding the recognition of situations of violence against children. However, they have difficulties in identifying and in the procedures to be carried out in these situations[17,19,20,23,50,52,60]. In other studies, it was observed that dentists' knowledge is focused on orofacial characteristics and findings indicative of different types of violence[23,38,40,62].

**Table 1.** Description of the characteristics of the included studies.

| Authors, year, country | Sample size and professionals included | Instrument used | Prevalence of professionals who suspected/identified cases of violence | Prevalence of professionals who reported |
|---|---|---|---|---|
| Nigri et al., 2021, 22 European countries | 1083 European pediatricians | Questionnaire validated by the information technology department of EPA-UNEPSA, Berlin, Germany | 80% of respondents found at least one case of child emotional or psychological abuse and 76.3% at least one case of physical or sexual abuse | 47.80% - Sexual; 22.30% - Emotional. |
| Noguchi et al., 2005, Brazil | 224 speech therapists | Questionnaire not validated | 24.1% (54) | 4 professionals |
| Noguchi et al., 2006, Brazil | 224 speech therapists | Questionnaire not validated | 24.1% (54) | NR |
| Nunes et al., 2021, Brazil | 181 dentists | Questionnaire on Childhood Trauma (QUESI) by Marengo et al., 2013 | 40.3% (73) had already recognized some cases of physical violence | 6.1% (11) |
| Pires et al., 2005, Brazil | 92 pediatricians | Questionnaire not validated | 86.96% (80) | 78.75% (63) |
| Russel et al., 2004, Northern Ireland | 431 health professionals | Questionnaire not validated | 58% (251) | 47% (201) |
| Saleem et al., 2021, Pakistan | 330 dentists | Questionnaire not validated | 20% suspected physical violence | 30% |
| Saulsbury et al., 1985, USA | 252 physicians | Questionnaire not validated | 90% | NR |
| Schweitzer et al., 2006, Australia | 91 physicians | Questionnaire not validated | 74% | 21% (19) |
| Silva et al., 2019, Brazil | 238 dentists | Questionnaire not validated | 12.8% (28) | 39% notified the Guardianship Council and 5% dialed 100 |
| Silva Júnior et al., 2017, Brazil | 227 physicians | Questionnaire not validated | 53.1% | 52.6% |
| Silva-Oliveira et al., 2017, Brazil | 35 dentists, 46 nurses, 63 physicians | Questionnaire on Childhood Trauma (QUESI) by Marengo et al., 2013 | 59.7% (86) | 26.4% (38) |
| Silva-Oliveira et al., 2019, Brazil | 715 health professionals | Questionnaire on Childhood Trauma (QUESI) by Marengo et al., 2013 | 57.9% (414) | NR |
| Silva-Oliveira et al., 2020, Brazil | 715 health professionals | Questionnaire on Childhood Trauma (QUESI) by Marengo et al., 2013 | 57.9% (414) | 41.3% (171) |
| Sunitha et al., 2021, India | 109 dentists | Questionnaire validated by the research authors | 13.7% | 19 |
| Talsma et al., 2015, Sweden | 77 physicians | Questionnaire not validated | 37 | 46% (17) |

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**Table 1.** Description of the characteristics of the included studies.

| Authors, year, country | Sample size and professionals included | Instrument used | Prevalence of professionals who suspected/identified cases of violence | Prevalence of professionals who reported |
|---|---|---|---|---|
| Tilden et al., 1994, USA | 1521 health professionals | Questionnaire not validated | 9.3% of psychologists suspected psychological violence and 7.7% sexual, 24.8% of dentists suspected psychological and 30.9% sexual violence, 40.0a% of physicians suspected psychological and 13.2% sexual violence. | NR |
| Tornavoi et al., 2011, Brazil | 180 dentists | Questionnaire not validated | 34% | 45% |
| Van Dam et al., 2015, Netherlands | 264 dentists | Questionnaire not validated | 24% (58) | 18% |
| Vergara et al., 2017, Colombia | 149 dentists | Questionnaire not validated | 34.4% (51) | NR |

Caption: NR - Not reported.

Source: Authors.

The barriers pointed out by dentists for non-reporting include fear (34, 53, 60), the uncertainty surrounding the diagnosis of violence[23,34,50,53,55,62], **fear of legal consequences34**, the lack of legal support[34,40], the lack of preparation to make the complaint[16,21,28,34,50,56,57,60], or even inadequate knowledge about notification protocols[21,28,50,57,60]. In this sense, many professionals reported that they did not receive information about violence during their undergraduate[17,19,20,23,24,33,55,57,62] or graduate programs[17,62].

In general, the identification of cases of violence and the highest number of notifications were associated with professionals who took courses and/or graduate programs focused on childcare[32,41,62]. There was also a significant association between the act of notifying and the professional's participation in training on violence[28].

## Summary of results

The meta-analysis was carried out with 42 articles, which included data on the prevalence of reports of violence in children and adolescents in the clinical work of health professionals, and 39 articles, which included data on the prevalence of reports of cases by health professionals.

The prevalence of reports of violence by different health professionals was 41% (95%CI = 34%-48%, $I^2$ = 97%). Sensitivity analysis was performed only with sample-size studies with adequate statistical power. Considering a sampling error of 10% and 95%CI, the minimum sample size was ≥ 95. The combined prevalence of total reported violence was 40% (95%CI = 32%-48%; $I^2$ = 98%). When considering the professional who reported the case, the estimated prevalence was 32% (95%CI; 14%-54%, $I^2$ = 97%) for speech therapists, 27% (95%CI; 23%-32%, $I^2$ = 97%) for dentists, 65% (95%CI; 52%-78%, $I^2$ = 97%) for physicians, and 49% (95%CI; 36%-62%, $I^2$ = 97%) for when only one category was not a specified professional (Figure 2).

The total combined prevalence of reports of violence was 30% (95%CI; 21%-38%, $I^2$ = 98%). Based on the sample size, the sensitivity analysis estimated a 28% (95%CI = 20%-37%; $I^2$ = 99%) prevalence. When separating the studies according to the category of professionals who reported violence, the estimated combined prevalence of reports was 2% (95%CI; 1%-4%, $I^2$ = 98%) for speech therapists, 21% (95%CI; 11%-32%, $I^2$ = 98%) for dentists, 58% (95%CI; 44%-72%, $I^2$ = 98%) for physicians, and 31% (95%CI; 20%-43%, $I^2$ = 98%) for mixed professionals (various health professionals) (Figure 3).

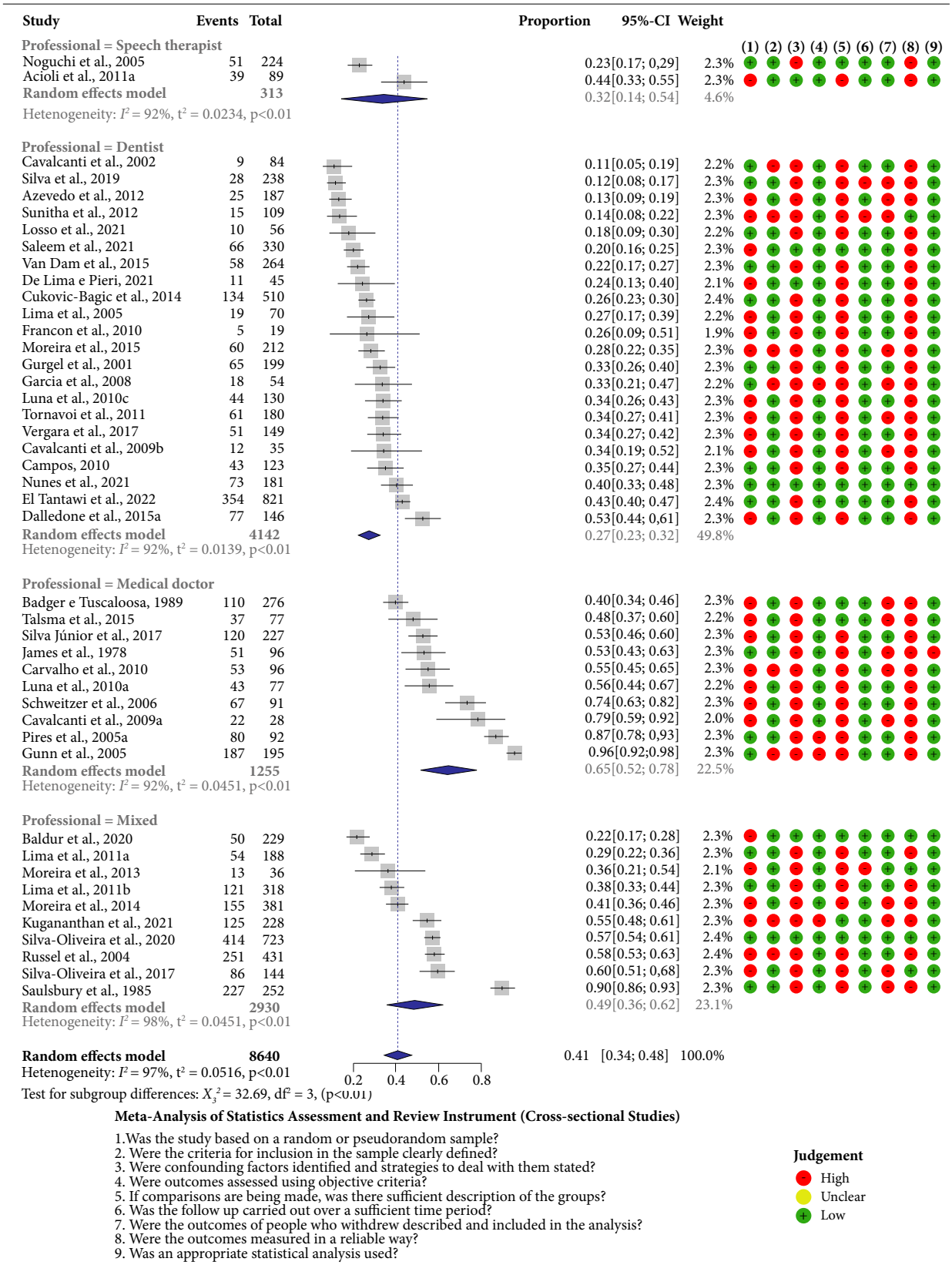


**Figure 2.** Forest plot of the meta-analysis of the prevalence of reported violence in children and adolescents in the clinical work of health professionals, displaying risk-of-bias judgements for each study included.

Source: Authors.

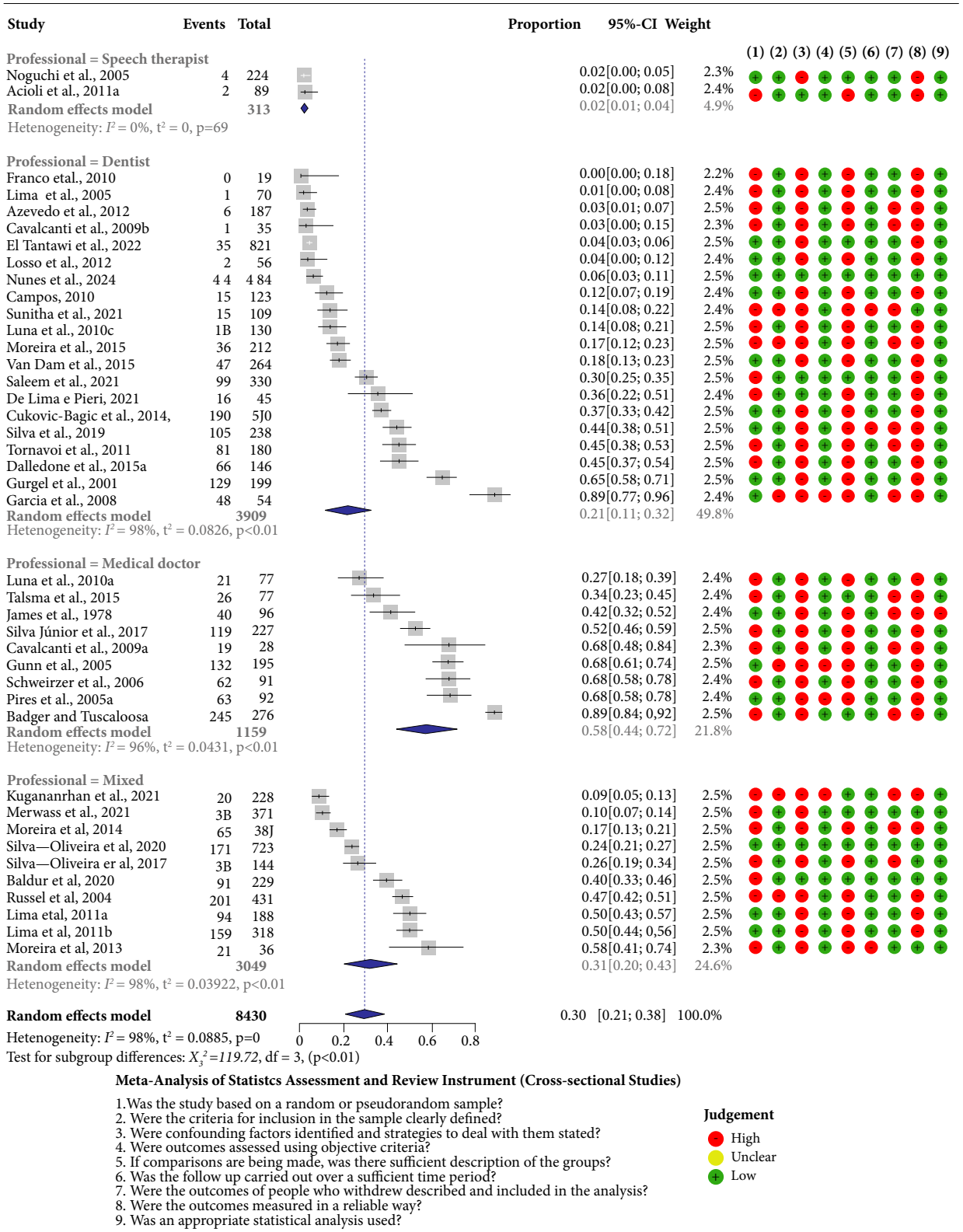


**Figure 3.** Forest plot of the meta-analysis of the prevalence of reports of violence in children and adolescents in the clinical work of health professionals, displaying risk-of-bias judgements for each study included.

Source: Authors.

### Reporting bias

No publication bias was identified, and there was no statistical significance when evaluating the asymmetry of the funnel plot using the Egger test ($p > 0.05$) (Figure 4). Furthermore, a broad search strategy was used, including six electronic databases, one in a language other than English, in addition to the gray literature.

### Confidence in cumulative evidence

The level of certainty of the evidence for both outcomes was judged to be very low. The factors that led to a decrease in the certainty of evidence related to the risk of bias (sampling bias, uncontrolled confounding factors, lack of detail in the description of the analyzed population, and way of measuring the evaluated outcome) and the high heterogeneity in the analysis, which was not explained by subgroup analysis (Table 2).

## Discussion

The signs pointing to physical violations that drive physicians to identify cases are successive injuries said to be accidental and an inexplicable delay between the "accident" and the search for medical attention. Signs also include multiple acute injuries, subdural hematomas, behavioral changes, and fractures in various stages of healing[68].

Dental surgeons are inclined to find signs of violence among their patients, as 65% of physical damage affects the oral and facial regions. The main injuries reported by pediatric dentists in cases of suspected violence are fractures, avulsion or tooth displacement, contusion, and mucosal laceration or burning mouth syndrome[69].

Victims of violence have worse cognitive and motor functions and deficits in the expression and reception of language. Thus, speech therapists are more susceptible to identifying cases of violence because they work with language disorders[70]. In the case of psychologists, studies describe that psychologists often have difficulties in seeking other ways of intervening in addition to individual psychotherapy. Their clinical training focuses on treating traumas caused by violence and not on their identification[71].

Health professionals identify situations of child abuse in their clinical practice. However, the number of identified and/or suspected cases falls short of the number of effectively notified cases. In other words, professionals often identify violence but do not report it. It indicates the urgency of expanding knowledge on the subject in the curricula of undergraduate programs in the health area and systematizing permanent educa-

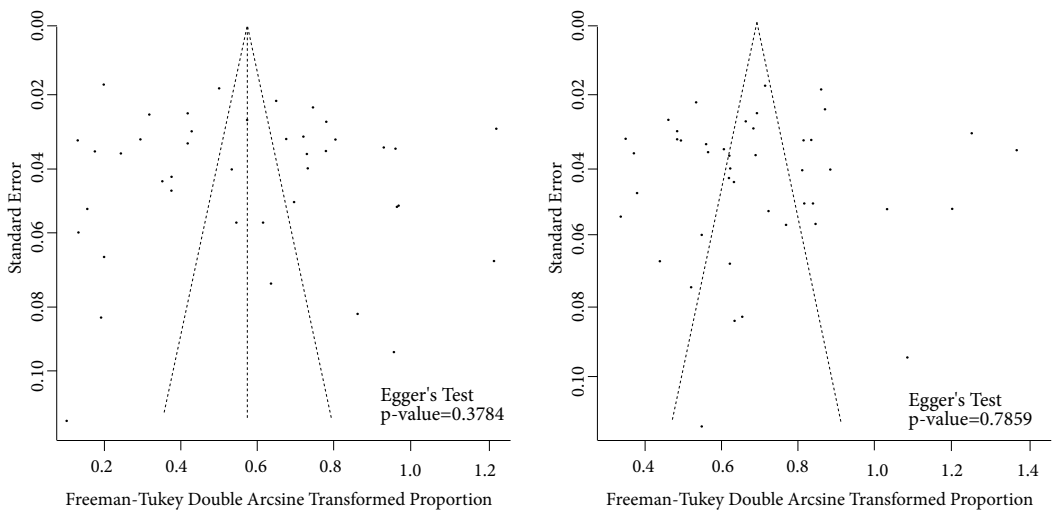


**Figure 4.** Funnel plot.

Source: Authors.

tion as a transforming instrument so that there is an appropriation of the contents of policies capable of leading professionals to be more active against violence[71].

Underreporting cases of violence is caused by the health professional's difficulties in dealing with the situation. These difficulties include the lack of information about signs and symptoms of violence, the social, economic, and emotional breakdown in handling situations of violence, and the lack of knowledge of legal aspects to be considered in the referral of victims, the fear of suffering retaliation by the aggressor and the lack of trust in government protection agencies[72,73].

When it comes to professionals from public institutions, identifying and reporting cases of violence is not a routine practice. It stems from the lack of knowledge, on the part of professionals, of the notification form in health units, which guarantees an increase in the chances of cases being underreported[74]. Professionals in private spheres, who work in private offices or clinics, do not have institutional support to deal with cases of violence, which impairs the identification and notification process[29].

With the information collected through the qualitative synthesis, it was noted that health professionals with more than ten years of training are more likely to suspect, identify, and/or report situations of violence against children and adolescents, corroborating other studies72. However, most studies did not report the average time of formation of the evaluated sample, making it impossible to assess the influence of this variable on the observed prevalence through a meta-regression.

Female professionals showed a higher prevalence in identifying situations of violence, and the same data was observed in other studies[72,74]. On the other hand, male professionals observed more signs of violence[75]. The type of violence most encountered by health professionals was physical. Research indicates that this violence is the easiest to recognize precisely because it has the potential to leave visible marks[76,77]. Sexual violence is the most silent type since, for each reported case, ten to twenty are not reported. Therefore, according to some studies, sexual violence is the most frequent[78,79]. On the other hand, psychological violence does not produce visible marks, causing many victims to experience this aggravation without it being identified and notified[78].

In line with other published studies, females were more prevalent among the victims[77,79,80]. Violence against boys exists, but it is underreported, as male victims take longer to talk about what happened[81]. In addition, there is a trend towards greater protection of girls and, on the other hand, a culture of greater tolerance for male aggression[80].

Regarding the supremacy of Brazilian studies found, it is worth noting that, in 2017, Brazil

**Table 2.** Summary of findings table.

Question: What is the prevalence of reports and notifications of violence against children and adolescents in the work of clinical health professionals?

| Certainty assessment | | | | | | | № of patients | Effect | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | | Relative (95% CI) | | |
| Prevalence of reporting of notifications | | | | | | | | | | |
| 39 | observational studies | very serious[a] | very serious[b] | not serious | not serious | None | 8640 | 41% [34% - 48%] | ⊕◯◯◯ Very low | Important |
| Prevalence of reported violence | | | | | | | | | | |
| 42 | observational studies | very serious[a] | very serious[c] | not serious | not serious | None | 8430 | 30% [21% - 38%] | ⊕◯◯◯ Very low | Important |

CI: confidence interval.

Explanations: a. Presence of risk of bias related to the type of sampling of the included studies, uncontrolled confounding factors, insufficient description of the groups analyzed, and the results were not measured reliably. b. Presence of high heterogeneity (I-Square = 98%), not justified by subgroup analysis or meta-regression. c. Presence of high heterogeneity (I-Square = 97%), not justified by subgroup analysis or meta-regression.

Source: Authors.

was named the fifth nation with the highest rates of violence against children and adolescents, according to a report by the United Nations Children's Fund[82]. Brazil is also one of the countries with a high increase in violence in recent decades. Brazilians are the most fearful of violence in the world, with 83% of the country's population highly concerned[83].

The limitations of this review should be considered, as 12 studies included in the meta-analysis were at high risk of bias. This event is mainly due to the poor methodological description of these works. Only one study[43] was based on a random sample. The others were developed from convenience samples. In addition, the inclusion criteria of the participants were not clearly defined, nor were validated instruments used, confounders were not controlled, and the results were not measured reliably. The evaluation carried out by the GRADE tool showed that the evidence generated was very low. The factors that led to this decrease were related to the risk of bias and the high heterogeneity in the analysis, which was not explained by the subgroup analysis.

There is a limitation of instruments that assess health professionals' knowledge, prevalence, and attitudes toward violence against children. Among the instruments developed for this purpose, most have methodological problems regarding their reproducibility and/or validity[84]. According to research, the instruments used in studies of knowledge, perception, and attitude of health professionals in cases of child abuse, in many cases, bring uncertainty in the applied methodology caused by the use of the measurement instruments employed, which often do not pass by validation methods[26,38].

However, the study allowed us to glimpse what has been published in the literature on the subject. Publications indicate that, on the world stage, many children and adolescents suffer from violence, and health professionals have the potential to identify these cases. Thus, this research highlights the need to invest in the training of health professionals for the adequate identification and notification of cases of violence, contributing to reducing this problem.

Prevalence studies are considered initial among public attitudes to know the scenario in which a certain factor appears. Thus, they have subsidies to evaluate and plan programs and attitudes[73]. In this sense, the results presented here revealed a high underreporting rate. The notification of violence by the health professional is an essential information instrument for elaborating public policies. It allows an epidemiological dimension of the problem, providing the health authorities with data that allow the determination of the causes and the planning of possible solutions and strategies for coping with and reducing the social problem presented[84].

Another implication provided by this review's results is the need to validate instruments to assess the knowledge, prevalence, and attitudes of health professionals toward cases of child violence. Then, presenting reliable instruments so that reliable public attitudes are taken, starting from safe subsidies[84].

## Conclusion

Approximately one in two health professionals face situations of violence against children and adolescents in their clinical practice (41%), and about one in three health professionals report the cases (30%). However, the generated evidence regarding this outcome is still uncertain.

## Other information

The research protocol was registered on the PROSPERO website (Prospective International Registry of Systematic Reviews – York University Review and Dissemination Center) under CRD42021249484.

## Collaborations

L Jampersa: main author, he acted in all the realization of the work. Submission in PROSPERO. Selection of eligible studies for the review, in both phases. Collection of information from included studies and risk of bias assessment. Assessment of reporting bias, assessment of certainty of cumulative evidence, construction of figures, tables and appendices. Writing of results and discussion. AB Paisca: selection of eligible studies for the review, in both phases. Collection of information from included studies and risk of bias assessment. KVM Taveira: selection of descriptors, assessment of certainty of cumulative evidence, and final review. CM Araújo: guidance of the review, database search/gray literature search and allocation in EndNote (EndNote X7 Thomson Reuters, Philadelphia, 12 PA). Calculation of global prevalence for reporting and reporting of intrafamily violence against children and adolescents (meta- analysis), assessment of reporting bias, assessment of certainty of cumulative evidence, and construction of figures. GAA Massi: guidance and support on the theme, selection of descriptors, organization of data, elaboration of the discussion and final revision.

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