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Prevalence of physical violence against children in Haiti: A national population-based cross-sectional survey☆

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Abstract

Although physical violence against children is common worldwide, there are no national estimates in Haiti. To establish baseline national estimates, a three-stage clustered sampling design was utilized to administer a population-based household survey about victimization due to physical violence to 13–24 year old Haitians ($n = 2,916$), including those residing in camps or settlements. Descriptive statistics and weighted analysis techniques were used to estimate national lifetime

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Author contributions

VAL, LHM, JV, and JAM participated in study conceptualization and design. LHM and JV oversaw the coordination and implementation of the survey at the Interuniversity Institute for Research and Development (INURED). KTF designed the data analysis plan, completed data analysis, interpreted the findings, and drafted the manuscript. FPR, NSW, and JAM aided in development of the data analyses plan and interpretation of findings. All authors critically reviewed and edited the manuscript for critically important intellectual content. All authors give their final approval of the version to be published and agree to be accountable for the work completed.

Ethics committee approval

The study protocol and survey were approved by the Centers for Disease Control and Prevention (CDC) and the Interuniversity Institute for Research and Development (INURED) Institutional Review Boards. They were also approved by the Ministry of Public Health and the Population's National Ethics Committee in Haiti.

Conflict of interest

We declare no competing interests.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.chiabu.2015.10.021>.

prevalence and characteristics of physical violence against children. About two-thirds of respondents reported having experienced physical violence during childhood (67.0%; 95% CI 63.4–70.4), the percentage being similar in males and females. More than one-third of 13–17 year old respondents were victimized in the 12 months prior to survey administration (37.8%; 95% CI 33.6–42.1). The majority of violence was committed by parents and teachers; and the perceived intent was often punishment or discipline. While virtually all (98.8%; 95% CI 98.0–99.3) victims of childhood physical violence were punched, kicked, whipped or beaten; 11.0% (95% CI 9.2–13.2) were subject to abuse by a knife or other weapon. Injuries sustained from violence varied by victim gender and perpetrator, with twice as many females (9.6%; 95% CI 7.1–12.7) than males (4.0%; 95% CI 2.6–6.1) sustaining permanent injury or disfigurement by a family member or caregiver (p -value $<.001$). Our findings suggest that physical violence against children in Haiti is common, and may lead to severe injury. Characterization of the frequency and nature of this violence provides baseline estimates to inform interventions.

Keywords

Physical violence; Children; Child abuse; Epidemiology; Haiti

Physical violence against children by parents, caregivers, and other authority figures is a major global public health problem (Akmatov, 2011; Pinheiro, 2006; Runyan et al., 2010; World Health Organization [WHO], 2002). WHO defines physical violence as “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation” (2002, p. 5). Although the nature of and attitudes toward physical violence are often rooted in cultural and societal norms, both the *World Report on Violence and Health* (WHO, 2002) and the *World Report on Violence Against Children* (Pinheiro, 2006) described physical violence against children as a violation of human rights, ubiquitous across nations and across cultures.

The *World Report on Violence and Health* (WHO, 2002) articulated the scope of the problem and called for scientific evidence to inform policy and to shape interventions, while also highlighting the inadequacy of existing data (Krug, Mercy, Dahlberg, & Zwi, 2002). WHO (2002) recommended a four-step public health approach to the development of interventions in order to maximize prevention of violence against children. Those steps involve (a) defining the problem; (b) identifying the cause and the risk factors; (c) designing and testing interventions; and (d) disseminating information about the effectiveness of interventions and increasing the scale of interventions that are proven to be effective. Unfortunately, even completing the first step has proven difficult in countries around the world, in large part because the measurement of violence against children is sensitive to the tools and case definitions utilized for data ascertainment. Self-report surveys, parent-report surveys, forensic evidence, hospital records, outpatient medical records, child protective service reports, and police reports all capture different qualities and quantities of abuse and are almost universally affected by under-reporting due to stigma and social pressure. Regardless of these difficulties, however, a methodical and thorough approach to

measurement is essential. Once the extent and nature of childhood violence is clarified, risk factors can be identified and interventions developed and implemented, followed by consistent surveillance (Butchart, Harvey, Mian, Furniss, & Kahane, 2006).

Violence against children is pervasive around the world and includes violence perpetrated by parents and caregivers (often referred to as *child abuse* or *maltreatment*), and violence that occurs in community settings. In addition to lives lost from fatal violence, non-fatal violence leads to significant morbidity. For example, non-fatal child abuse is associated with long-term physical, cognitive, and emotional sequela, including obesity, sexually transmitted diseases, depression, and substance abuse (Breiding, Mercy, Gulaid, Reza, & Hleta-Nkambule, 2013; Gilbert et al., 2009; Norman et al., 2012; Springer, Sheridan, Kuo, & Carnes, 2007, WHO, 2014a). The gravity of these conditions make it essential that we better understand the magnitude of physical violence against children.

Validated tools for population-based epidemiologic studies of childhood victimization are available, including the Parent–Child Conflict Tactics Scales for child maltreatment, the Adverse Childhood Experiences International Questionnaire (ACE-IQ), the Lifetime Victimization Screening questionnaire, and the International Society for the Prevention of Child Abuse and Neglect (ISPCAN) Child Abuse Screening Tools (ICAST). The WorldSAFE studies in Brazil, Chile, Egypt, India, and the Philippines used the Parent–Child Conflict Tactics Scale (Runyan et al., 2010). The ACE-IQ has been field tested in China, the Philippines, Saudi Arabia, South Africa, and Vietnam (WHO, 2011). Versions of the ICAST have been field-tested in numerous developing countries. The parent (ICAST-P) and young adult (ICAST-R) questionnaires were field-tested in Colombia, the Democratic Republic of Congo, Egypt, India, Kyrgyzstan, Lebanon, Malaysia, and Russia (Dunne et al., 2009; Runyan, Dunne, & Zolotor, 2009; Runyan, Dunne, Zolotor, Madrid, et al., 2009). The children's (ICAST-C) questionnaire was field-tested in Colombia, India, Russia, and Iceland (Butchart et al., 2006; Zolotor et al., 2009). However, a recent meta-analysis of 111 studies with 169 independent samples and over 9.6 million participants examined the prevalence of physical abuse around the world and concluded that “more cross cultural research on physical abuse is badly needed” (Stoltenborgh, Bakermans-Kranenburg, van Ijzendoorn, & Alink, 2013, p. 81). In particular, there continues to be a dearth of information about the prevalence of physical violence against children in Latin America, particularly Central America and the Caribbean.

Of particular importance is Haiti, a small country that shares an island with the Dominican Republic, and is the poorest nation in the Western Hemisphere (World Bank, n.d.). Haiti has often been affected by political turmoil and social strife and gained international attention in January 2010 when it was devastated by a 7.0 magnitude earthquake. Haiti is a young nation; over one-third of its population is 15 years of age or younger (Central Intelligence Agency, 2015). Poverty, high levels of unemployment, gender inequality, social injustice, and tolerance of violence are all associated with an increased risk of child maltreatment (Al Gasseer, Dresden, Keeney, & Warren, 2004). Moreover, it is often believed that younger children are more vulnerable than older children, and thus at higher risk for victimization; however, studies in child maltreatment have reported discrepant findings (Breiding et al., 2013; Zolotor et al., 2009).

The 2010 earthquake exacerbated Haiti's ongoing economic, political, and social challenges (Al Gasseer et al., 2004; World Bank, n.d.). An estimated 1.3–1.6 million Haitians were internally displaced, including over 800,000 children (UNICEF, 2010; World Bank, n.d.). In armed conflict and refugee settings, girls are considered particularly vulnerable to violence, exploitation, and abuse (e.g., physical abuse, sexual abuse) by combatants, security forces, members of the community, aid workers, and others (WHO, 2014b). Thus, the sequelae of the earthquake plausibly heightened the risk of child exploitation and trafficking, conditions independently associated with violence against children (Gupta & Agrawal, 2010; Kolbe & Hutson, 2006).

The aforementioned factors increase the likelihood of childhood violence and injury on a national level (WHO, 2010): Children in Haiti are arguably at the highest risk for physical violence of any children in the Western Hemisphere. Although there have been limited reports on subtypes of violence among specific populations in pre- or post-earthquake Haiti (Davis & Bookey, 2011; Martsolf, 2004; Willman & Marcelin, 2010), there have been no widespread endeavors to quantify violence on a national level, nor has gender-specific violence among children been thoroughly investigated.

This study investigates physical violence against children in Haiti. The objectives were: (a) to quantify the national prevalence of physical violence against children in Haiti by caregivers in the home (e.g., parents, adult relatives) and by public authority figures (e.g., teachers, police, religious, community leaders), and (b) to characterize violence by mechanism, perceived intent, severity of injuries sustained, and perpetrator.

Method

Study Design and Participant Selection

Survey data were collected from a nationally representative household sample of 13–24-year-old adolescents and young adults in Haiti between January and February 2012. A three-stage cluster sample design was utilized and included both standard enumeration areas (SDEs) based on established geo-political subdivisions and internally displaced persons (IDP) living in camps or settlements. SDEs were originally determined by the Institut Haitien de Statistique et d'Informatique in 2003 for the national census and were updated in 2011 after the earthquake. The IDP population was determined by the Haiti Camp Coordination and Camp Management Cluster, a government organization established to manage camps after the earthquake. Estimates of the population size were completed immediately preceding survey administration due to the constant flux in displaced persons.

In stage one, 177 SDEs (the primary sampling units) were selected using probability proportional to size (PPS). In stage two, a cluster of 35 households was randomly selected from each SDE. In each household selected, interviewers identified the head of the household and asked him or her for a list of all household members to determine eligibility for survey participation. In stage three, one eligible respondent was randomly selected from each household list utilizing the Kish method and was administered the questionnaire (Kish, 1949). A gender-stratified sampling approach was used, such that the survey for males was completed in different SDEs than the survey for females. This enabled estimations of

violence victimization by sex and helped maintain confidentiality by reducing the likelihood that both a perpetrator and a victim of the opposite sex in the same community would be interviewed. This was of particular importance for survey components targeting sexual violence, where it was felt necessary to ensure that female victims, in particular, were not interviewed in the same community as their perpetrators (expected to be more commonly male). SDEs with less than 50 households were excluded to protect confidentiality. Also excluded were prisons, orphanages, and geographical segments without individuals ages 13–24 years. The heads of household completed a short survey assessing the socioeconomic conditions of the household. Those questions included objective yet proxy measures of socioeconomic status, such as the structure and materials of the house, household amenities, and livestock ownership.

Camps were also selected using PPS. No camp was larger than the sampling interval, so no camp was selected twice. Camps, like SDEs, were randomly allocated to the male or female survey. After selection, large camps were split into smaller segments assuming constant density, and the segments were randomly enumerated. As with small SDEs, small camps were excluded to protect respondent confidentiality.

Eligible participants were young people ages 13–24 years who spoke Haitian Creole. Individuals were excluded if they had any disability that prevented them from hearing, comprehending, or responding to questions. No information linking the household or respondent to the completed survey was obtained. Following WHO (2001) ethics and safety guidelines, the interviewers described the study to the primary caregiver in general terms with a broad list of topics (e.g., health, safety, community violence), and requested permission to speak with the eligible individual in the household. The primary caregiver was defined as the individual accountable for the child's health and welfare. This modified consenting procedure was designed to protect the participants in the event that the primary caregiver was a perpetrator. Verbal assent was obtained from respondents younger than 18 years of age; verbal consent was obtained from adult respondents and emancipated minors. All respondents were provided a list of services for assistance and, when necessary, a direct referral to specific services (e.g., counseling). The study protocol and survey instrument were approved by the Centers for Disease Control and Prevention (CDC) and the Interuniversity Institute for Research and Development (INURED) Institutional Review Boards. Procedures were also approved by the Haiti Ministry of Public Health and the Haiti Population's National Ethics Committee.

Survey Design and Administration

All items contained in the survey instrument were derived from surveys that were administered previously in other countries and were modified for use in Haiti. The survey tools, called Violence Against Children Surveys (VACS; Breiding et al., 2013; UNICEF, 2012a, 2012b), were administered previously by the CDC in multiple countries in Sub-Saharan Africa, and include questions that address magnitude, characteristics, and sequela of physical, sexual, and emotional violence. The data elements targeted by VACS are similar to those addressed by the ICAST survey instruments for children (ICAST-C) and young adults (ICAST-R; Dunne et al., 2009; Zolotor et al., 2009).

A pilot study was conducted in Haiti in July 2011 to inform the survey procedures for this study regarding household approach, consent, and recruitment processes. The survey was also evaluated for cultural appropriateness, respondent burden, and overall utility. Modifications were made prior to survey administration. The survey was administered in an interview format in Haitian Creole by trained local interviewers whose sex was matched to those of prospective respondents. Interviews were completed in a private setting to protect confidentiality.

The outcome of interest in this study was childhood physical violence (CPV), defined as physical violence by any perpetrator that occurred before the victim turned 18. Four types of violence, or mechanisms, were queried for each type of perpetrator: “parent, caregiver, adult relative, or another adult household member” and “public authority figures who you should be able to trust.” Thus, eight sets of questions specific to physical violence were asked (Supplemental Table 1). Each question set included a stem (i.e., “Has/did a parent, caregiver, any adult relative, or another adult household member ever...”) following by one of four types of violence. The four types of violence were: punch, kick, whip, or beat with an object; choke, smother, or try to drown; burn or scald intentionally (including putting a hot pepper in the mouth or on another body part); and threaten to use or to use a knife or other weapon against a child. For each of the eight question-sets, the survey ascertained if that type of violence had ever occurred, the age it started, the age it most recently occurred, whether it occurred in the last 12 months, whether the most recent event was perceived with an intent to punish or discipline, and who—within the perpetrator category—committed the act(s) of violence.

Details about injuries sustained were ascertained for each perpetrator category and across all four mechanism types using the following question, “Among the experiences we just talked about when [perpetrator] was physically violent toward you, please think about the experience that caused the most serious physical injury. Did this experience cause [injury]?” The response included categorized injuries requiring a binary response (yes/no), such that the most serious injury may be represented by more than one category.

Survey Psychometric Properties

Psychometric properties of the survey were not available. The survey instrument asked discrete questions for each type of exposure to physical violence, and did not ask additional questions to establish a measure of internal consistency (i.e., reliability). Nonetheless, the instrument asked questions that were similar to well-established tools for physical violence ascertainment in children that have demonstrated good to very good Cronbach alpha reliability coefficients (Breiding et al., 2013; Dunne et al., 2009; Runyan et al., 2009a; UNICEF, 2012a, 2012b; Zolotor et al., 2009). Construct validity remains an elusive target in the ascertainment of CPV in Haiti, as no gold standard for defining or documenting CPV in Haiti has been established.

Statistical Analyses

We hypothesized a priori that males and females would have different experiences with CPV, therefore data were analyzed separately by sex. Furthermore, time at risk for CPV depended

on the age of the respondent: all respondents 18–24 years of age had a total of 18 years during which they were at risk for CPV, while respondents younger than 18 years of age were at risk for 13–17 years, depending on their age at the time of the survey. Therefore, respondents 13–17 years of age were analyzed and reported separately from respondents 18–24 years of age. Sample characteristics by age group are provided in Supplemental Tables 2–7. Physical violence exposure occurring in the year prior to survey administration was presented only for respondents younger than 18 years to avoid confounding prevalence rates by young adult violence (i.e., violence that occurred after age 18).

A total of 2,916 Haitian young people completed the survey. Response rates were 93.1% and 88.5% for females and males, respectively. Six respondents were missing data for all physical violence questions and were excluded from analyses. Among 18–24-year-old survey respondents, 115 reported a history of physical violence but had insufficient data to determine whether they were victims of physical violence starting prior to age 18. These 115 respondents did not report age of onset of physical violence nor age of most recent violence as less than 18 years. A total of 2,795 respondents had data which enabled us to definitively confirm victimization status prior to 18 years of age. Sensitivity analyses were conducted for the 11,518 to 24-year-old participants (57 females, 58 males) for whom physical violence was documented but timing of onset was missing.

Data were analyzed using survey-specific commands to accommodate sample weights and clustering. Linearized variance estimation was used for standard error estimates to provide confidence intervals for proportions. Relative standard error (RSE) estimates greater than 30% were considered unstable and indicated by a footnote. Those estimates should be interpreted with caution. Descriptive statistics were completed. Weighted Pearson χ^2 test for independence, corrected for the survey design with second order correction, with conversion to an F statistic (Rao & Scott, 1984), was completed to evaluate differences between sex and age groups. All analyses were completed with Stata v12 (StataCorp, 2011).

Results

Prevalence of Physical Violence Against Children in Haiti

Sixty-seven percent of survey respondents, representing over two-thirds (67.0%, 95% CI [63.4–70.4]) of Haitians ages 13–24 years, reported experiencing CPV by a family member/caregiver or public authority figure (Table 1). The prevalence was not significantly different between males and females ($p = .816$). Respondents younger than 18 years reported more CPV than respondents 18 to 24 years; however, the age difference was statistically significant only among males ($p = .048$). Among 13–17-year-olds, the 12-month period prevalence was 37.8% (95% CI [33.6–42.1]) and was similar for males (37.1%; 95% CI [31.4–43.1]) and females (37.8%; 95% CI [33.6–42.1], $p = .746$). Among 13–17-year-old victims, more than half were victimized during the past year (54.4%; 95% CI [49.6–59.1]).

Characteristics of Physical Violence Against Children in Haiti

Among Haitian victims of CPV, almost all were punched, kicked, whipped, or beaten with an object (Table 2; age-stratified data available in Supplemental Tables 2 and 5). One in

eight males and one in nine females reported having a perpetrator use or threaten to use a knife or other weapon against them. Pooled across mechanism type and perpetrator categories, approximately 80% of survey respondents perceived the *most recent* physical violence event during childhood to be an act of punishment or discipline. When stratified by mechanism type, there was a statistically significant difference between perceptions of intent by gender. Females were twice as likely as males to report CPV with a perceived intent to punish or discipline in the three more severe mechanism categories (i.e., choke, smother, or try to drown; burn or scald intentionally; use or threaten to use a knife or weapon; see Fig. 1 and age-stratified data in Supplemental Tables 4 and 7).

CPV in Haiti was committed most frequently by members of the nuclear family, followed by aunts and uncles (Table 2; age-stratified data in Supplemental Tables 2 and 5). Same-sex physical violence was common within the home. More specifically, fathers were more often reported as perpetrator by male victims (44.3% males vs. 35.1% females, $p = .010$). The percent reporting mothers as perpetrators also differed by sex of the victim, but the difference was not statistically significant (49.7% females vs. 44.6% males, $p = .207$). Among public authority figures, the primary perpetrator reported by both male and female respondents was a teacher(s). There was no same-sex predilection between teacher perpetrators and victims ($p = .387$ male teachers; $p = .817$ female teachers). CPV committed by other public authority figures (e.g., police, employers, religious leaders) was rarely reported. However, compared to female victims, males were more frequently victimized by male non-teacher authority figures (3.9%; 95% CI [2.6–5.7] vs. 1.1%; 95% CI [0.5–2.6]).

Injuries sustained as a result of physical violence varied by gender and by perpetrator, with three times more females than males sustaining “deep wounds, broken bones, broken teeth, blackened or charred skin” as result of physical violence by a family member or caregiver (16.6%; 95% CI [12.8–21.3] vs. 5.5%; 95% CI [3.9–7.7]; $p < 0.001$) and twice as many by a public authority figures (4.9%; 95% CI 2.4–9.8% vs. 2.4%; 95% CI 1.2–4.8%; $p = 0.150$; Table 3; age-stratified data in Supplemental Tables 3 and 6). Additionally, almost twice as many females as males reported sustaining permanent injury or disfigurement due to physical violence by a family member or caregiver ($p < 0.001$). The relative differences between female and male injury patterns were less pronounced among less severe injury categories.

Discussion

Findings of this study indicate that physical violence against children in Haiti is common, with an estimated two-thirds of children being victimized before 18 years of age and one-third of all children 13–17 reported victimization in the year before the survey. The violence primarily involved punching, kicking, whipping, and beating; however more severe forms of violence were also prevalent. The majority of children perceived the intent of physical violence against them as punishment or discipline and, while mothers and fathers were the most common perpetrators, aunts, uncles, and teachers also played a role. Haitian children sustained a variety of injuries from physical violence, and girls carried a disproportionate amount of the most severe injury burden.

Our study's findings related to the magnitude of lifetime prevalence of CPV are consistent with those obtained in methodologically similar studies completed in Sub-Saharan Africa, in which VACS studies have found the lifetime prevalence of CPV to range from 42% to 66% in girls and from 53% to 76% in boys (UNICEF, 2012a, 2012b, 2013). The literature on physical violence indicates overlap with that on child maltreatment and corporal punishment. Corporal punishment is a common method of discipline in some sociocultural contexts, however, many consider it to be a form of child abuse. Runyan et al. (2010) examined surveys in India, Egypt, the Philippines, Chile, Brazil, and the United States and found that the 12-month prevalence of moderate physical discipline ranged from 55% to 89%, harsh physical discipline (without hitting with an object) from 1% to 39%, and harsh physical discipline (including hitting with an object) from 9% to 74% (Sadowski, Hunter, Bangdiwala, & Muñoz, 2004). Dunne et al. (2009) pilot tested the ICAST-R screening tools in seven low- and middle-income countries and found an average lifetime prevalence of CPV between 6.7% and 33.8%. Prevalence varied widely by the type of violence and country of residence. For example, CPV involving hitting or punching was reported to be 49.4% in Egypt and 15.8% in Lebanon. Stoltenborgh et al. (2013) completed a meta-analysis on child physical abuse and evaluated studies with prevalence estimates ranging from less than 5% to 80%. That study evaluated various procedural moderators and sample characteristics to explain discrepancies, and found that definition of child physical abuse, period of prevalence, number of questions, year of publication, type of sample, and type of respondent affected prevalence estimates. They found higher prevalence estimates in studies with broader definitions of child abuse and in studies with a greater number of questions relating to child abuse, both of which may be applicable to our findings and explain, in part, our higher estimations (Stoltenborgh et al., 2013). They also found lower estimates in surveys with the child as the respondent and with more recent years of publication, both of which may suggest that our estimates are conservative (Stoltenborgh et al., 2013).

Gender differences were not identified in the Stoltenborgh et al. (2013) meta-analysis (22.3% and 24.8% for males and females, respectively). This is consistent with the absence of gender differences found in our study. However, it stands in contrast to Akmatov's meta-analysis (2011) of the Multiple Indicator Cluster Surveys (MICS), which included 28 developing and transitional countries and a total of 124,916 children, and reported that males were approximately 20% more likely to be victims of moderate and severe abuse compared to females. Like Akmatov, Dunne et al. (2009) found gender differences for all types of physical violence, with males consistently reporting higher CPV than females. Our study did find a difference between male and female injury burden related to CPV, which was most profound in the more severe injury categories and in CPV by family member and caregiver perpetrators. While Gumbs et al. (2013) found males were at higher risk for abusive head trauma in a military cohort, gender differences in acute injury patterns have not been consistently found among victims of CPV (Leventhal, Martin, & Asnes, 2008; Pandya et al., 2009).

In this study, age differences were detected. A higher proportion of survey respondents 13–17 years of age reported CPV, compared to 18–24-year-olds, despite less total time “at risk.” One possible explanation for this finding was the 2010 earthquake, which occurred two years prior to survey administration, as disaster settings and situations of unrest or conflict

have been shown to increase the prevalence of violence, particularly among displaced persons, women, and children (Al Gasseer et al., 2004; Davis & Bookey, 2011; Krug et al., 2002; Pinheiro, 2006). Other studies have found mixed results for age-based prevalence estimates. In their pilot of the ICAST-C for children 12–17 years of age, Zolotor et al. (2009) found a trend toward physical victimization being associated with increasing age ($p = .07$), while Breiding et al. (2013) reported 17–18 year olds to report the highest prevalence of CPV, compared to both younger and older respondents.

While the majority of injuries reported in this study were minor, it is important to note that less severe injury patterns may precede violence that gives rise to more severe injury. In a case-control study, Sheets et al. (2013) found that 27.5% of children younger than 12 months of age who were victims of physical abuse and evaluated in a hospital-based setting had previous sentinel injury, compared to only 8% of the controls. Additionally, Deans, Thackeray, Groner, Cooper, and Minneci (2014) found “superficial injury” to be an independent risk factor for recurrent abuse.

Several limitations in this study warrant discussion. Risk of inaccurate and/or under-reporting, particularly due to the sensitivity of the material, may have influenced participants' responses. Telescoping and recall bias were possible (i.e., older respondents may remember less accurately events that occurred to them as a young child). The 115 respondents who endorsed a history of physical violence but for whom timing data for the onset of physical violence were missing introduced the risk of bias, though this was likely minimal, as sensitivity analyses were unremarkable and the missing data pertained to equal numbers males and females. Also, the survey structure limited the correlation between specific variables of interest. For example, perceived intent was asked for the most recent physical violence event, while perpetrator details were asked for all experiences prior to 18. Thus, it remains unknown how children perceived physical violence events differently by perpetrator. Also, injury severity details were asked across all mechanism types, such that we were unable to draw conclusions on what type of perpetrator causes, and what type of mechanisms lead to, the most severe injuries. This information could conceivably inform intervention and prevention efforts by helping to identify which perpetrators to target and how injuries are measured.

This study also had many strengths. It was the first study with a nationally representative sample, such that the estimates reflect the burden of physical violence against children in the entire country of Haiti, including urban, rural, and camp populations. The survey was also comprehensive, ascertaining details of physical violence events that have not been reported in prior studies.

Conclusion

Only two generations have passed since publication of the article by Kempe that spurred an era of conscious efforts to identify, to treat, and to prevent child maltreatment in the United States (Kempe, Silverman, Steele, Droegemuller, & Silver, 1962). Fifty years later, we have made progress in reducing violence against children, but maltreatment is still confirmed among an estimated 1 in 8 Americans by the time they turn 18 (Wildeman et al., 2014). The

current study focused strictly on physical violence and provides the starting point to begin to formulate a comprehensive program to address child abuse in Haiti, just as Kempe's study did for the US. Already, preliminary findings from the Haiti VACS project at-large have catalyzed the formation of the 2015 Haitian *National Plan Against Violence Against Children* and inspired commitment to that plan from the Haitian Ministry of Social Affairs (Health Policy Project, 2015). This study provides the first nationwide estimates of physical violence in Haiti, which has the potential to spur policy change, inform future interventions and prevention efforts and act as baseline risk estimates by which to monitor their impact, and make a difference in preventing violence against children on a national level.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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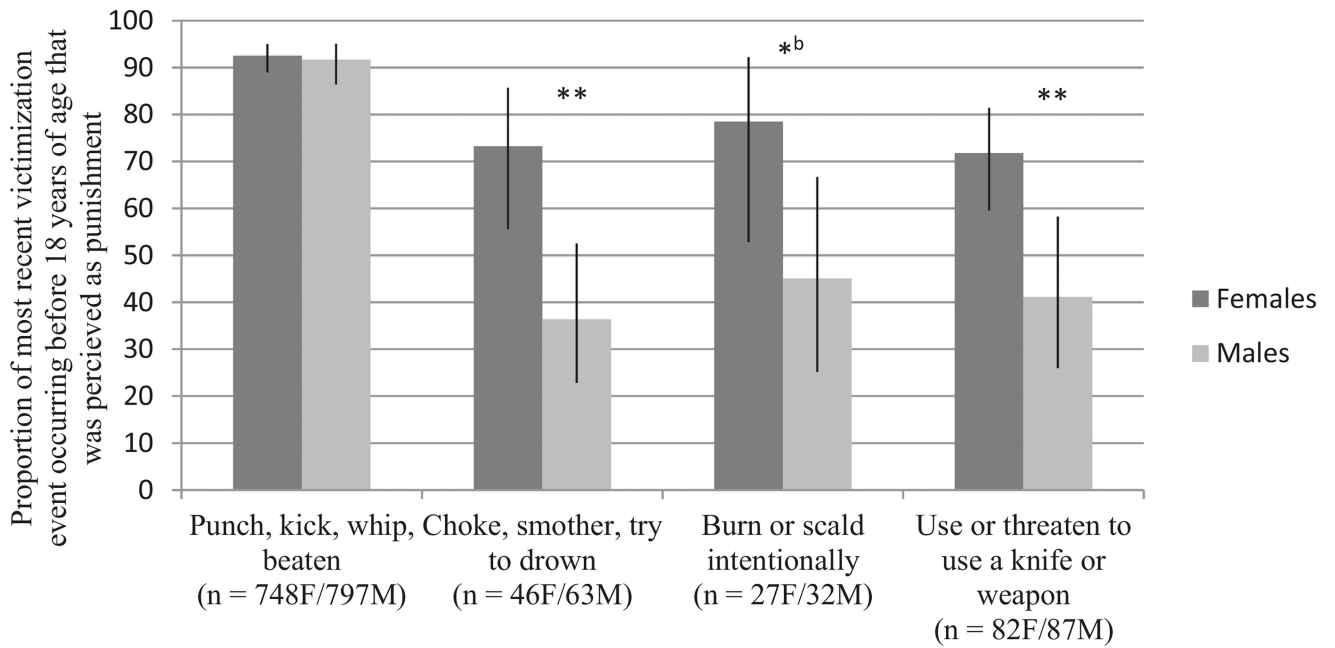


Fig. 1. Proportion of most recent childhood physical violence even, occurring prior to 18 years of age, perceived as punishment or discipline by mechanism of injury category and sex of respondent. **p*-Value < .05^a. ** *p*-Value < .01^a. ^a *P*-values represent weighted *F* test statistic for independence between sexes. ^b All observations occurring within the same strata; un-weighted Pearson χ^2 presented.

History of childhood physical violence (CPV) before age 18 reported by Haitian children and young adults, by sex and age of respondents.

Table 1

| | Total | | | Females | | | Males | | |
|--|----------|---------------------|----------|---------------------|----------|---------------------|----------|---------------------|--|
| | <i>n</i> | Weighted % (95% CI) | <i>n</i> | Weighted % (95% CI) | <i>n</i> | Weighted % (95% CI) | <i>n</i> | Weighted % (95% CI) | |
| Total lifetime CPV | | | | | | | | | |
| 13–17 year old respondents (<i>n</i> = 1391) | 1863 | 67.0 (63.4–70.4) | 918 | 67.4 (62.3–72.2) | 945 | 66.6 (61.3–71.4) | | | |
| 18–24 year old respondents (<i>n</i> = 1404) | 966 | 69.9 (65.7–73.8) | 427 | 69.4 (63.5–74.7) | 539 | 70.3 (64.3–75.8) | | | |
| 12-Month CPV among all 13–17 year old respondents (<i>n</i> = 1391) | 897 | 64.6 (60.0–68.9) | 491 | 65.8 (59.4–71.7) | 406 | 63.3 (56.8–69.4) | | | |
| 12-Month CPV among 13–17 year old CPV victims (<i>n</i> = 966) | 521 | 37.8 (33.6–42.1) | 249 | 38.4 (32.6–44.6) | 272 | 37.1 (31.4–43.1) | | | |
| | 521 | 54.4 (49.6–59.1) | 249 | 55.5 (48.8–62.1) | 272 | 53.3 (46.6–59.8) | | | |

Table 2

Characteristics related to the mechanism, intent, and perpetrator of physical violence among Haitian victims of childhood physical violence (CPV), by sex.

| | Total Weighted % (95% CI) <i>n</i> = 1863 | Females Weighted % (95% CI) <i>n</i> = 918 | Males Weighted % (95% CI) <i>n</i> = 945 |
|---|---|--|--|
| Mechanism of CPV^b | | | |
| Punch, kick, whip, or beaten | 98.8 (98.0–99.3) | 98.8 (97.3–99.6) | 98.8 (97.9–99.4) |
| Choke, smother, or try to drown | 6.2 (4.7–8.1) | 4.7 (3.0–7.1) | 7.7 (5.3–10.9) |
| Burn or scald intentionally | 3.2 (2.0–5.2) | 2.6 (1.6–4.2) | 3.9 [‡] (1.9–7.8) |
| Use or threaten to use a knife or weapon (against you) | 11.0 (9.2–13.2) | 10.1 (7.9–13.0) | 12.0 (9.2–15.3) |
| Perceived intent of most recent CPV^d reported as punishment or discipline Perpetrators of CPV^b | | | |
| 79.0 (76.2–81.4) | | | |
| 78.1 (74.5–81.3) | | | |
| 79.8 (75.6–83.5) | | | |
| Male family member, caregiver, or adult relative | | | |
| 53.8 (42.7–49.8) | | | |
| Father | 39.7 (36.4–43.1) | 35.1 ^{**} (30.8–39.8) | 44.3 ^{**} (39.3–49.5) |
| Other | 23.5 (20.9–27.0) | 21.1 (17.3–25.5) | 26.0 (21.1–31.4) |
| Female family member, caregiver, or adult relative | | | |
| 60.1 (55.7–64.5) | | | |
| 65.0 [*] (59.4–70.3) | | | |
| 55.2 [*] (48.6–61.6) | | | |
| Mother | 47.2 (43.4–50.9) | 49.7 (44.6–54.9) | 44.6 (38.98–50.28) |
| Other | 23.4 (20.2–26.9) | 24.0 (19.7–28.8) | 22.8 (18.2–28.1) |
| Male public authority figure | | | |
| 28.4 (24.3–32.7) | | | |
| 29.3 (23.5–35.9) | | | |
| 27.4 (22.3–33.1) | | | |
| Male teacher | | | |
| 26.5 (22.3–31.0) | | | |
| 28.3 (22.4–35.0) | | | |
| 24.6 (19.4–30.7) | | | |
| Other | 2.50 (1.7–3.6) | 1.1 ^{c, **} (.49–2.6) | 3.9 ^{**} (2.6–5.7) |
| Female public authority figure | | | |
| 10.6 (8.3–13.4) | | | |
| 10.4 (7.4–14.5) | | | |
| 10.7 (7.6–15.0) | | | |
| Female teacher | | | |
| 10.2 (7.9–13.0) | | | |
| 9.9 (7.0–13.8) | | | |
| 10.5 (7.3–14.7) | | | |
| Other | .39 ^c (.12–1.2) | .54 ^c (.12–2.4) | .23 ^c (0–1.01) |

* *p*-Value < 0.05^a.

** *p*-Value < 0.01^a.

^a *P*-values represent weighted F test statistic for independence between sexes.

^b Weighted percents do not add to 100% because categories are not mutually exclusive.

^c Unstable estimate based on relative standard error (RSE) >30%.

^d Most recent event prior to 18 years of age, pooled across all mechanism types and across perpetrator category (family member/caregiver and public authority figure).

[‡] Unstable estimate based on relative standard error (RSE) >30%.

Table 3

Most severe injury^b as reported by Haitian victims of childhood physical violence due to family members/ caregivers and public authority figures, by sex.

| | Total Weighted % (95% CI) <i>n</i> = 1768 | Females Weighted % (95% CI) <i>n</i> = 862 | Males Weighted % (95% CI) <i>n</i> = 906 |
|---|---|--|--|
| Injuries by family members or caregivers | | | |
| Cuts, scratches, bruises, aches, redness, swelling, other minor marks | 57.9 (54.0–61.8) | 63.4* (57.7–68.7) | 52.5* (47.5–57.3) |
| Sprains, dislocations or blistering skin | 14.1 (11.8–16.7) | 14.7 (11.4–18.6) | 13.5 (10.6–17.0) |
| Deep wounds, broken bones, broken teeth, blacked or charred skin | 11.0 (8.6–14.0) | 16.6** (12.8–21.3) | 5.5** (3.9–7.7) |
| Permanent injury or disfigurement | 6.8 (5.2–8.8) | 9.6** (7.1–12.7) | 4.0** (2.6–6.1) |
| | <i>n</i> = 649 | <i>n</i> = 305 | <i>n</i> = 344 |
| Injuries by public authority figures | | | |
| Cuts, scratches, bruises, aches, redness, swelling, other minor marks | 48.4 (42.6–54.2) | 51.6 (43.5–59.6) | 45.2 (37.1–53.5) |
| Sprains, dislocations or blistering skin | 11.1 (8.3–14.8) | 9.6 (6.0–14.9) | 12.7 (8.7–18.2) |
| Deep wounds, broken bones, broken teeth, blacked or charred skin | 3.7 (2.1–6.2) | 4.9 ^c (2.4–9.8) | 2.4 ^c (1.2–4.8) |
| Permanent injury or disfigurement | .83 ^c (.37–1.8) | .43 ^c (.10–1.8) | 1.2 ^c (.47–3.2) |

* *p*-Value < 0.01^a.

** *p*-Value < 0.001^a

^a *p*-values represent weighted *F*test statistic for independence between sexes.

^b Severity of injury includes all episodes of injury, including those which may have occurred after 18 years of age, in survey respondents who were victims of physical violence by any mechanism before 18 by the same perpetrator-type. Estimates may not add up to 100% as categories are not mutually exclusive or exhaustive.

^c Unstable estimate based on relative standard error (RSE) >30%.