Epidemiology of Injuries to Early Adolescents from Family Violence Evaluated in an Urban Pediatric Emergency Department

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Background: Exposure to family violence during childhood and adolescence increases the risk for experiencing or perpetrating future violence. Social distancing protocols combined with reduction in access to youth/family services during the COVID-19 pandemic may have intensified the risk of exposure to familial violence.

Objectives: This study describes the epidemiology of violence-related injuries to 10- to 15-year-old children from family violence, including child maltreatment and physical fighting, resulting in emergency department (ED) evaluation.

Methods: This retrospective cohort study located in an urban academic pediatric ED in the mid-Atlantic region is a review of electronic medical records between January 2019 and March 2020 (prepandemic period) and March to December 2020 (pandemic period). This review focused on visits for youth aged 10 to 15 years who presented for evaluation of an injury due to a violent event involving a family member. Demographic and clinical data were abstracted, including circumstances of the event. Descriptive statistics were used to summarize data and compare prepandemic to postpandemic proportions.

Results: Of 819 youth aged 10 to 15 years evaluated for a violence-related injury, 448 (54.7%) involved a family member. Of these, most involved parents/guardians, 343 (76.6%), and occurred at home (83.9%). Most patients were girls (54.0%), Black/African American (84.4%), and were enrolled in a public insurance plan (71.2%). Most youth were transported to the hospital by police (66.7%). Overall, alcohol, drugs, and weapons were involved in 10.0%, 6.5%, and 10.7% of events, respectively, and their involvement significantly increased during the pandemic period to 18.8%, 14.9%, and 23.8% ($P < 0.001$). Most patients (98.7%) were discharged from the ED.

Conclusions: More than half of violence-related injuries treated in the ED in this population resulted from family violence. Family violence is a prevalent and possibly underrecognized cause of injuries during adolescence. Further research should explore the potential of the ED as a setting for preventive interventions.

Key Words: adolescence, family violence, youth violence

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Violence is a leading cause of mortality and morbidity during adolescence[1,2] and is linked to an increased risk of future negative health outcomes including injuries due to repeated violence, homicide, and poor mental health outcomes including depression, posttraumatic stress disorder, borderline personality disorder, anxiety, sleep and eating disorders, suicide, and suicide attempts.[3–6] Exposure to family violence at a young age also increases the likelihood that a child will be exposed to additional violence or become perpetrators of violence in the future,[7,8] continuing this cycle of intrafamilial violence. Given that studies[3,5,6,9–11] of adolescent violence often focus on peer violence, a better understanding of the epidemiology of violence-related injuries resulting from family violence is needed to better inform the development of more comprehensive prevention strategies.

The epidemiology of family violence was likely impacted by circumstances created by public policies that aimed to mitigate the threat of infection during the COVID-19 pandemic and resulted in disruptions in home, work, and school routines. The COVID-19 pandemic amplified risk factors known to increase family interpersonal violence such as increased need for parental supervision, parental stress, financial hardship, poor mental health, and isolation.[12,13] There is evidence that violence-related injuries have increased during this period,[14,15] whereas at the same time, referrals to Child Protective Services (CPS) decreased in the United States.[16–19] The combination of social distancing protocols/policies combined with reduction in access to youth/family services may have intensified the risk of prolonged exposure to familial violence for groups of children.

Given that the pandemic has exacerbated circumstances leading to family-based violence, and previous studies indicate an immediate increase in family violence early in the pandemic,[14,15] we sought to characterize the prevalence and circumstances of early adolescent injuries resulting from family interpersonal violence. This age group was selected because many violence epidemiology studies and violence prevention programs that are emergency department (ED)-based focus on older adolescent populations, and this early adolescent population is not well represented in previous studies. These are essential first steps to identify gaps in resources for families, opportunities for prevention, and considerations for addressing violent injuries among youth during pandemics and natural disasters in both the urban pediatric ED setting and in surrounding communities.

METHODS

This retrospective cohort study was conducted at an urban academic pediatric ED and level 1 pediatric trauma center in Baltimore, MD. This pediatric ED has an estimated annual census of 35,000 patients; most (60%) have public insurance. The patient population is 60% Black/African American, 21% White, and 10% Hispanic/Latino. The hospital institutional review board approved this study (IRB00246826).

The overall study period was January 1, 2019 to December 31, 2020; this included the prepandemic period (January 1, 2019 to March 29, 2020) and the pandemic period (March 30 to December 31, 2020). This cutoff was defined by the issuance of a stay-at-home order on March 30, 2020 in the state of Maryland to curb the escalation of transmission of COVID-19. Further breakdown of the pandemic period was defined as follows: the stay-at-home

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order that limited travel outside the home and closed all nonessential businesses was in effect from March 30 to May 15, 2020. Phase 1, allowing some nonessential businesses to reopen and expanded the limit of gatherings size, was from May 15 to June 6, 2020. Further reopening in phase 2 occurred from June 6 to September 4, 2020, with phase 3 following from September 4, 2020, through the end of the study period.

A review of the electronic health record (EHR) identified all pediatric ED visits for youth aged 10 to 15 years during the study period including a review of chief complaint and final diagnosis was completed to identify those eligible. The 10- to 15-year age group was selected because many violence epidemiology studies and violence prevention programs that are ED-based focus on older adolescent populations, and this age group is not well represented in previous studies.[20,21] A complete description of coding and consensus has been described elsewhere.[22] For the current study, injuries were examined in terms of both overall epidemiology as well as with comparison of characteristics before and during the pandemic to understand its impact. As seen in Figure 1, we identified all pediatric ED visits for youth aged 10 to 15 years[22,23] during the study period and briefly reviewed "chief complaint" and "final diagnosis" to identify visits potentially relating to injury and excluding noninjury-related visits. Two abstractors then reviewed the electronic medical record in detail to confirm that a visit was injury-related and to classify the mechanism as intentional/interpersonal, intentional/self-inflicted, or unintentional. Interpersonal violence involves the intentional use of physical force or power against other persons by an individual or small group of individuals.[4] Self-inflicted violence involves the intentional harming of oneself, whereas unintentional injury refers to injuries caused by mechanism such as motor vehicle crashes, falls, and sports/recreation that are unplanned and often preventable by safety precautions.

All patients who presented for evaluation of an intentional interpersonal injury due to a violent event involving a family member were included in the study population, and EHRs were reviewed in detail to abstract demographic and clinical information. Data from EHRs were entered in Microsoft Excel for Mac 2020 (Microsoft Corporation, Redmond, Wash.) and analyzed using SPSS Statistics V.26.0. (SPSS Inc., Chicago, Ill.).[24] Descriptive statistics were used to summarize the data for the overall study population and *t* tests, χ^2, and Fisher exact testing were used to compare prepandemic visits with pandemic visits, including subcategories of the pandemic as described earlier.

RESULTS

Overall Study Population

During the overall study period, there were 2780 youth aged 10 to 15 years evaluated in the pediatric ED for injury complaints, and 819 youth had intentional/interpersonal injuries. This reflected 29.5% of the pediatric ED visits for injury in this age group. Of these, 54.7% reported that the event involved a family member and were included in the final analysis. These events included both physical fighting and child maltreatment.

Table 1 summarizes the study population with an intentional interpersonal injury due to a violent event involving a family member. Overall, most patients were girls, Black/African American, not Hispanic/Latino, and had public insurance. Most youth were transported to the hospital by police; followed by private vehicle/walk-in, then ambulance, and finally transported from another facility. Most of these events involved parents/guardians and occurred at home. Alcohol, drugs, and weapons were involved in 10.0%, 6.5%, and 10.7% of events, respectively; the most frequently reported weapon was a knife. Most patients were discharged from the ED, with 1.3% of patients being admitted to the hospital (including hospital admission, hospitalized observation, and/or operating room).

Prepandemic and Pandemic Comparison

During the prepandemic period, there were 8540 total visits for 10- to 15-year-olds, with intentional interpersonal injuries representing 7.4% of visits. During the pandemic, there were 2950 total visits for 10- to 15-year-olds, with intentional interpersonal injuries representing 6.2% of visits, which was significantly lower ($P = 0.03$). As seen in Table 1, the proportion of visits to the pediatric ED due to injuries involving a family member did not vary significantly from the prepandemic period versus the pandemic period, although the number of visits decreased from 347 visits in the prepandemic period to 101 visits in the pandemic period. There was no significant variation in sex or race from prepandemic to pandemic periods. Social work consults did not vary significantly across the prepandemic and pandemic period; however, in 8.1% and 7.9% of visits, respectively, a social work consult was not obtained ($P = 0.96$).

Injuries were more likely to occur at home during the pandemic period and increased from 81.6% to 92.1%, $P = 0.004$. Patients presented to the ED less frequently in the afternoon, decreasing from 44.1% to 31.7%, $P = 0.03$, and more frequently overnight, increasing from 8.9% to 16.8%, $P = 0.03$. The involvement of alcohol, illegal drugs, and weapons increased significantly during the pandemic from 7.5%, 4.0%, and 6.9% of events, respectively, to 18.8%, 14.9%, and 23.8% of events, $P \leq 0.001$. The involvement of alcohol and illegal drugs was attributed to the other party in most cases.

Pandemic Subanalysis by Phases

A comparison of injuries occurring during the different pandemic phases is shown in Table 2. Most injuries took place at home and did not vary significantly during the different phases of the pandemic. Across the pandemic, the proportion of patients who reported having no insurance did not change, with the highest reporting during phase 3. The type of transport to the hospital did not vary significantly; however, police remained the most likely mode of transport in all phases of the pandemic. Throughout all phases of the pandemic, most patients were discharged from the pediatric ED.

Most visits due to family violence occurred in the prepandemic period. There was significant variation in sex of patients during the phases of the pandemic. Most notably, female patients comprised a smaller proportion of visits than males until phase 3, at which point they represented 67.3% of visits, $P = 0.007$. Involvement of alcohol, illegal drugs, and weapons varied significantly between the prepandemic phase and different stages of the pandemic. Alcohol involvement was involved in 7.5% of visits during the prepandemic phase; it reached a maximum during phase 2 of the pandemic, comprising 26.7% of visits but was also significantly higher than prepandemic levels during phase 3 at 18.4% ($P = 0.002$). Involvement of illegal drugs was the highest during the stay-at-home order and comprised 30.8% of visits compared with the prepandemic level at 4.0% ($P < 0.001$). Involvement of weapons was significantly higher during the stay-at-home order, phase 2, and phase 3 of the pandemic, comprising 30.8%, 20.0%, and 24.5% of visits, respectively, as compared with the prepandemic level of 6.9% ($P < 0.001$).

DISCUSSION

This study is among the first to highlight the prevalence and characteristics of medically attended injuries sustained from family violence in the early adolescent population. In our study population, more than half (54.7%) of intentional injuries were due to family violence, which included both physical fighting and child maltreatment. Most (81.6%) occurred in the home and increased

TABLE 1. Comparison of Patient and Injury Characteristics in the Prepandemic Versus the Pandemic Phases

	Overall Study Population n = 448	Prepandemic n = 347	Pandemic n = 101	*P*
Proportion of interpersonal injury visits in pediatric ED	448/819 (54.7%)	347/635 (54.6%)	101/184 (54.9%)	0.99
Proportion of visits during each period				
Prepandemic	347 (77.5%)	347 (100%)	N/A	
Stay-at-home order	13 (2.9%)	N/A	13 (12.9%)	
Phase 1	9 (2.0%)	N/A	9 (8.9%)	
Phase 2	30 (6.7%)	N/A	30 (29.7%)	
Phase 3	49 (10.9%)	N/A	49 (48.5%)	
Patient characteristics				
Age in years				
10	70 (15.6%)	56 (16.1%)	14 (13.9%)	0.26
11	75 (16.7%)	60 (17.3%)	15 (14.9%)	
12	74 (16.5%)	58 (16.7%)	16 (15.8%)	
13	75 (16.7%)	50 (14.4%)	25 (24.8%)	
14	83 (18.5%)	68 (19.6%)	15 (14.9%)	
15	71 (15.8%)	55 (15.9%)	16 (15.8%)	
Sex				
Male	206 (46.0%)	156 (45.0%)	50 (49.5%)	0.42
Female	242 (54.0%)	191 (55.0%)	51 (50.5%)	
Race				
Black or African American	378 (84.4%)	289 (83.3%)	89 (88.1%)	0.43
White	35 (7.8%)	28 (8.1%)	7 (6.9%)	
Other	35 (7.8%)	30 (8.8%)	5 (5.0%)	
Ethnicity				
Hispanic or Latino	26 (5.8%)	21 (6.1%)	5 (5.0%)	0.59
Not Hispanic or Latino	419 (93.5%)	323 (93.1%)	96 (95.0%)	
Unknown	3 (0.7%)	3 (0.9%)	0 (0%)	
Health Insurance				
Public	319 (71.2%)	248 (71.5%)	71 (70.3%)	0.38
Private	61 (13.6%)	46 (13.3%)	15 (14.9%)	
None	59 (13.2%)	44 (12.7%)	15 (14.9%)	
Transport to Hospital				
EMS (ambulance/air)	33 (7.4%)	24 (6.9%)	9 (8.9%)	0.44
Interfacility transport	4 (0.9%)	4 (1.2%)	0 (0%)	
Non-EMS (car or walk-in)	112 (25.0%)	83 (23.9%)	29 (28.7%)	
Police	299 (66.7%)	236 (68.0%)	63 (62.4%)	
Characteristics of the event				
Family member involved Parent	343 (76.6%)	270 (77.8%)	73 (72.3%)	0.36
Sibling	43 (9.6%)	31 (8.9%)	12 (11.9%)	
Grandparent	20 (4.5%)	15 (4.3%)	5 (5.0%)	
Aunt/uncle	27 (6.0%)	20 (5.8%)	7 (6.9%)	
Cousin	9 (2.0%)	5 (1.4%)	4 (4.0%)	
Scene of injury event				
Home	376 (83.9%)	283 (81.6%)*	93 (92.1%)*	0.004
Park/playground	1 (0.2%)	1 (0.3%)	0 (0%)	
School	6 (1.3%)	6 (1.7%)	0 (0%)	
Street/sidewalk	15 (3.3%)	12 (3.5%)	3 (3.0%)	
Other	10 (2.2%)	5 (1.4%)*	5 (5.0%)*	
Unknown	39 (8.7%)	39 (11.2%)	0 (0%)	
Involvement of alcohol	45 (10.0%)	26 (7.5%)*	19 (18.8%)*	0.001
By other party	43	25	18	
By patient	2	1	1	0.97

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TABLE 1. *(Continued)*

	Overall Study Population n = 448	Prepandemic n = 347	Pandemic n = 101	*P*
Involvement of illegal drugs	29 (6.5%)	14 (4.0%)*	15 (14.9%)*	<0.001
By other party	21	9	12	
By patient	8	5	3	0.64
Involvement of weapons Knife	48 (10.7%) 15	24 (6.9%)* 11	24 (23.8%)* 4	<0.001
Firearm	1	1	0	
Other	32	12	20	0.18
Characteristics of the ED visit				
ED arrival time				
12 AM–6 AM	48 (10.7%)	31 (8.9%)*	17 (16.8%)*	0.03
6 AM–12 PM	54 (12.1%)	44 (12.7%)	10 (9.9%)	
12 PM–6 PM	185 (41.3%)	153 (44.1%)*	32 (31.7%)*	
6 PM–12 AM	161 (35.9%)	119 (34.3%)	42 (41.6%)	
Day of ED visit				
Mon to Fri	354 (79.0%)	279 (80.4%)	75 (74.3%)	0.18
Sat to Sun	94 (21.0%)	68 (19.6%)	26 (25.7%)	
No social work consult obtained	36 (8.0%)	28 (8.1%)	8 (7.9%)	0.96
ED disposition				
Admit/admit to OR	6 (1.3%)	4 (1.2%)	2 (2.0%)	0.52
Discharge	442 (98.7%)	343 (98.8%)	99 (98.0%)	

EMS indicates Emergency Medical Services.

*Statistically significant difference between pre-pandemic phase and pandemic phase.

significantly during the COVID-19 pandemic. There was a sharp decrease in number of visits for injuries caused by family violence during the pandemic, particularly during the stay-at-home order and phase 1 of the COVID-19 pandemic. This trends with an overall census decrease for the pediatric ED during this time, which also coincides with national patterns.[25]

Notably, police transport was the most likely way patients presented to the pediatric ED in the prepandemic period and across all phases of the COVID-19 pandemic. Given the age of this patient population (10–15 years), it was surprising to see that police transport was the main method of transport to the pediatric ED for these injured youth instead of emergency medical services or private vehicles. This may represent the context in which the injuries occurred, where police were called to deescalate a violent situation in a home or were the first responders to reports of child maltreatment to CPS. However, a consequence of this is that the first contact that adolescents have after sustaining an injury from a family member may be with law enforcement and not a health care provider or the health care system. In addition, work should explore under what circumstances transport to ED by police is more appropriate than transport by emergency medical services for youth with traumatic injuries as well as ensuring that police receive trauma-informed training, if they are not already receiving such training.

In this study, we saw a concerning increase in the involvement of alcohol, illegal drugs, and weapons during the COVID-19 pandemic in medically attended injuries sustained from family. Their involvement varied across the phases of the pandemic, with certain periods having significantly increased involvement as compared with the prepandemic phase. This is consistent with the increase in their use in all medically attended injuries caused by interpersonal violence presenting to the pediatric ED.[26] Our data are consistent with previous reports of the negative consequences of alcohol, illegal drug use, and medically attended violent injuries to adolescents.[14,15] The COVID-19 pandemic amplified risk factors known to increase family interpersonal violence such as increased need for parental supervision, parental stress, financial hardship, poor mental health, and isolation.[12,13] Because these consequences of the pandemic could have lasting harmful effects, it is imperative that community-based intervention and primary prevention efforts are used to provide supports for families. Further research should explore the increased involvement of alcohol, illegal drugs, and weapons after the stay-at-home order during the COVID-19 pandemic because these have been linked to increased cases of interpersonal violence. In addition, future research should evaluate potential policies to help those struggling with substance abuse and mental health disease during a pandemic.

Given that all the injuries in this study were caused by family violence, we were surprised to see that 8.0% of visits did not have a referral to a social worker, and that it did not vary during the COVID-19 pandemic. Because previous studies[12,13] have shown that the COVID-19 pandemic has exacerbated the circumstances (such as parental stress, financial hardship, and poor mental health) when families may benefit from the resources provided by a social worker, this potentially represents a gap in care that is important to address. This percentage of visits that is not seen by a social worker may reflect decreased social work coverage overnight in the pediatric ED as a significant proportion of the visits presented during that time. In addition, this may reflect a decision on the part of the ED provider that a social work consult was not needed and/or the ability of the provider team to provide relevant screening and resources if needed. Further study could explore the parameters indicative of a need for social work intervention in the setting of family violence as well as strategies to ensure that screening and intervention occurs when appropriate despite limitations in coverage.

These findings support the implementation of preventive strategies in the ED setting. These could include ongoing screening efforts to identify and intervene for at-risk patients. The Car, Relax, Alone, Forget, Family/Friends, Trouble screening is one such tool that identifies patients' risk for alcohol and drug misuse, which has been implemented in pediatric trauma patients admitted with an injury.[27,28]

TABLE 2. Comparison of Patient and Injury Characteristics Across Pandemic Subphases

	Prepandemic n = 347	Stay-at-Home Order n = 13	Phase 1 n = 9	Phase 2 n = 30	Phase 3 n = 49	*P*
Patient characteristics						
Age in years						
10	56 (16.1%)	0 (0%)	2 (22.2%)	5 (16.7%)	7 (14.3%)	0.34
11	60 (17.3%)	2 (15.4%)	1 (11.1%)	4 (13.3%)	8 (16.3%)	
12	58 (16.7%)	1 (7.7%)	1 (11.1%)	6 (20.0%)	8 (16.3%)	
13	50 (14.4%)	5 (38.5%)	2 (22.2%)	5 (16.7%)	13 (26.5%)	
14	68 (19.6%)	5 (38.5%)	0 (0%)	4 (13.3%)	6 (12.2%)	
15	55 (15.9%)	0 (0%)	3 (33.3%)	6 (20.0%)	7 (14.3%)	
Sex						
Male	156 (45.0%)	7 (53.8%)	8 (88.9%)	19 (63.3%)	16 (32.7%)	0.007
Female	191 (55.0%)	6 (46.2%)	1 (11.1%)	11 (36.7%)	33 (67.3%)	
Race						
Black or African American	289 (83.3%)	12 (92.3%)	7 (77.8%)	25 (83.3%)	45 (91.8%)	0.80
White	28 (8.1%)	0 (0%)	1 (11.1%)	3 (10.0%)	3 (6.1%)	
Other	30 (8.8%)	1 (7.7%)	1 (11.1%)	2 (6.7%)	1 (2.0%)	
Ethnicity						
Hispanic or Latino	21 (6.1%)	1 (7.7%)	0 (0%)	1 (3.3%)	3 (6.1%)	0.98
Not Hispanic or Latino	323 (93.1%)	12 (92.3%)	9 (100%)	29 (96.7%)	46 (93.9%)	
Unknown	3 (0.9%)	0	0	0	0	
Health Insurance						
Public	248 (71.5%)	10 (76.9%)	6 (66.7%)	19 (63.3%)	36 (73.5%)	0.58
Private	46 (13.3%)	2 (15.4%)	3 (33.3%)	6 (20.0%)	4 (8.2%)	
None	44 (12.7%)	1 (7.7%)	0 (0%)	5 (16.7%)	9 (18.4%)	
Transport to Hospital						
EMS (Ambulance/air)	24 (6.9%)	2 (15.4%)	0 (0%)	3 (10.0%)	4 (8.2%)	0.73
Interfacility transport	4 (1.2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Non-EMS (car or walk-in)	83 (23.9%)	2 (15.4%)	5 (55.6%)	9 (30.0%)	13 (26.5%)	
Police	236 (68.0%)	9 (69.2%)	4 (44.4%)	18 (60.0%)	32 (65.3%)	
Characteristics of the event						
Family member involved						
Parent	270 (77.8%)	9 (69.2%)	8 (88.9%)	20 (66.7%)	36 (73.5%)	0.35
Sibling	31 (8.9%)	2 (15.4%)	1 (11.1%)	5 (16.7%)	4 (8.2%)	
Grandparent	15 (4.3%)	0 (0%)	0 (0%)	2 (6.7%)	3 (6.1%)	
Aunt/uncle	20 (5.8%)	0 (0%)	0 (0%)	2 (6.7%)	5 (10.2%)	
Cousin	5 (1.4%)	2 (15.4%)	0 (0%)	1 (3.3%)	1 (2.0%)	
Scene of injury event						
Home	283 (81.6%)	12 (92.3%)	9 (100%)	27 (90.0%)	45 (91.8%)	0.51
Park/playground	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
School	6 (1.7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Street/sidewalk	12 (3.5%)	0 (0%)	0 (0%)	2 (6.7%)	1 (2.0%)	
Other	5 (1.4%)	1 (7.7%)	0 (0%)	1 (3.3%)	3 (6.1%)	
Unknown	39 (11.2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Involvement of alcohol	26 (7.5%)*	2 (15.4%)	0 (0%)	8 (26.7%)*	9 (18.4%)*	0.002
Involvement of illegal drugs	14 (4.0%)*	4 (30.8%)*	1 (11.1%)	3 (10.0%)	7 (14.3%)	<0.001
Involvement of weapons	24 (6.9%)*	4 (30.8%)*	2 (22.2%)	6 (20.0%)*	12 (24.5%)*	<0.001
Characteristics of the ED visit						
ED arrival time						
12 AM–6 AM	31 (8.9%)	4 (30.8%)	1 (11.1%)	6 (20.0%)	6 (12.2%)	0.07
6 AM–12 PM	44 (12.7%)	3 (23.1%)	0 (0%)	2 (6.7%)	5 (10.2%)	
12 PM–6 PM	153 (44.1%)	2 (15.4%)	5 (55.6%)	11 (36.7%)	14 (28.6%)	
6 PM–12 AM	119 (34.3%)	4 (30.8%)	3 (33.3%)	11 (36.7%)	24 (49.0%)	
Day of ED visit						
Mon to Fri	279 (80.4%)	11 (84.6%)	5 (55.6%)	24 (80.0%)	35 (71.4%)	0.25

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TABLE 2. *(Continued)*

	Prepandemic n = 347	Stay-at-Home Order n = 13	Phase 1 n = 9	Phase 2 n = 30	Phase 3 n = 49	*P*
Sat to Sun	68 (19.6%)	2 (15.4%)	4 (44.4%)	6 (20.0%)	14 (28.6%)	
No social work consult obtained	28 (8.1%)	2 (15.4%)	1 (11.1%)	2 (6.7%)	3 (6.1%)	0.85
ED disposition						
Admit	4 (1.2%)	0 (0%)	0 (0%)	2 (6.7%)	0 (0%)	0.11
Discharge	343 (98.8%)	13 (100%)	9 (100%)	28 (93.3%)	49 (100%)	

*Statistically significant difference between prepandemic phase and noted pandemic phase. There were no statistically significant differences among the pandemic phases.

This could also include interventions targeted to family violence-injured youth during presentation to the ED for injury-related care. Case management, involvement of CPS, and linkage with relevant support services may all be appropriate depending on circumstances. Further research should inform the development of preventive strategies that focus on recognizing and reducing family violence so that fewer injuries to adolescents occur.

Although this study is limited to a single-institution study that is set in an urban setting, a major strength is a more complete characterization, including patient and event descriptors, of injuries due to family violence to preadolescent youth before and during the COVID-19 pandemic. Similarly, the small sample size in each of the individual phases of the pandemic limits subgroup comparison. The retrospective chart review study design is further limited by the potential for incomplete or inaccurate medical record documentation; in addition, screening visits from chief complaint and discharge diagnosis leads to potentiality of missed visits. Despite these limitations, this work provides new descriptive data that increase knowledge of this at-risk population and can be applied to develop prevention strategies.

More than half of violence-related injuries in our adolescent population occurred from family violence, including child maltreatment and physical fighting. The increased involvement of alcohol, illegal drugs, and weapons during imposed stay-at-home mandates requires investigation as a contributor to family-related violence resulting in medically attended injuries during adolescence. Given that exposure to family violence increases an individual's risk for perpetrating violence in their own future

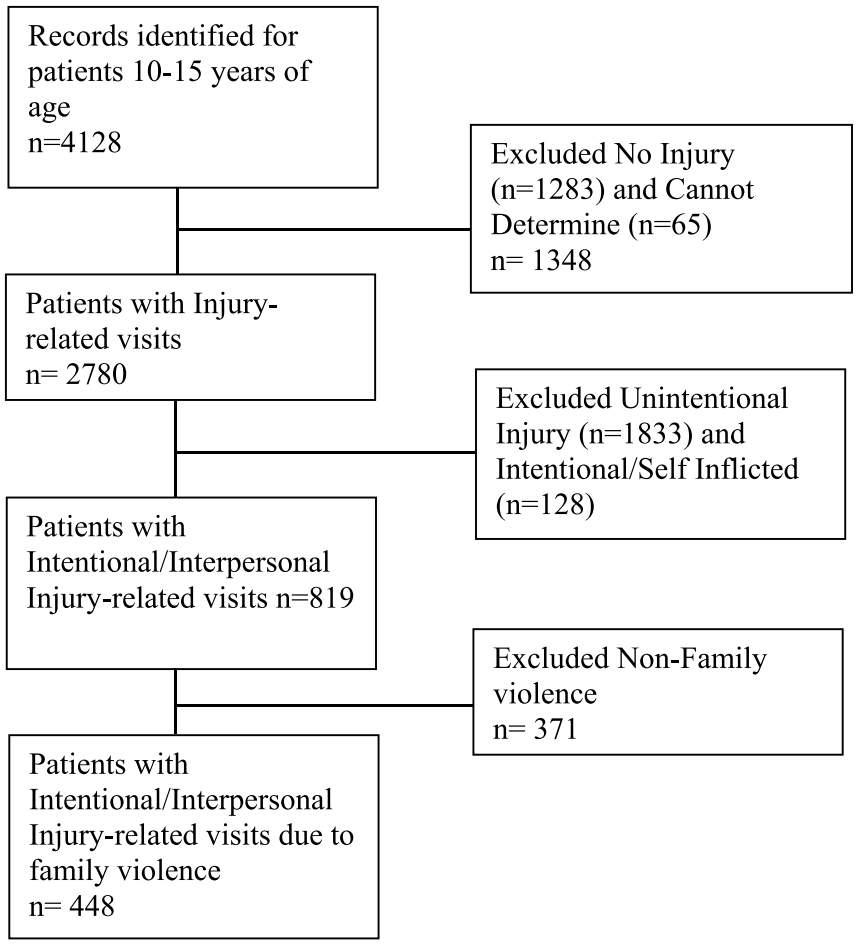

FIGURE 1. CONSORT diagram.

relationships, the ED is an appropriate setting to identify at-risk youth and initiate preventive interventions.

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