



Suicide risk among urban children

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ABSTRACT

Objective: This study examines how socio-demographic and clinical characteristics influence suicide risk among a large, urban sample of children (ages 12 and younger) receiving Psychiatric Emergency Services (PES).

Methods: Bivariate and binomial logistic regression analyses were employed to analyze data for a sample of 951 urban children presenting for pediatric PES.

Results: Approximately 17.2% of patients presented had a history of suicidal thought and behavior. Despite the larger number of black children presenting for PES, we found no significant difference in suicide risk across ethnic group, though the prevalence rates were increasingly higher in Whites, Latinos, and Black respectively. Of those presenting with suicidality: 65.1% were diagnosed with a behavioral disorder, 26.3% were diagnosed with a mood disorder, 3.8% with a psychotic disorder, and 4.8% with another disorder. About one in ten suicidal cases admitted to prior child abuse. Furthermore, patients admitted to the hospital for suicidality were more likely to be female, to have a mood disorder, and to be appropriately discharged to an inpatient setting following initial hospital care. **Conclusions:** The study points to the importance of screening publically insured (Medicaid) urban children experiencing psychological distress regardless of ethnicity and age for suicide risk. Clinicians should consider these findings when working with children in psychiatric crisis.

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1. Introduction

Suicide is surprisingly prevalent among preadolescents. According to the Centers for Disease Control and Prevention (2016a, 2016b), suicide was the sixth leading cause of death for children aged five to 12 (Centers for Disease Control and Prevention, 2016a). Moreover, the most recent data on suicide rates for children aged five to 14 shows a steady increase from 2008 to 2013 where this group experienced a rate of change of 100% from 2008 to 2013 (Xu, Murphy, Kochanek, & Bastian, 2016). Additionally, the CDC fatal injury reports shows another increase in suicide rate for children aged five to 12 with a rate of change from 2013 (0.31) to 2014 (0.36) of about 16% (Centers for Disease Control and Prevention, 2016b). This is alarming in and of itself but also because suicide risk increases with age where suicide is now the third leading cause of death for children ages 10 to 14 (Heron, 2016). Furthermore, recent research on the suicide rate for children under age 12 reveal a markedly higher and statistically significant 86% increase

in suicide among Black children in contrast to whites and Latinos (Bridge et al., 2015). Yet, there is little empirical data to explain ethnic differences in children's suicide risk.

The importance of understanding the risk of suicide during childhood is essential given the well-documented link between childhood suicidality and suicidal behavior in adolescence, (Borchardt & Meller, 1996; Jackson & Nuttall, 2001; Lewinsohn, Rohde, & Seeley, 1994; Pfeffer et al., 1994) and the link between childhood suicidal ideation and adult psychosocial functioning (Steinhausen & Metzke, 2004). For instance, stressful life events are correlated with both pediatric non-fatal suicide attempts (Fergusson, Woodward, & Horwood, 2000) and suicide (Beautrais, 2001; Brent et al., 1993; Gould, Fisher, Parides, Flory, & Schaffer, 1996; Marttunen, Aro, & Lönnqvist, 1993). In particular, physical abuse during childhood increases the risk of suicide (Brent, Baugher, Bridge, Chen, & Chiappetta, 1999; Johnson et al., 2002; O'Leary et al., 2006) and sexual abuse during childhood increases suicidal behavior (Johnson et al., 2002; Silverman, Reinherz, & Giaconia, 1996) when controlling for other risk factors (Fergusson, Horwood, & Lynskey, 1996). It has been found that in an urban sample of children, suicidal ideation was also associated with exposure to or witnessing of violence and distress (O'Leary et al., 2006).

The research on children's non-fatal suicidal behavior is growing, but studies with urban samples and ethnic minority populations are seldom. A prior study with an urban sample of Latino and Black children

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found that self-reported depressed mood is linked to future suicide attempts, (O'Donnell, O'Donnell, Wardlaw, & Stueve, 2004; Guiao & Esparaza, 1995) particularly for females (Ialongo et al., 2004). Furthermore, risk-taking and aggressive behaviors can predict pediatric suicidal behaviors (Price, Dake, & Kucharewski, 2001; Garrison, McKeown, Valois, & Vincent, 1993). This literature, however, includes few subjects under age 12, is often based on small samples (<60 subjects), and tends not to include Black or Latino children. A closer examination of the children's suicide literature expose notable shortcoming often due to small sample size, omission of ethnic minority children, dated scholarship, and studies including too few variables known to be associated with suicide risk. Specifically, there is a dearth of knowledge about Black and Latino children suicide risk factors and estimates of their pattern of non-fatal suicidal behaviors (Joe, 2008). This study seeks to address these noted gaps in the children suicide literature and present data for children using a large urban clinical sample.

We examine the non-psychological (e.g., demographic) and clinical diagnostic profile of suicidal and non-suicidal Black, White, and Latino children presenting at an urban pediatric psychiatric emergency (PES) service in a mid-Atlantic city.

2. Methods

2.1. Setting

The Albert Einstein Medical Center's Crisis Response Center (CRC) is the only center designated by the county office of mental health in Philadelphia to provide PES to children and adolescents. The CRC remains a comprehensive PES, providing triage, assessment for psychiatric and drug/alcohol problems, crisis treatment, referral services, and linkage follow-up. It is not bounded by catchment area and is open 24-hours a day, 7-days a week. About 78.4% of the children and adolescents seen are covered by county-funded medical assistance insurance. This study focused on the 981 children (ages 12 or younger) presenting to the CRC during a one-year period (October 1, 2001 and September 30, 2002).

2.2. Sample

Data for this study of ethnic group differences in the patterns and risk of suicidal behavior was restricted to 951 CRC patients who were Black, White, or Latino and under 12 years of age. Asians and other minorities totaled to <30 and were not included in the analyses, because including them in subgroup analysis would yield unreliable estimates. All patients were parent or self-identified as Black (i.e., African American), White, or Hispanic/Latino. The medical record data for each visit was abstracted and the personal identifier removed. To avoid duplication, analyses included only data for patients' first visit among those who had multiple CRC visits during the study period, to reduce the potential adverse effect of clustering or non-independence of visits within patients.

2.3. Measures

The demographic information abstracted from patient records included age (continuous and categorical groups), gender, ethnicity (Black, White, Latino, and other), and a proxy for socioeconomic status (whether the patient had public, private, or no insurance). In addition the patient's history of physical and sexual abuse, presence of substance abuse, and discharge plan was noted.

2.3.1. Suicide risk outcomes

The patient's suicidality was noted in the chart and coded for this first set of analyses as a dichotomous variable consisting of visits that were suicide-related (e.g., a current or past suicide attempt, suicide planning, suicide ideation w/no plan) or non-suicide related. The

notes for suicidality refer only to the initial visits of children that had multiple visits. If a suicide attempted was currently active or there was any history of a past serious attempt, it was noted in the medical chart, thus included in the data. Other information regarding follow up visits after the index visit to the CRC was not documented in this data set. The suicide risk level outcome was constructed from the initial visit medical records and was coded as an indication of suicide risk on a five-point scale from no suicide risk, to ideation with or without a plan, to a history of suicidal behavior (i.e., serious past or present attempt). All clients included in the current analysis had at minimum a recent history of suicidal ideation, so the recoded scale had a four-point range from suicidal ideation (0) to serious past or present attempt (Centers for Disease Control and Prevention, 2016b).

2.3.2. Arrival status & time

Arrival status refers to whether a patient presented on a voluntary or involuntary basis. Voluntary patients presented with their caregivers in the absence of legal force, while involuntary patients presented due to the application of some legal force. In Pennsylvania, a person may be subject to involuntary psychiatric examination and treatment if he/she presents with a severe mental illness such that a clear and present danger to harm self or others exists (PA Mental Health Procedures Act 143, 2014). The physician must examine a patient who is brought in under an involuntary commitment petition within 2 h. During this time, the physician must decide whether to uphold the petition, in which case the patient will be involuntary committed to an inpatient facility or not uphold the petition, in which case the individual is discharged and may be referred to treatment in the community.

2.3.3. Psychiatric diagnoses

Diagnostic variables were based on the patient's recorded Axis I DSM-IV diagnoses (American Psychiatric Association, 2000) as determined by the evaluating psychiatrist and were collapsed into the following categories: psychotic disorders, mood disorders, (e.g., major depressive disorders, bipolar disorders) behavioral disorders (e.g., conduct, impulsive, oppositional, attention deficit/hyperactivity), alcohol/substance abuse disorders, and other disorders/problems (e.g., anxiety disorders adjustment disorders). The category "other disorders/problems" included developmental disorders (e.g., autism), and V codes for relational disorders, learning disorders, abuse, and miscellaneous problems, which accounted for a small number of cases. The other eight diagnostic categories were separated out because they may require more clinical discretion and have been examined in previous studies on racial/ethnic disparities in diagnostic and disposition decision-making. The medical record notation of comorbid DSM-IV diagnoses was incomplete, precluding the use of comorbid diagnoses in the analysis. Patient GAF score was also recorded to measure psychological, social and occupational functioning and severity of impairment (American Psychiatric Association, 2000). Although the GAF rating criteria are often described in nine broad categories, researchers have combined GAF scores into fewer categories (Moos, Nichol, & Moos, 2014). Accordingly, we classified patients by using three categories of GAF scores: 1 to 40, pervasive impairment; 41 to 60, serious impairment; 61 to 90, moderate to low impairment.

The Albert Einstein Medical Center and the University of Pennsylvania Institutional Review Boards granted approval of the protocol for medical records review. Because this is a retrospective review, the clinicians had no knowledge of the study at the time the evaluation information and diagnostic and disposition decisions were recorded. Data were derived from PES databases designed for billing, monitoring quality outcomes, and other standard procedures.

2.4. Statistical analysis

Bivariate and logistic regression analyses were employed to analyze data to document the incidence and patterns of suicidal behavior and

ethnic differences among users. Cross tabulations of ethnicity and diagnosis and abuse and ethnicity were analyzed using chi-square. A series of binomial logistic regression analyses were performed to identify the characteristics that distinguished suicidal adolescents. The multivariate analysis conducted also controlled for demographics, substance abuse, abuse, and clinical variables. This generated valid p values ($p < 0.05$, $p < 0.01$, $p < 0.001$) and 95% confidence intervals. Bonferroni corrections were employed to attend to multiple comparisons. Computations were performed using Statistical Package for the Social Sciences (SPSS) 19.

3. Results

3.1. Sample demographics

Table 1 shows the sample characteristics of the children and adolescents presenting to PES. The sample was diverse, with 666 (70%) presenting as Black, 149 (15.7%) as Latino and 136 (14.3%) as Caucasian. The majority of the sample was 9 years of age or older (695; 73.1%), while 256 (26.9%) were 8 years of age or younger. Of the total sample

Table 1

Sample characteristics of pediatric patients (N = 951)+.

	n	(%)
Age group	256	(26.9%)
8 yrs. and under	695	(73.1%)
9 yrs. and over		
Gender		
Male	720	(75.7%)
Female	231	(24.3%)
Ethnicity		
Black	666	(70.0%)
Hispanic	149	(15.7%)
Caucasian	136	(14.3%)
Suicidality +		
Yes	164	(17.2%)
No	786	(82.6%)
Level of severity +		
Serious past or present attempt	17	(1.8%)
Specific plan	55	(5.8%)
Gesture	22	(2.3%)
No plan	70	(7.4%)
No suicidality	786	(82.6%)
Psychiatric disorder		
Psychosis	36	(3.8%)
Behavioral	619	(65.1%)
Other	46	(4.8%)
Mood	250	(26.3%)
GAF score +		
Pervasive impairment (0–40)	448	(47.1%)
Serious impairment (41–60)	454	(47.7%)
Moderate to low impairment (61–90)	45	(4.7%)
Arrival status +		
Involuntary	135	(14.2%)
Voluntary	811	(85.3%)
Arrival time +		
Night (11 pm to 7 am)	33	(3.5%)
Evening (3 pm to 11 pm)	434	(45.6%)
Morning (7 am to 3 pm)	483	(50.8%)
Discharge treatment		
Inpatient	320	(33.6%)
Outpatient	470	(49.4%)
Other	161	(16.9%)
Abuse +		
Yes	111	(11.7%)
No	836	(87.9%)
Drug/alcohol abuse +		
Drug and/or alcohol abuse	12	(1.3%)
No drug or alcohol abuse	937	(98.5%)
Type of insurance +		
No insurance	17	(1.8%)
Public	746	(78.4%)
Private	137	(14.4%)

+ For some variables the percent total may not add up to 100% or the analytic sample may not total to 951 because of missing values on selected variables.

720 (75.7%) were male and 231 (24.3%) were female. The sample was predominately made up of individuals with public insurance (746; 78.4%), followed by those with private insurance (137; 14.4%) and those with no insurance (17; 1.8%). The variable for insurance did not total to 951 due to missing insurance data (Tables 1–2).

3.2. Patient diagnostic information

Table 3 presents risk characteristics by suicidality. Chi-square goodness of fit test was used to analyze the data's appropriateness. There were 786 (82.6%) patients who presented with no suicidality and 164 (17.2%) patients who presented with a history of suicidality. Female patients (57; 24.7%) were more likely than males (107; 14.9%; $p < 0.001$) to have a history of suicidality. Suicide risk was similar across different ethnic groups, with 17.4% of the Black patients, 18.2% of the Latino

Table 2

Risk characteristics by ethnicity category.

	African-American [n = 666]	Hispanic [n = 149]	Caucasian [n = 136]
Age group Chi(2) = 0.2406***			
8 yrs. and under	174 (68.0%)	38 (14.8%)	44 (17.2%)
9 yrs. and over	492 (70.8%)	111 (16.0%)	92 (13.2%)
Gender Chi(2) = 0.894			
Male	503 (69.9%)	115 (16.0%)	102 (14.2%)
Female	163 (70.56)	34 (14.7%)	34 (14.7%)
Suicidality + Chi(2) = 0.225			
Yes	116 (70.7%)	27 (16.5%)	21 (12.8%)
No	550 (70.0%)	121 (15.4%)	115 (14.6%)
Level of severity + Chi(4) = 0.427			
Serious past or present attempt	13 (76.5%)	2 (11.8%)	2 (11.8%)
Suicidality with plan, gesture or no plan	103 (70.1%)	25 (17.0%)	19 (12.9%)
No suicidality	550 (70.0%)	121 (15.4%)	115 (14.6%)
Psychiatric disorder Chi(6) = 8.426			
Psychosis	28 (77.8%)	5 (13.9%)	3 (8.3%)
Behavioral	438 (70.8%)	101 (16.3%)	80 (12.9%)
Other	33 (71.7%)	3 (6.5%)	10 (21.7%)
Mood	167 (66.8%)	40 (16.0%)	43 (17.2%)
GAF score + Chi(4) = 2.082			
Pervasive impairment (0–40)	308 (68.8%)	76 (17.0%)	64 (14.2%)
Serious impairment (41–60)	319 (70.3%)	68 (15.0%)	67 (14.8%)
Moderate to low impairment (61–90)	35 (77.8%)	5 (11.1%)	5 (11.1%)
Arrival status + Chi(2) = 9.126**			
Involuntary	109 (80.7%)	16 (11.9%)	10 (7.4%)
Voluntary	555 (68.4%)	130 (16.0%)	126 (15.5%)
Arrival time + Chi(4) = 5.758			
Night (11 pm to 7 am)	28 (84.8%)	3 (9.1%)	2 (6.1%)
Evening (3 pm to 11 pm)	294 (67.7%)	69 (15.9%)	71 (16.4%)
Morning (7 am to 3 pm)	343 (71.0%)	77 (15.9%)	63 (13.0%)
Discharge treatment Chi(4) = 3.847			
Inpatient	227 (70.9%)	56 (17.5%)	37 (11.6%)
Outpatient	329 (70.0%)	69 (14.7%)	72 (15.3%)
Other	110 (68.3%)	24 (14.9%)	27 (16.8%)
Abuse + Chi(2) = 3.481			
Yes	73 (65.8%)	24 (21.6%)	14 (12.6%)
No	590 (70.6%)	124 (14.8%)	122 (14.6%)
Drug/alcohol abuse + Chi(2) = 1.208			
Drug and/or alcohol abuse	7 (58.3%)	2 (16.7%)	3 (25.0%)
No drug or alcohol abuse	657 (70.1%)	147 (15.7%)	133 (14.2%)
Type of insurance + Chi(4) = 8.686			
No insurance	13 (76.5%)	1 (5.9%)	3 (17.6%)
Public	530 (71.0%)	122 (16.4%)	94 (12.6%)
Private	94 (68.6%)	15 (10.9%)	28 (20.4%)

+ For some variables the percent total may not add up to 100% or the analytic sample may not total to 951 because of missing values on selected variables.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Table 3
Risk characteristics by suicidality.

	Yes [n = 164]	No [n = 786]
Age group Chi(1) = 3.054**		
8 yrs. and under	35 (13.7%)	220 (86.3%)
9 yrs. and over	129 (18.6%)	566 (81.4%)
Gender Chi(1) = 11.740***		
Male	107 (14.9%)	612 (85.1%)
Female	57 (24.7%)	174 (75.3%)
Ethnicity Chi(2) = 0.427		
Black	116 (17.4%)	550 (82.6%)
Hispanic	27 (18.2%)	121 (81.8%)
Caucasian	21 (15.4%)	115 (84.6%)
Psychiatric disorder Chi(3) = 53.527***		
Psychosis	15 (41.7%)	21 (58.3%)
Behavioral	73 (11.8%)	545 (88.2%)
Other	4 (8.7%)	42 (91.3%)
Mood	72 (28.8%)	178 (71.2%)
GAF score + Chi(3) = 58.403***		
Pervasive impairment (0–40)	122 (27.2%)	326 (72.8%)
Serious impairment (41–60)	37 (8.2%)	416 (91.8%)
Moderate to low impairment (61–90)	5 (11.1%)	40 (88.9%)
Arrival status + Chi(1) = 0.048		
Involuntary	24 (17.9%)	110 (82.1%)
Voluntary	139 (17.1%)	672 (82.9%)
Arrival time + Chi(2) = 2.359		
Night (11 pm to 7 am)	8 (24.2%)	25 (75.8%)
Evening (3 pm to 11 pm)	80 (18.5%)	353 (81.5%)
Morning (7 am to 3 pm)	76 (15.7%)	408 (84.3%)
Discharge treatment Chi(2) = 95.852***		
Inpatient	109 (34.1%)	211 (65.9%)
Outpatient	38 (8.1%)	431 (91.9%)
Other	17 (10.6%)	144 (89.4%)
Abuse + Chi(1) = 1.700		
Yes	24 (21.6%)	87 (78.4%)
No	139 (16.6%)	696 (83.4%)
Drug/alcohol abuse + Chi(1) = 0.003		
Drug and/or alcohol abuse	2 (16.7%)	10 (83.3%)
No drug or alcohol abuse	162 (17.3%)	774 (82.7%)
Type of Insurance + Chi(2) = 2.245		
No insurance	2 (11.8%)	15 (88.2%)
Public	139 (18.7%)	606 (81.3%)
Private	19 (13.9%)	118 (86.1%)

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* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

patients, and 15.4% as Caucasian patients having reported suicidality. Those that presented with suicidality also had a comorbid psychotic disorder (15; 41.7%), mood disorder (72; 28.8%), behavioral disorder (73; 11.8%), or other type of psychiatric disorder (4; 8.7%). According to the GAF, those presenting with suicidality suffer more from a pervasive impairment (122; 27.2%). The majority of those with suicidality were discharged to inpatient facilities (109; 34.1%) compared with outpatient discharge (38; 8.1%) or other (17; 10.6%) types of disposition ($p < 0.001$).

3.3. Level of severity

Table 4 present data on group differences by the severity of the suicidal risk. The number of patients that presented with suicidality was similar among different ethnic groups. Among Blacks, 13 (2%) presented with a serious past or present attempt and 103 (15.5%) with suicidality with plan, gesture or no plan. Latinos had similar results, with 2 (1.4%) reported with a serious past of present attempt and 25 (16.9%) with suicidality with plan, gesture or no plan. Caucasian patients were also similar, with 2 (1.5%) presented with a serious past or present attempt and 19 (14%) with suicidality with plan, gesture or no plan. Females

presented with more frequent serious past or present attempts (6; 2.6%) and suicidality with plan, gesture or no plan (51; 22.1%) than males with serious past or present attempts (11; 1.5%) and suicidality with plan, gesture or no plan (96; 13.4%).

3.4. Multivariate associations of sociodemographic predictors

When examining the multivariate associations of predictors of suicidality in children, some important details were found with statistical significance (see Table 5). Males were approximately 30% less likely to present with suicidality than females (OR: 0.62, 95% CI (0.41, 0.95), $p < 0.05$). When adjusting for the multiple comparisons this significant result may be indicative of borderline significance (reject a null hypothesis if the p -value is < 0.0025). Those with behavioral disorders were almost 1.5 times less likely to present with suicidality compared to those with mood disorder (OR: 0.41, 95% CI (0.27, 0.61), $p < 0.001$). Those discharged to inpatient settings were almost at four times greater risk of having a history of suicidality (OR: 3.81, 95% CI (1.94, 7.48), $p < 0.001$).

4. Discussion

To our knowledge, this study is one of the few that examines suicidal thoughts and behaviors in a large clinical sample of urban children. This study extends the research on children's suicidal behavior. In this large, urban psychiatric emergency services sample, we found that although more Black children were presenting with suicidality, this rate did not differ statistically from that of white and Hispanic children. Similarly, in the multivariate analysis ethnic group identify was not predictive of suicidality, when controlling for known psychiatric and social risk factors. Ethnic group membership also conferred virtually no difference in the level of severity of the suicidal behavior or thought supporting the findings of previous studies (Kim, Moon, & Kim, 2011; Gutierrez, Muehlenkamp, Konick, & Osman, 2005). Perhaps, ethnic identity is not a refined measure for risk of suicidality, particular when taking known psychiatric (e.g., mood disorder, psychological functioning) and other social determinants (e.g., sexual abuse) of suicide risk into considerations. This finding supports previous work, which contends that ethnic identity might often serve as a proxy for unmeasured variables (Williams, 1997; Lee, 2009).

In addition to ethnic group, some other known risk factors were not found to be significantly indicative of higher suicide risk in this pediatric sample. These included age, arrival time, abuse, drug and/or alcohol use, the GAF scores and type of insurance. The GAF scores not being predictive of suicidality in our sample adds to the doubt cast on the reliability of the GAF when administered by professionals who have not received specialized training in GAF administration (Loevdahl & Friis, 1996) and the usefulness of the GAF among a routine clinical population (Vatnaland, Vatnaland, Friis, & Opjordsmoen, 2007). In regards to economic stressors, we used insurance type for this study, namely whether or not it is public or private insurance. Insurance, however, was not found to differentiate suicide risk in our sample, which is consistent with previous research (Joe & Kaplan, 2001). So this information directs us to pursue more robust economic-stress predictors of urban children's behavior in order to understand the issue for and its impact upon all children.

In this study, the profile of a pediatric patient with a history of suicide risk includes those who were female, have a mood disorder, and were discharged to an inpatient setting from PES. These findings are consistent with previous pediatric studies on suicidal behavior (Brown, Jewell, Stevens, Crawford, & Thompson, 2012; Sanchez & Le, 2001; Sulyman et al., 2013). An interesting point of discussion was the approximately 60% higher suicide risk for children with a mood disorder over those with a behavioral disorder. The literature of children suicide risk has long supported a relationship between behavioral disorder symptoms, such as impulsivity and anger, (Ammerman et al., 2015;

Table 4
Risk characteristics by level of severity.

	Serious past or present attempt [n = 17]	Suicide Ideation with plan, gesture or no plan [n = 147]	No suicidality [n = 786]
Age group Chi(2) = 4.934*			
8 yrs. and under	6 (2.4%)	29 (11.4%)	220 (86.3%)
9 yrs. and over	11 (1.6%)	118 (17.0%)	566 (81.4%)
Gender Chi(2) = 11.743***^			
Male	11 (1.5%)	96 (13.4%)	612 (85.1%)
Female	6 (2.6%)	51 (22.1%)	174 (75.3%)
Ethnicity Chi(4) = 0.799			
Blacks	13 (2.0%)	103 (15.5%)	550 (82.6%)
Hispanic	2 (1.4%)	25 (16.9%)	121 (81.8%)
Caucasian	2 (1.5%)	19 (14.0%)	115 (84.6%)
Psychiatric disorder Chi(6) = 54.207***			
Psychosis	2 (5.6%)	13 (36.1%)	21 (58.3%)
Behavioral	7 (1.1%)	66 (10.7%)	545 (88.2%)
Other	8 (7.0%)	64 (56.0%)	42 (37.0%)
Mood	17 (1.8%)	147 (15.5%)	178 (82.7%)
GAF score + Chi(4) = 58.836***			
Pervasive impairment (0–40)	13 (2.9%)	109 (24.3%)	326 (72.8%)
Serious impairment (41–60)	3 (0.7%)	34 (7.5%)	416 (91.8%)
Moderate to low impairment (61–90)	1 (0.5%)	147 (78.2%)	40 (21.3%)
Arrival status + Chi(2) = 0.181			
Involuntary	3 (2.2%)	21 (15.7%)	110 (82.1%)
Voluntary	14 (1.7%)	125 (15.4%)	672 (82.9%)
Arrival time + Chi(4) = 2.816			
Night (11 pm to 7 am)	1 (3.0%)	7 (21.2%)	25 (75.8%)
Evening (3 pm to 11 pm)	7 (1.6%)	73 (16.9%)	353 (81.5%)
Morning (7 am to 3 pm)	9 (1.9%)	67 (13.9%)	407 (84.3%)
Discharge treatment Chi(4) = 97.636***			
Inpatient	11 (3.4%)	98 (30.6%)	211 (65.9%)
Outpatient	6 (1.3%)	32 (6.8%)	431 (91.9%)
Other	0 (0%)	17 (10.6%)	144 (89.4%)
Abuse + Chi(2) = 1.861			
Yes	2 (1.8%)	22 (19.8%)	87 (78.4%)
No	15 (1.8%)	124 (14.9%)	696 (83.4%)
Drug/alcohol abuse + Chi(2) = 0.229			
Drug and/or alcohol abuse	0 (0%)	2 (16.7%)	10 (83.3%)
No drug or alcohol abuse	17 (1.8%)	145 (15.5%)	774 (82.7%)
Type of insurance + Chi(4) = 2.405			
No insurance	0 (0%)	2 (11.8%)	15 (88.2%)
Public	13 (1.7%)	126 (16.9%)	606 (81.3%)
Private	15 (5.3%)	145 (52.2%)	118 (42.4%)

+ For some variables the percent total may not add up to 100% or the analytic sample may not total to 951 because of missing values on selected variables.

^ When adjusting for the multiple comparisons this significant result may be indicative of borderline significance.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Malla, Norman, & Helmes, 1987) as the putative emotional mechanisms for children. This study's findings suggest the importance more attention to the role of depressive traits. There was a counterintuitive significant finding that children who were involuntarily committed to the PES hospital were less likely to present with suicidality. This could be explained by the rich literature that have shown that among psychiatric emergency patients who are voluntarily committed, many were hospitalized due to being a danger to others (Abas et al., 2003; Malla et al., 1987; Richert & Moyes, 1983) and are likely to be referred to the hospital by the police (Malla et al., 1987).

The study has several limitations. For instance, this study can describe the population of interest, but has no knowledge of the reasons for the children's suicidal behavior. This study was conducted on a large, urban sample of children and included diversity in ethnic groups, gender, and additional demographics. However, the sample was not exactly reflective of the national population with respect to the demographic information. Given the setting, a PES center, assessment is based on clinical diagnosis and not standardized assessment tools. However, the strength of the data is that it is clinical, richly diverse, large, and is from a pediatric PES.

5. Conclusion

In conclusion, a few key points of interest arise from this study. The first is that ethnic group identity is not a good indicator of suicide risk or any health status without careful consideration for what is actually being captured by the ethnic categorization of human beings individually and contextually. Therefore, suicide risk should be considered in the context of psychiatric health and gender for more accurate assessment. Regardless of ethnic group membership, urban children expressing intentions to self-harm or exhibiting mood disorder symptoms should be examined for the potential to suicide, such clinical consideration is a sharp departure from potential practice wisdom. Next, the age of the children was not associated with the risk of suicidality. This implies that there might be no need to separate urban children under the age of 12 years by age for analysis in research or care in treatment settings for suicide risk. Additionally, the GAF and type of insurance a child was covered by also did not associate with risk of suicidality. The GAF should be used with great caution and perhaps discarded as a clinical tool. Additional economic indicators are needed to discover the impact of economic stress on suicide risk in preadolescent populations.

Table 5
Multivariate associations of predictors of suicide risk among children.

Characteristics	OR	95% CI
Age group		
8 yrs. and under	0.838	0.534, 1.317
9 yrs. and over	1.00	–
Gender		
Male	0.622***	0.408, 0.950
Female	1.00	–
Ethnicity		
Black	1.089	0.620, 1.912
Hispanic	1.044	0.518, 2.103
Caucasian	1.00	–
Psychiatric disorder		
Psychosis	0.943	0.432, 2.058
Behavioral	0.407***	0.267, 0.614
Other	0.377	0.122, 1.166
Mood	1.00***	–
GAF score		
Pervasive impairment (0–40)	1.173	0.388, 3.546
Serious impairment (41–60)	0.945	0.331, 2.693
Moderate to low impairment (61–90)	1.00	–
Arrival status		
Involuntary	0.554*	0.317, 0.966
Voluntary	1.00	–
Arrival time		
Night (11 pm to 7 am)	0.972	0.387, 2.445
Evening (3 pm to 11 pm)	1.074	0.728, 1.584
Morning (7 am to 3 pm)	1.00	–
Discharge treatment		
Inpatient	3.805***	1.935, 7.480
Outpatient	0.723	0.377, 1.388
Other	1.00***	–
Abuse		
Yes	1.00	–
No	1.251	0.709, 2.207
Drug/alcohol abuse		
Drug and/or alcohol abuse	1.00	–
No drug or alcohol abuse	1.987	0.380, 10.405
Type of insurance		
No insurance	0.321	0.061, 1.675
Public	0.923	0.513, 1.660
Private	1.00	–

* p < 0.05.

** p < 0.01.

*** p < 0.001.

These findings suggest that all children, regardless of ethnic group, should be examined for suicidality when presenting at psychiatric emergency service with known risk factors and that more study is warranted on this topic.

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