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Experiences of violence and abuse among internally displaced adolescent girls following a natural disaster

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Abstract

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Aim—To describe the physical, psychological and sexual violence among internally displaced adolescent girls following the 2010 Haiti earthquake and related risk factors, health concerns and cultural norms.

Background—Thousands of adolescents were displaced following the earthquake, leaving them vulnerable to abuse and violence. Displaced survivors are disproportionately vulnerable to violence after natural and man-made disasters.

Design—A descriptive-correlational design was used to: 1) describe the extent of violence, health risks and concerns in the displaced adolescent girls; and 2) identify correlations in the strength and magnitude of relationships between selected variables including demographics, risk factors and cultural tolerance of violence.

Methods—Data were collected from participants using computer-assisted self-interviews between 2011–2013 including demographics, pre- and post-earthquake violence, perpetrators, risk factors and health consequences. Analysis included frequency, logistic regression and multiple regression.

Results/Findings—A majority reported physical, psychological, or sexual abuse both pre (59%) and post (64.1%) earthquake. Pre-earthquake, abused adolescents reported the perpetrator as a boyfriend (50%) or family member (30%). Post-earthquake, 20.5% of physical abuse perpetrators were family members. Pre- and post-earthquake physical and sexual abuse did not change. The risk of being sexually abused post-earthquake increased after controlling for age and education.

Conclusion—Displaced adolescent girls reported similar rates of physical and sexual abuse pre- and post-earthquake. These findings show the importance of preventive policies for adolescent girls in disaster situations in countries with low resources. Social and cultural change is critically needed since abuse was at an unacceptably high rate prior to the earthquake.

Keywords

nurses/nursing; disasters; displacement; Haiti; adolescent girls; gender based violence; intimate partner violence and abuse; internally displaced disaster survivors; culturally sensitive research

INTRODUCTION

Violence is globally pervasive and adolescent girls who live in low-resource countries are subjected to multiple forms of abuse and assault. They often endure a stressful culture that extends far beyond the nuances of daily living and the typically turbulent phases of growing up. Natural disasters exacerbate these vulnerabilities, as was witnessed with the 2010 earthquake in Haiti during the aftermath of the devastation that occurred. Although much is known about gender-based violence throughout the world, few studies have explored adolescent girls' experiences of violence pre- and post-disasters in low-income countries.

BACKGROUND

In 2014, there were 1.8 billion adolescents aged 10–24 in the world, accounting for 28% of the global population (United Nations Population Fund 2015). Today's generation of young people is the largest ever; in low-resource countries, one out of every six residents is an

adolescent (United Nations Department of Economic and Social Affairs 2014). In Haiti, 31% of the population is 10–24 years of age (United Nations Department of Economic and Social Affairs 2014). A significant number of young people in low-resource countries experience significant economic, social and political strife. Simultaneously, they are also undergoing dramatic and subtle physiological, emotional and developmental changes, experiencing the rituals of identity formation and are challenged by environmental risks, culture change and globalization (Hewlett 2014, Kovats-Bernat 2014, Wells & Montgomery 2014).

For many young people, violence is the 'norm,' often inescapable and part of everyday life. In an ethnographic study conducted by Kovats-Bernat centering on Haitian young people, one respondent asserted, 'One does not live life; life is suffered as a matter of course.' (Kovats-Bernat 2013). Violence against children and adolescents can have a profound impact on their emotional, behavioral, physical and social health and can adversely affect their development and quality of life (Turner *et al.* 2006).

The young people of Haiti have survived in what may be considered the most inhospitable place for child development in the Western Hemisphere (United Nations Department of Economic and Social Affairs 2014). Sickness, scarce resources and physical suffering are pervasive in Haiti (Kovats-Bernat 2014). The infant mortality rate is 70 deaths per 1,000 live births; the under-5 mortality rate is 165 deaths per 1,000 live births, which are the highest rates in the Western Hemisphere (United Nations Children's Fund [UNICEF] 2013). Infections and nutritional deficiencies are frequent and commonly contribute to illness and death (UNICEF 2012). Less than half of Haitian adolescents have access to sanitized water and less than one in five children have access to adequate waste and sanitation facilities (UNICEF, 2011b). The primary cause of morbidity and mortality among Haitian young people is diarrhea, closely followed by respiratory illness, malaria, tuberculosis and complications associated with HIV/AIDS (Kovats-Bernat 2014). Additionally, adolescents who survive these difficult circumstances are often faced with strife associated with armed conflict and other forms of violence.

Historical Factors

Besides its location in a hurricane-prone zone, the socio-political environment and other recurring environmental catastrophes have caused unrest in Haiti for centuries and contribute significantly to Haiti's current state. Haiti's challenges are rooted in history, with oppression and despair, generations of slavery, centuries of colonization, a series of violent dictatorships and a legacy of resistance and revolts (Girard 2010, Farmer 2011). With frequent natural disasters (in 2002 in 2003 in 2006 and 2007) combined with topographical damage from chronic deforestation and soil erosion, Haiti has endured significant instability (McClintock 2003, Gingembre 2012). The historic earthquake of January 2010, when thousands were killed, maimed and displaced, destroyed all of Haiti's internal governmental structures. Such destruction creates a fertile ground for the intersection of poverty and violence.

Violence against young people in Haiti is a serious problem. According to the 2014 Violence Against Children Survey (VACS) one out of four females and one out of five males in Haiti have experienced at least one incident of sexual abuse prior to the age of 18. In addition,

nearly two-thirds of both females and males experienced physical violence prior to 18 years of age by an adult household member or authority figure in the community (Centers for Disease Control and Prevention [CDC] 2014). Further, approximately one-third of adolescents experienced emotional violence prior to turning eighteen (CDC 2014). The survey revealed that sexual, physical and emotional violence commonly overlapped and had particularly adverse effects on females. Experience with violence may contribute to behavioral problems such as aggression, poor academic performance, substance use and reduced self-esteem (Wells *et al.* 2014). Health consequences of sexual, physical and emotional violence include sexually transmitted infections, unintended pregnancies, injuries, anxiety, depression, substance use and may lead to suicide or result in homicide (Davies *et al.* 2015). All of these adverse consequences interfere with adolescents' chances of becoming healthy adults, establishing stable families, being active participants in economic development and engaging in community building.

Although estimates vary widely, prior to the earthquake, there were as many as 10,000 children 'working, eating, sleeping, socializing, fighting, killing and dying on the streets of the cities and towns of Haiti' (Kovats-Bernat 2013, p.191). A significant portion of the children among Haiti's more than 380,000 orphans lived on the street; however, several them were forced out of their homes to work in support of household economies (Nicholas *et al.* 2012). The term '*restaveks*' refers to young people who are sold to others to work as household servants (Balsari *et al.* 2010). Instances of emotional and physical abuse related to disciplinary practices in families and involving Haitian adolescents were widespread (Kovats-Bernat 2014).

No research studies have explored the extent to which Haitian young people experience violence in dating relationships. In the global context, there is a dearth of research centering on dating violence. Although the preponderance of research has emanated from the USA and primarily from a Euro-American perspective, studies conducted in the UK (Hird 2000), New Zealand (Jackson *et al.* 2000) and South Africa (Swart *et al.* 2002) strongly suggest that adolescent dating relationships are often characterized by physical and sexual violence. Cross cultural studies showing the influence of the environment and cultural norms on violence are limited.

Post-earthquake context

After the 2010 earthquake, the loss of lives and profound destruction was amplified because of the high population density in the affected areas, poorly constructed buildings, weak infrastructure and centralization of essential services in Port-au-Prince (Bookey 2011). Many individuals and families were displaced and forced to seek shelter in tent camps where few services were available. Food, clean water, adequate sanitation and structurally safe housing were severely lacking (Gelting *et al.* 2013).

Many reports were released by several international organizations documenting significant risks of violence against women after this catastrophic event (Hammond 2012). While violence, particularly against women and girls, was a significant health and social issue in Haiti prior to the earthquake, the profound loss of resources, economic security and infrastructure for safety further increased the vulnerability of women and girls.

Approximately one fourth of 13–24-year-olds were displaced or moved because of the earthquake. The VACS study revealed that— although overall displacement following the earthquake was not associated with sexual abuse subsequent to the earthquake among 13–24-year-old females—females living in tents were more at risk for sexual abuse if displaced and living in tent cities (CDC 2014). A description of the complex issues leading to the dramatic increase in vulnerability of children in Haiti after the earthquake has also been reported, with thousands of children remained displaced and living in tent-cities. These conditions left orphans and at-risk children vulnerable to exploitation, abuse and increased the risk of HIV/AIDS (Nicholas *et al.* 2012).

AIMS

The first aim of this study was to describe the extent of physical, psychological and sexual violence among in a sample of internally displaced adolescent girls following the 2010 Haiti earthquake. A second aim was to describe the related risk factors, health concerns and cultural norms about violence and abuse of adolescent girls.

A collaborative research team conducted the study. The team consisted of experts regarding violence and abuse of women including intimate partner violence (IPV) as well as physical, sexual and psychological abuse of adolescent girls, from universities of the US Virgin Islands and the US mainland, as well as Haitian health, legal, social services and education experts.

DESIGN

This descriptive/correlational study was conducted after the research team performed a situational analysis that considered the best ways to explore the IPV/teen dating violence with adolescent girls in Haiti after the earthquake. Descriptive studies are used when little is known about a particular phenomenon. There is no manipulation of variables and the aim is to observe, describe and document various aspects of a phenomenon. On the other hand, correlational designs involve the demonstration of the direction, degree, magnitude and strength of the relationships between variables. Together, descriptive correlational studies describe the variables and the relationships between them (Burn & Grove 2012).

Focus groups of representatives from health and social service agencies and internally displaced women in Port-au-Prince yielded useful data that informed the research team. The team developed strategies to assess the experiences and needs of the adolescent girls displaced by the earthquake. A local advisory group of collaborating researchers and consultants provided additional guidance.

Participants

Trained research assistants invited internally displaced adolescent girls living in Port Au Prince tent camps who came to the local hospitals or clinics to receive health care services to participate in the study. The participants were 12–17 years and spoke Haitian Creole or French. Participants included 78 girls who completed an audio computer based interview. The research assistants included two medical residents. Their activities were coordinated by

a study Investigator who was a social worker with extensive public health experience and an MD, who served as Project Coordinator, all of whom were Haitian females. The research assistants were educated in the goals of the research, basic interview techniques, survey protocols, the meaning and purpose of each survey question and protocols to follow when respondents did not understand questions or refused to answer.

Data collection

The study was conducted in Haiti from 2011–2013. Data were collected from internally displaced women and adolescent girls living in Port-au-Prince and surrounding tent cities and camps. The focus of this report is on Haitian adolescent girls.

Participants used a touch-screen audio computer-assisted self-interview (ACASI) device. The ACASI technology had been used successfully with African Caribbean and African American women in an earlier study of abused women and had high rates of disclosure of sensitive and private information (Stockman *et al.* 2014). One benefit of this system is that it can be used with participants with lower literacy levels because they can choose an audio format or the visual option and read the items, or move back and forth between the two options. After obtaining informed consent, Haitian healthcare providers guided the girls on using the tablet computers for the self-interviews. The staff remained nearby during the survey and helped when needed. Participants chose the language (Haitian Creole or French) and completed the survey in 60–90 minutes.

Research assistants were alert for participants whose survey responses indicated that they might be in serious danger or need prompt referrals for social or health services. The computer was programmed to alert the research assistant to help with this issue. The research assistant received a prompt at the end of the survey that informed her if the girl had a score on a measure of danger or psychological abuse requiring immediate referral for assistance. Any of the adolescent participants who disclosed physical, sexual or psychological abuse received appropriate referrals. All participants were acknowledged for their participation with a small monetary gift in gourds (Haitian currency).

Ethical considerations

The research plan was reviewed and approved by the Office of Sponsored Research of the sponsoring university, the National Ethics Committee of Haiti, the National Institute on Minority Health and Health Disparities and was consistent with the WHO guidelines for research (WHO 2008). Parents or guardians of the girls provided consent and the girls gave assent for participation in the study.

Data Analysis

Demographic characteristics were summarized as mean and standard deviation or frequency and percentage, as applicable. Analysis of frequency was used to compare the abuse prevalence pre and post-earthquake. A two sample *t*-test was used to determine the difference in average scores between abused and non-abused and is recommended for small samples. When the parametric assumptions were not met, then, the Mann-Whitney test was used (Burns & Grove, 2012). Logistic regression was used to determine the odds ratios of

symptom clusters post-earthquake. Logistic regression is appropriately used to test a predictor or predictor variables of a dichotomous dependent variable (Burns &Groves, 2012). The significance level was set at a p-value equal to or less than 0.05. All statistical analyses were carried out using SAS (Version 9.4).

Validity, reliability and rigour

The research team developed survey instruments with the assistance of Haitian counterparts. Survey instruments were translated by certified translators into Haitian Creole and French, back translated and then checked for linguistic accuracy and cultural appropriateness with the assistance of Haitian collaborators.

Questionnaires used in a previous research project with urban-dwelling middle school-aged young people were modified to be used for the Haitian young people population. An adolescent adaptation of the Abuse Assessment Screen was used to screen for physical, psychological and sexual abuse two years before and after the earthquake (Basile *et al.* 2007). The screening included questions regarding being slapped, pushed, shoved, hit or beaten, threatened with a weapon, forced sex, teasing, name-calling threats or threats against other family members. The Women's Experience with Battering (WEB) Scale (Davidson, Book *et al.* 1997) measured psychological abuse and the Severity of Violence Against Women Scale (SVAWS) was a measure of physical abuse (Basile *et al.* 2007). If the girl answered yes to being abused, she was also asked to identify the perpetrators as boyfriend, ex-boyfriend, other partners, family members, non-family members. The girls also completed the Safe Dates-Physical Violence Victimization (SD-PVV), a validated measure of victimization in dating relationships (Foshee *et al.* 1996) and the Sexual Experiences-Victimization Survey (SES), which asked questions about sexual experiences since age 12 including questions about sex play (fondling, kissing, or petting). Attempted rape or actual rape was also measured with items from the National Women's Study (NWS) and National Violence Against Women Survey (NVAWS) (Basile *et al.* 2007). The girls were asked to identify the relationship of the perpetrators (family members, authority figures or other individuals).

Evidence of post-traumatic stress disorder (PTSD) in the adolescent girls was assessed using the Davidson Trauma Scale (DTS) which provides information on the frequency and severity of specific traumas (distress or painful events) (Davidson *et al.* 1997). Physical responses to distress were also recorded. Suicidal ideation and/or behavior was assessed by asking whether they had tried to kill or harm themselves in the past or present and/or whether they had ever thought about killing or harming themselves in the past or present. Follow-up questions focused on reasons for suicidal behavior and why the adolescent stopped the behavior or thought.

RESULTS

The mean age of the girls was 14 years (SD 1.8). Regarding education, 91.0% were attending school at the time of the earthquake. Levels of education ranged from 3rd grade or less (26.9%), 6th–7th grade (28.2%) and 9th grade but did not complete high school (16.7%). Only one of the girls had completed high school and 2 had never attended school. All the

girls were Haitian Creole and the majority (96.2%) were born in Haiti. Five% of the girls reported being pregnant at some point and one was currently pregnant. This pregnancy was described as wanted and not considered forced or due to restrictions related to contraception. As expected, the majority (92.3%) were unemployed and 92.3% had no health insurance. More than 92% of the girls reported that the earthquake had destroyed their homes. More detail about the sample is displayed in Table 1.

Most the adolescent girls reported physical, psychological and sexual abuse both pre (59.0%) and post (64.1%) earthquake (Table 2). More than 46% described physical abuse both pre- and post-earthquake; 21.8% reported sexual abuse in similar%ages both pre- and post-earthquake.

There was no significant increase in prevalence of physical (SVAWS) or emotional abuse (WEB) pre- and post-earthquake among abused and non-abused internally displaced Haitian adolescent girls, as seen in Table 3. However, the average DTS score for the girls was 20.7 (SD 17.0, range = 0–68), the DTS score of 15.4% of the adolescent girls was above 40, which indicated evidence of PTSD. There was a significant difference in mean DTS score between adolescents who were abused and not abused ($p = 0.022$). There was also a significant difference in the Sexual Experiences-Victimization Survey (SES), SES, M = 3.5, SD 3.0, range = 0–11, $p = .0001$ and NVAWS, M = .94, SD 2.75, range = 1–10, $p = 0.0001$) between adolescents who were abused and not abused.

Fifty% of the adolescent girls (n = 78) reported being physically abused by a boyfriend or ex-boyfriend before the earthquake; 30% identified the abuser as a family member. In the post-earthquake period, of the adolescents (n = 36) reporting physical abuse, the most frequently reported perpetrator of physical abuse was a family member (20.5%), followed by acquaintance (3.8%) or other person (12.8%). Of the adolescent girls (n = 17) reporting sexual abuse pre-earthquake, identified perpetrators were boyfriend or ex-boyfriend (5.22%), other family member (3.85%), or acquaintance (10.26%). The majority of adolescents (n = 61) did not respond to this question. Of adolescent girls reporting sexual abuse in the post-earthquake period (n = 17), perpetrators were identified as boyfriends (3.85%), other family member (5.13%), acquaintance (1.28%), or other person (8.97%). Again, the majority (61%) did not respond to this question.

Five adolescents (6.4%) reported having tried to kill or harm themselves before the earthquake, compared with 71.7% who had not. Post-earthquake, 10.25% reported having tried to kill or harm themselves. While 62 or 79.5% did not respond to this question post-earthquake, of those who provided a reason for trying to kill or harm themselves (n=16), the most frequent responses were ‘Someone was hurting me’ (n = 7, 8.8%), ‘I was feeling sad’ (n = 4, 5.13%), ‘I was upset’ (n = 3, 3.9%), or ‘I was scared’ (n = 2–2.5%). Of those reporting getting help, most reported getting help from a parent or guardian (29%), a teacher or headmaster (24%), or legal assistance (24%).

The odd ratios and confidence intervals were calculated using logistic regression. As indicated in Table 4—controlling for the demographic variables of age, attending school and education—for each one-unit increase in SES score, the odds of an adolescent Haitian girl

being sexually abused post-earthquake increased by 41% (100 [1.41−1]); for each one-unit increase in NVAWS score, the odds of being sexually abused post-earthquake increased by 47% (100 [1.469−1]); and for each one-unit increase in DTS score, the odds of experiencing symptoms of PTSD increased by 4.2% (100 [1.042−1]).

DISCUSSION

Adolescent girls are in a double risk category of being vulnerable because of their age, gender and lack of human and material resources. It is important to note that there was no statistically reported increase in sexual abuse pre- and post-earthquake. These findings contrast with media and other organizations' reports in the year after the earthquake by those reporting from and working in Haiti. Reports noted gang rapes and rapes of adolescent girls by strangers who were reportedly moving freely throughout the camps; however, there are a few explanations for this discrepancy. In this study, 60% of the girls did not answer the questions about being abused before and after the earthquake. This is a large amount of missing data that-limits our ability to compare with other data or draw other conclusions. In addition, this sample of adolescent girls is very small; hence, the results must be interpreted with great caution.

A vast majority of the girls (61%) did not respond to the questions about experiencing abuse either before or after the earthquake. An even greater majority (79%) did not respond to the question about whether they had tried to kill or harm themselves. We must consider why such a large number of the girls who completed the surveys chose not to answer these questions. Was this information just too sensitive or culturally or religiously inappropriate for them? Were they too uncomfortable with the security of the data collection system? Did they worry or were they fearful that their answers would get out to their families or the community and be unacceptable, or put them at risk for further violent victimization?

Our study experts chose to use the ACASI system of data collection because it has been found to be an effective way to reach similar populations with comparably sensitive questions. Perhaps these adolescents did not want to even consider these questions for cultural reasons, including suicide. The issue of suicide may not always be acceptable to talk about or acknowledge. In a rare study on suicide in Haiti, Hagaman and associates performed interviews in 2011 and found wide discrepancies in the views of healthcare workers and community members regarding suicide in Haitian society (Hagaman *et al.* 2013). Generally, the healthcare workers denied that it was a problem or happened at all, while community members more often stated that social and cultural pressures did lead to the intent to commit suicide. While all the participants in the study were adults, we would nevertheless expect that these findings would be similar for adolescents.

Despite these findings of no significant increase in abuse post-earthquake among adolescents, the rates both pre- and post-earthquake are unacceptably high. It is important, however, to note that the findings suggest that the pattern of violence against the girls was different post-earthquake. Post-earthquake, the odds of an adolescent Haitian girl being sexually abused increased significantly as did the odds of an adolescent Haitian girl experiencing symptoms of PTSD. Additionally, 30% of girls reported a family member as

the perpetrator of violence post-earthquake. These findings suggest that living in close quarters with family members or individuals who may be abusing girls increased the girls' risk for victimization and that a family member as perpetrator is perceived as more traumatic, as evidenced by increased reporting of symptoms of PTSD. Additionally, having a family member as perpetrator of abuse may have influenced the girls' willingness to disclose, particularly if they were fearful that this disclosure may have increased their risk for further violent victimization.

Since options were very limited and resources scarce, many may not have seen the benefit of disclosing their predicaments. Although many procedures were in place to protect the adolescent girls who participated in the interviews, they may have feared the unknown and that may have contributed to underreporting of their victimization. Furthermore, it is notable that even in this small group, the adverse effects of all kinds of abuse were prominent, with girls suffering additional symptoms as shown by their PTSD scores.

The low levels of education of this group of girls may partially explain the reported high levels of violence since low levels of education are associated with IPV for both women and girls worldwide (Garcia-Moreno *et al.* 2006). Younger age is also associated with increased risk for IPV. Thus, the risk for victimization of these adolescent girls is compounded by their low levels of education and their ages. There is also limited access to mental health care in resource-limited settings. This reality existed both before and after the earthquake. The female adolescents who experienced IPV may have felt they had no choice but to refrain from reporting on violence and remaining silent, a finding consistent with those of two separate qualitative studies of Haiti 2010 earthquake survivors (Rahill *et al.* 2016, Logie 2016).

The missing data regarding sexual abuse both pre- and post-earthquake makes interpretation difficult. Perhaps the girls failed to report the sexual abuse because they were too traumatized, worried about stigmatization, or fearful that their responses would result in further victimization. As already noted, the girls may have feared what would happen if they disclosed the abuse, a point made again by researchers in a longitudinal study of 236 women in the US (DePrince *et al.* 2014). The use of the ACASI has been found to be a comfortable and accurate way to retrieve sensitive information from girls in other populations; however, in this low-resource setting, it is likely that Haitian girls had limited access to smartphone and tablet technology prior to the study and were not as comfortable with the use of the touch-screen tablets. Perhaps future studies of sensitive topics such as gender-based violence should consider a personal interaction for data collection.

LIMITATIONS

The sample was small and may not have represented the diversity of abusive experiences for adolescent girls. There were no statically significant differences between pre- and post-earthquake reported violence. This finding could be associated with adolescents' fear of disclosure, further victimization, concerns about stigma and reprisals from family members. It is also possible that they may not have accurately comprehended the survey questions or their intent. The study found increased PTSD symptoms among the study participants,

which may have influenced adolescent girls' perceptions and their self-reports of abusive experiences and may have resulted in underreporting their abusive experiences.

CONCLUSIONS

This is one of very few studies that has examined the experience and perceptions of abuse among Haitian adolescent girls displaced after the 2010 catastrophic earthquake. The study was conducted by a multidisciplinary team of researchers from the University of the Virgin Islands, several universities in the US and healthcare professionals from Haiti. The research team consisted of experts in gender-based violence, community-based research and front line healthcare providers who were experienced in providing care for victims of gender-based violence. The study implemented culturally appropriate strategies such as translation of survey questionnaires in Haitian Creole and French, used evidenced-based, computer-assisted technology shown to be effective in similar Caribbean populations and employed interviewers from Haiti who were knowledgeable about the culture and fluent in Haitian languages. The findings from this study are important because they increase our understanding of violence against adolescent girls who were displaced from their homes and separated from their immediate families following a catastrophic natural disaster. Young girls were forced to live in closer proximity with family members, which might have increased their risks for violence and victimization. Findings of increased PTSD and thoughts of self-harm (suicide) show further adverse consequences of the violence. The high rates of sexual, physical and psychological abuse of adolescent girls both pre- and post-earthquake call for more focused attention and preventative action by healthcare providers and policy makers and a shift in the socio-political and economic environment that empowers and values females. During and following disasters, assertive actions must be taken by governments, aid organizations and health professionals to prevent adolescent trauma and victimization. Interventions and policy initiatives should address family and caregiver roles and responsibilities for adolescent girls' safety and protection from any type of harm, including violence.

The results from this study suggest that there are many areas that organizations, foundations and governments can address in the future. Interventions and policy initiatives for adolescent girls should include education that increases their awareness of their vulnerability for gender-based violence as well as strategies for self-protection. Scientific research can further explore the circumstances of displaced adolescent girls worldwide due to natural tragedies, wars and political conflicts, as more information is needed to understand perceptions and strategies to mitigate traumatic experiences. Research is also needed to document and evaluate what agencies and healthcare facilities have done to facilitate the healing process. Funding is needed to support the implementation of culturally appropriate evidenced-based interventions that also include rigorous evaluation. Curricula and continuing education for health professionals should include content and best practices for delivering trauma-informed care. Finally, research with sufficient funding is needed to unravel the complexities associated with trauma as experienced by young girls and adolescents such as these girls in Haiti.

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SUMMARY STATEMENT

Why is this research or review needed?

- Gender-based violence is a global problem that is prevalent and causes many adverse health problems.
- Adolescent girls are in a particularly vulnerable situation with respect to violence and abuse given their age and dependence on family members for protection.
- Culturally typical family and community supports for adolescent girls are severely disrupted after a natural disaster.

What are the key findings?

- Adolescent girls in this sample experienced unacceptably high levels of physical, emotional and sexual abuse both before and after the earthquake.
- Reported physical and sexual abuse levels of the adolescent girls were statistically the same pre- and post-earthquake.
- Some girls reported suicidal thoughts and suicidal attempts.

How should the findings be used to influence policy/practice/research/education?

- Further research should be done to learn more about diverse populations of girls who are displaced by natural tragedies, wars and other political conflict situations.
- Interventions and policy initiatives should be developed that fully address family and caregiver roles and responsibilities for adolescent girls' safety and protection from any type of harm, including violence.
- Curricula and continuing education for health professionals should include content and best practices for delivering trauma informed care.

Table 1

Sample Characteristics of Adolescent Girls (n = 78)

Variable	Mean	St. Deviation
Age in years (12–17)	14.12	1.82
Variables	**Frequency**	**Percent**
Education		
Never attended school	2	2.5
3rd grade or less	21	26.9
fourth grade–fifth grade	12	15.4
6th grade–7th grade	22	28.2
8th grade	7	9.0
9th grade or more but didn't complete HS	13	16.7
Graduated from HS or equivalent	1	1.3
Attends school		
No	11	14.1
Yes	67	85.9
Attends school before earthquake		
No	7	9.0
Yes	71	91.0
Born in Haiti		
No	3	3.9
Yes	75	96.1
Employed		
No	72	92.3
Yes	6	7.7
Health Insurance		
No	72	92.3
Yes	6	7.7
Pregnant		
No	77	98.7
Yes	1	1.3
Home Destroyed		
No	6	7.7
Yes	72	92.3

Table 2

Prevalence Comparison of Abused and Non-Abused Haitian Adolescent Pre and Post Earthquake (N = 78)

Types of Abuse	Earthquake		Chi-Square	p-value
	Pre N (%)	Post N (%)		
Physical, psychological, and Sexual Abuse				
No	32(41.0)	28(35.9)	0.43	0.510
Yes	46(59.0)	50(64.1)		
Physical and Sexual Abuse				
No	47(60.2)	44(56.4)	0.24	0.626
Yes	31(39.8)	34(43.6)		
Physical Abuse				
No	42(53.8)	42(53.8)	0.00	1.000
Yes	36(46.2)	36(46.2)		
Sexual Abuse				
No	61(78.2)	61(78.2)	0.00	1.000
Yes	17(21.8)	17(21.8)		

Table 3

Mean Scores Comparison of Trauma Scales between Abused and Non-Abused Haitian Adolescent Post-Earthquake (N=78)

Variables	Mean	St. Dev.	t value	p Value
Davidson Trauma Scale (DTS)=PTSD				
Non-Abused	18.18	16.40	2.34	**0.0224**
Abused	28.88	16.85		
Physical Violence (SVAWS)				
Non-Abused	12.48	3.63	1.88	0.0665
Abused	10.23	4.42		
Women's Experience of Battering (WEB)				
Non-Abused	11.39	11.89	0.99	0.3234
Abused	14.71	13.06		
Safe dates-Physical Violence Victimization (SDPVV)				
Non-Abused	36.26	10.33	1.39	0.1700
Abused	31.53	12.78		
Sexual Experience-Victimization Survey (SES)				
Non-Abused	2.02	2.01	4.03	< **0.0001**
Abused	4.41	3.41		
National Violence Against Women Scale (NVAWS)				
Non-Abused	2.51	1.98	4.02	< **0.0001**
Abused	4.94	2.75		

Table 4

Odds Ratios of Trauma Scales Using Logistic Regression (N = 78)

Effect	Odds Ratio	95% Wald Confidence Limits		p Value
Sexual Experiences Victimization Survey Score (SES)	1.413	1.115	1.791	0.0042
National Violence Against Women Scale (NVAWS)	1.469	1.131	1.909	0.0040
Davidson Trauma Scale (DTS) measure of PTSD	1.042	1.003	1.083	0.0339