Published in final edited form as:

J Dev Behav Pediatr. 2006 February ; 27(1): 33–39.

Suicidal Ideation Among Urban Nine and Ten Year Olds

CATHERINE C. O'LEARY, Ph.D.,

Department of Psychiatry, Boston University School of Medicine

DEBORAH A. FRANK, M.D.,

Department of Pediatrics, Boston University School of Medicine

WANDA GRANT-KNIGHT, Ph.D.,

Department of Child and Adolescent Psychiatry, Boston University School of Medicine

MARJORIE BEEGHLY, Ph.D.,

Department of Pediatrics, Harvard Medical School

MARILYN AUGUSTYN, M.D.,

Department of Pediatrics, Boston University School of Medicine

RUTH ROSE-JACOBS, Sc.D.,

Department of Pediatrics, Boston University School of Medicine

HOWARD J. CABRAL, Ph.D., and

Department of Biostatistics, Boston University School of Public Health

KATHERINE GANNON, M.P.H

Department of Biostatistics, Boston University School of Public Health, Boston, Massachusetts

Abstract

Little is known about rates and correlates of suicidal ideation among nonclinical samples of preadolescents from low-income urban backgrounds. Using the Children's Depression Inventory, we measured suicidal ideation in 131 preadolescent urban children (49% female, 90% African American/Caribbean) participating in an ongoing prospective longitudinal study of prenatal cocaine exposure and children's outcome. Suicidal ideation was reported by 14.5% of the children in this sample at 9 to 10 years of age. Children's reports of depressive symptoms, exposure to violence, and distress symptoms in response to witnessing violence were associated with suicidal ideation, but prenatal cocaine exposure, parent-rated child behavior, and caregivers' psychological distress symptoms were not. Suicidal ideation may be more prevalent among preadolescents from urban, low-income backgrounds than clinicians suspect, particularly among children exposed to violence.

Index terms

suicidal ideation; preadolescent; violence; Child Depression Inventory; prenatal cocaine exposure; urban

Over the past two decades, the rate of completed suicide has been on the rise for nearly every age group. Suicide claimed the lives of over 29,000 people in the United States during the year 2000 alone and is currently the 11th leading cause of death of all Americans.¹ Among

adolescents and young adults aged 15 to 24, suicide is the third leading cause of death after unintentional injury and homicide.¹

Of particular concern is the reported increase in suicides among children and adolescents. From 1980 to 1997, the rate of completed suicide increased by 11% among young people aged 15 to 19 years. During approximately the same time period, the completed suicide rate among children aged 10 to 14 years increased by 109%.¹ Although there is limited information on suicide rates for children younger than 12 years of age and absolute numbers are low (0.4 per 100,000 in 1979 to 0.9 in 1997 among children aged 5 to 14 years),² the drastic increase in the suicide rate among children and adolescents is alarming.

Over the past decade, researchers have focused increasingly on issues related to suicide and suicidal behavior in preadolescent children.^{3–9} However, there remains a relative paucity of research on the prevalence of suicidal ideation and intent in children younger than 12 years of age. This is particularly true for nonclinical, community samples of children, as most studies of preadolescent suicidal behavior have been conducted with psychiatric inpatients.^{10–12}

Research on the suicidal behaviors of low-income African-American children and adolescents is particularly sparse¹³ but critically important, given increases over the past two decades in suicidal behavior in this group. Among children and adolescents, the overall rate of suicide remains highest among young, white males, but the rate for African-American males is on the rise. Between 1980 and 1996, the suicide rate for African-American males aged 15 to 19 increased by 105%.¹ This increase among African-American adolescents underscores the need for further research on preadolescent suicidal ideation and attempts among ethnically and racially diverse populations in order to prevent completed suicide. Detecting suicidal ideation, even without actual suicidal attempts, is particularly important among all ethnic and racial groups, as there is consistent evidence for the association between preadolescent suicidal ideation and later adolescent suicide attempts.^{14–17}

Higher self-reported depressed mood, diagnosed psychiatric disorders, and substance abuse in children and adolescents are linked to suicidal ideation and behavior, both concurrently and prospectively.^{17–21} In a longitudinal study of urban first graders,⁶ self-reported depressed mood predicted their later suicidal ideation. In a follow-up study of 6- to 15-year-olds diagnosed with major depression, depressed children were five times more likely to have attempted suicide than their nondepressed peers 10 years later, and 7% committed suicide in later life.²²

Other correlates of suicidal ideation and attempts among adolescents include exposure to violence and victimization, particularly physical abuse.^{23–25} In turn, children who witness or experience violence are at increased risk of depression and other psychiatric disorders compared to those who are not exposed to violence.²⁶

Family psychopathology, substance abuse, and other problems have also been associated with suicidal behavior in children and adolescents.²⁷ Children's suicidal behavior has been linked to low emotional support within the family²⁸ and family history of suicidal behavior.^{22,29} Suicidal ideation combined with chronic family discord, parental and adolescent drug use, and loss of primary attachments have been associated with a higher risk of suicide attempts.³⁰ In a study of prepubertal children who had contemplated or attempted suicide, a higher incidence of substance abuse was found among their first-degree relatives.¹⁴ While parental substance abuse is an established risk factor, the potential biological pathways related to the child's prenatal exposure to psychoactive substances such as cocaine have never been explored. Concerns have been raised that such exposure may lead to long-lasting perturbations in neurotransmitters.³¹

Further research is needed to identify specific risk factors for suicidal behavior among preadolescents, particularly in low-income urban samples where exposure to environmental risk factors may be more prevalent. Not all the risk factors summarized above may be as relevant to youths younger than the age of 12 as they are among adolescents. The relative importance of these risk factors for preadolescents has not been delineated. The youngster's own substance abuse, for example, may not be as strongly associated with suicidal behavior for 10 year olds as it might be for those in their adolescent years. In addition, prenatal exposure to psychoactive substances such as cocaine and its relationship to early suicidal ideation has never been addressed.

In light of these previous investigations, we present a secondary analysis from an ongoing longitudinal, prospective study of the effects of prenatal cocaine exposure on children's growth and development to describe the prevalence and correlates of suicidal ideation among inner-city 9 and 10 year olds.

METHOD

Participants

Participants were a community sample of children ($n = 131$) and their caregivers from low-income urban backgrounds who were participating in an ongoing, prospective longitudinal study examining the effects of in utero cocaine exposure on children's growth and development. The sample was recruited through the maternity and nursery records at Boston City Hospital (now Boston Medical Center) on the postpartum floor between 1990 and 1993. Unexposed mother-infant dyads comparable to cocaine-exposed dyads in ethnicity were approached by study personnel soon after delivery. Eligible mother-infant dyads met the following inclusion criteria: maternal age 18 years and older; infant gestational age 36 weeks or longer; no obvious major congenital malformations; no requirement for neonatal intensive care; no diagnosis of fetal alcohol syndrome in the neonatal record; and no indication (either by neonatal or maternal urine toxic screen or meconium assay or by history in medical record) of prenatal exposure to illegal opiates, methadone, amphetamines, phencyclidine, barbiturates, or hallucinogens; and no history of human immunodeficiency virus seropositivity noted in the infant's or mother's medical record. In addition, mothers had to be fluent in English. Further details about recruitment procedures and sample characteristics are reported elsewhere.^{32–36} Before participating in the study, all caregivers provided written informed consent, and beginning at the 8.5-year visit, all children also provided written "assent." In addition, a writ of confidentiality was obtained from the federal government to protect participants from having research data subpoenaed.

As Table 1 shows, children participating in the present analysis were approximately 9 years of age (mean = 9.9 years, $SD = 0.5$ years). Forty-nine percent were female. Seventy-nine percent of the children's biological mothers identified themselves as African American and born in the United States, 11% as African Caribbean (born outside the United States), 2% as Hispanic, 6% as white, and 2% as other. The child's ethnicity was classified as the same as the mother's for the purpose of the study. By design, approximately half (51%) of the children in the sample had been exposed prenatally to cocaine. Of the children in the current sample, 72% lived with their birth mother, 18% lived with another family member, and 10% lived in nonkinship foster or adoptive care at the time of assessment for this study. For those children who were no longer in the care of their birth mothers, most continued to seek medical care at Boston Medical Center. New caregivers were approached and asked whether they would be willing to participate in the study. Two caregivers refused to participate and are not included in the study.

Child Measures

Each instrument described below was administered in interview format to the study children by trained research assistants masked to the child's in utero cocaine exposure and to the responses of the child's caregiver on the adult rating scales. Because literacy levels varied widely among the children, the examiner read the items on each scale to the children and recorded their responses. A visual analog scale was used to discriminate between Likert-type response categories for each item.

Children's Depression Inventory—All items on this 27-item questionnaire are designed for children between the ages of 7 and 17 years and assess depressive symptoms over the preceding 2 weeks. Each item is rated on a 3-point scale (0 = absence of symptom, 1 = mild symptom, 2 = definite symptom). Items combine to yield five Children's Depression Inventory (CDI) subscales (Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia, and Negative Esteem) and a total score. In previous research, reliability indicators for this measure suggest that the CDI distinguishes individuals with a diagnosis of major depressive disorder or dysthymia from those with other psychiatric symptoms and from "normal" individuals. Alpha reliability coefficients for the CDI total score range from .71 to .89.³⁷ Test-retest reliability measures reveal an acceptable level of stability, and the CDI has demonstrated strong explanatory and predictive validity.³⁷ The CDI has also been used to examine the subcomponents of childhood depression among various racial and ethnic groups.^{38–41} In the present study, if a child endorsed the CDI item "I think about/want to kill myself," the response would be scored as a 1 or a 2, and the child was considered to be experiencing suicidal ideation. This item is found in both the total score and the Negative Esteem subscale score. The CDI total score used in this study excluded the suicide item, which was the independent variable of interest. For this reason, only raw scores are reported here.

Violence Exposure Scale for Children, Revised—The Violence Exposure Scale for Children, Revised (VEX-R)⁴² is a 21-item, cartoon-based interview intended to measure child self-reported exposure to violence. The scale measures the child's overall exposure to violence, both as a victim and as a witness. Responses are measured on a 4-point Likert scale. Internal consistency reliability of the VEX-R ranges from 0.80 to 0.86.⁴³ Data were visually inspected to determine the number of children reporting victimization versus witnessing violence. The number of children acknowledging victimization was too small to analyze separately, so the total score of the instrument was used in the analysis. In this sample, parents' perception of the child's exposure to violence consistently underestimates the child's exposure and was not included in the current study.

Levonnn: A Cartoon-Based Interview for Assessing Children's Distress

Symptoms—This instrument, designed for children between the ages of 6 and 10 years, consists of 42 cartoons to assess symptoms of depression, anxiety, intrusive thoughts, and sleep problems related to exposure to violence.⁴⁴ Children are shown the set of pictures and asked to respond to them on a 3-point Likert scale, using a visual analog (a picture of a thermometer filled to various levels: low, medium, or high). Internal consistency reliability ranges from 0.71 to 0.84.⁴⁵ A total raw score was used for analytic purposes for this study.

Receipt of School Counseling—Caregivers were asked whether children were receiving any counseling at school, and their answers were recorded at the time of this study.

Caregiver Measures

In a separate room, trained interviewers masked to the child's responses interviewed caregivers regarding their child's current behavior, their own psychiatric symptoms, and their own and family members' drug use and psychosocial functioning.

Child Behavior Checklist for Ages 4–18—The Child Behavior Checklist (CBCL)⁴⁶ is a 118-item questionnaire on which parents, or other individuals who know the child well, rate a child's problem behaviors and competencies during the past 6 months. Each item is rated on a 3-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). In the present study, age- and gender-normed T scores for children's internalizing, externalizing, and total behavior problems were evaluated with the CBCL.

Brief Symptom Inventory—The BSI is designed to reflect psychological symptom patterns of adult psychiatric and medical patients.⁴⁷ This is a self-report measure of 53 items on a 5-point rating scale. The Global Severity Index (GSI) and the Depression subscale scores were evaluated in the present study.

Addiction Severity Index—The Addiction Severity Index (ASI) is a semistructured interview designed to address seven potential problem areas in substance abusing adults: medical status, employment and support, drug use, alcohol use, legal status, family/social status, and psychiatric status.⁴⁸ There are approximately 200 items and seven scales. The ASI provides two scores: severity ratings that are subjective ratings of the client's need for treatment derived by the interviewer and composite scores that are measures of problem severity during the previous 30 days and are calculated using a computerized scoring algorithm. ASI data were collected from the birth mother at intake and at each subsequent follow-up visit. In the present study, only the psychiatric composite scores from intake were used in the analyses. Substance use scores were not evaluated due to their collinearity with the child's prenatal cocaine exposure status.

Other Data

Data collected in the larger longitudinal study were also evaluated a priori in the present study based on a review of the literature and previous findings in this cohort.^{32,33,35,36} This included maternal race/ethnicity, child gender, maternal prenatal use of cocaine, marijuana, alcohol, and tobacco, and the child's identified caregiver at the time of the interview (biologic mother, kinship caregiver, or nonkin foster or adoptive caregiver).

Research Procedures, Informed Consent and Management of Clinical Issues

The Human Studies Committees of Boston City Hospital and Boston University School of Medicine approved the study. Upon arrival at the research laboratory, children and their caregivers were informed about the assessment process by a trained research assistant. They were informed that the child and caregiver would meet separately with a research assistant who would verbally administer assessments and questionnaires to obtain needed information. Further, they were informed that if the child reported thoughts about or intent to harm themselves or others, reported any abuse, or said anything that concerned them, the research assistant was required to inform a supervisor immediately. The caregivers generally did not observe the psychological testing portion of the visit. Both caregiver and child were informed of their right to refuse participation.

Caregivers signed an informed consent form for study participation and permission for the director of the study to exchange information with the child's pediatrician. Children signed an assent form. The child's height and weight were measured and their vision and hearing were tested at the beginning of the visit, and the caregiver and child were asked whether the child was currently receiving counseling at school. The child then met with a research assistant to begin the assessment while the caregiver met with an interviewer in a separate room. Children completed neuropsychological testing before responding to the mental health measures.

Research assistants were trained prior to the study's onset by a licensed clinical psychologist to be aware of risk factors and warning signs in children with regard to mental health problems, suicide, and abuse as they proceeded through the assessment instruments. A Ph.D.-level psychologist was available at the research laboratory at all times for consultation about any concerns that arose during the study. Any child who reported abuse, suicidal ideation, or other mental health concerns was always seen in person by the psychologist. The psychologist met with the child and assessed his or her level of risk and need for further intervention. The psychologist then notified the caregiver of the child's report and worked with the caregiver on how to proceed to provide the child with appropriate intervention. Each caregiver was given a referral telephone number, an appointment when it was feasible, and the telephone numbers and procedure to be used in emergency situations. Children whom the psychologist considered to be acutely at risk of suicide or harm to self or others were immediately referred to the emergency department for further evaluation. At the end of the visit, children were given an age-appropriate book and a small gift, and caregivers were given store vouchers as a token of appreciation for their participation in the study.

RESULTS

Bivariate statistics (cross tabulations with chi-square tests of significance for categorical variables and two-sample *t* tests for continuous variables) were used to assess the significance of the relationship between suicidal ideation and possible concurrent and historical contextual variables. Potential correlates of suicidal ideation were selected a priori on theoretical grounds based on the literature. An alpha level of .05 (two tailed) was used in assessing statistical significance.

Correlates of Suicidal Ideation

Approximately 15% (14.5%, *n* = 19) of children in the sample reported thinking about or wanting to kill themselves based on their endorsement of the Children's Depression Inventory (CDI) item "I think about/want to kill myself." As seen in Table 2, suicidal ideation was not significantly associated with children's prenatal cocaine exposure status, gender, race/ethnicity, current placement (birth mother, kinship, nonkin foster or adoptive care); their internalizing, externalizing, or total behavior problems reported by the caregivers on the Child Behavior Checklist (CBCL); or whether they were receiving counseling in school. Suicidal ideation also was unrelated to the birth mothers' Addiction Severity Index (ASI) psychiatric composite score at intake and the current caregivers' Global Severity Index (GSI) or depression score on the Brief Symptom Inventory.

In contrast, suicidal ideation was significantly associated with child's self-reported depressive symptomatology (CDI total and subscale scores, from which the suicidal ideation item was omitted).

As seen in Table 3, a comparison of group means using *t* tests showed a statistically significant relationship between suicidal ideation and CDI total raw scores. Specifically, children who endorsed suicidal ideation showed higher scores on the CDI total score than children who denied suicidal ideation. There was also a statistically significant relationship between suicidal ideation and higher scores on the Negative Mood, Interpersonal Problems, Ineffectiveness, and Anhedonia subscales of the CDI. There was, however, no significant difference on the Negative Esteem subscale, excluding the suicide item, for children with and without suicidal ideation.

As Table 3 shows, children endorsing suicidal ideation reported significantly higher levels of violence exposure than those children who did not endorse suicidal ideation. On the Levonn, children endorsing suicidal ideation reported significantly higher distress symptoms in response to exposure to violence than those children who denied suicidal ideation.

DISCUSSION

Our results with this urban low-income, contemporary sample partially replicate published findings of other predominantly nonminority, higher income samples with exposure to violence and distress about this exposure.^{23,24,49–51} Suicidal ideation in this sample was related to child responses indicating depressed mood, consistent with other studies of suicidal ideation in preadolescents and young adolescents.^{8,21} In this sample, we found no correlation between prenatal exposure to cocaine and suicidal ideation.

Limitations

In this small sample, children's suicidal ideation and level of depressive symptomatology was assessed via self-report with the Children's Depression Inventory (CDI) rather than with a diagnostic interview based on the DSM-IV-TR.⁵² Further, these data do not reflect the difference between participants who experienced passive suicidal ideation and those who experienced more active suicidal ideation (e.g., had a plan).

In this study, suicidal ideation was associated with children's exposure to violence, but the type and context of the violence were not disaggregated by the measures used. Understanding the effects of context may be important for future research, as domestic violence may be found to have a different impact on children than neighborhood violence.

Implications

Caregiver response on the CBCL in this sample suggested that caregivers did not perceive increased internalizing or externalizing symptoms in children with suicidal ideation. This has several explanations. Depression and suicidal ideation are internalizing symptoms, and previous research shows higher agreement between parents and children for externalizing than for internalizing symptoms.⁵³ Moreover, other research has shown that children experiencing depressive or mood disorders are more likely than children with other emotional/behavioral problems to rate their own behaviors as clinically elevated at times when their parents rate their child's behavior as nonclinical.⁵⁴ In this sample, children with suicidal ideation were no more likely than children without suicidal ideation to receive counseling in school, suggesting that school personnel also were not aware of the child's increased risk.

The discrepancy between parent and child ratings suggests that parents may not be aware of their preadolescent children's psychiatric distress and should be educated about signs and symptoms of depression and suicide in preadolescent children. As is the case for parents, training for school personnel should be expanded to include information on the signs and symptoms of childhood depression, along with the appropriate steps to take if they become concerned about a particular child.

The high prevalence of early-onset depressive symptomatology, including suicidal ideation, occurring before puberty is concerning because of the consistent evidence linking preadolescent suicidal ideation and later suicide attempts in adolescence.^{15,16} From a clinical perspective, screening tools for suicidality have been discussed for use in primary care with adolescents,⁵⁵ but not with preadolescent children who may also be at risk. Given the results of this study, along with studies that suggest that earlier onset (before puberty) depression compared to later onset depression bodes poorly for children's later outcomes, there is a need for empirically based assessments of risk of suicidal behavior for use by pediatricians during their regular medical visits with children. These assessments should allow clinicians to obtain information on identified risk factors such as violence exposure, depressive symptoms, family history, and previous suicidal ideation. Until such an instrument is available, primary health providers and front-line clinicians should actively question preadolescent children about

suicidal ideation, particularly children who have been exposed to violence. Without such direct inquiry, these children may not be identified by teachers or caregivers as in need of intervention.

References

- Centers for Disease Control and Prevention. Web-based injury statistics query and reporting system (WISQARS). [Accessed March 27, 2003]. Available at: <http://www.cdc.gov/ncipc/wisqars>
- Singh, GK.; Kochanek, KE.; MacDorman, MF. Vital Health Statistics Report. 45. Hyattsville, MD: National Center for Health Statistics; 1996. Advance Report of Final Mortality Statistics 1994.
- Kashani JH, Goddard P, Reid JC. Correlates of suicidal ideation in a community sample of children and adolescents. *J Am Acad Child Adolesc Psychiatry* 1989;28:912–917. [PubMed: 2808262]
- Pfeffer, CR. Suicidal children. In: Leenaars, AA.; Berman, AL., et al., editors. *Suicidology: Essays in Honor of Edwin S. Shneidman*. Northvale, NJ: Jason Aronson, Inc; 1993. p. 175–185.
- Klimes-Dougan B, Free K, Ronsaville D, et al. Suicidal ideation and attempts: a longitudinal investigation of children of depressed and well mothers. *J Am Acad Child Adolesc Psychiatry* 1999;38:651–659. [PubMed: 10361782]
- Ialongo NS, Edelson G, Kellam SG. A further look at the prognostic power of young children's reports of depressed mood. *Child Dev* 2001;72:736–747. [PubMed: 11405579]
- Madge N, Harvey JG. Suicide among the young: the size of the problem. *J Adolesc* 1999;22:145–155. [PubMed: 10066338]
- Nock MK, Kazdin AE. Examination of affective, cognitive, and behavioral factors and suicide-related outcomes in children and young adolescents. *J Clin Child Adolesc Psychol* 2002;31:48–58. [PubMed: 11845650]
- Schraufnagel CD, Brumback RA, Harper CR, Weinberg WA. Affective illness in children and adolescents: patterns of presentation in relation to pubertal maturation and family history. *J Child Neurol* 2001;16:553–561. [PubMed: 11510924]
- Campbell NB, Milling L, Laughlin A, et al. The psychosocial climate of families with suicidal pre-adolescent children. *Am J Orthopsychiatry* 1993;63:142–145. [PubMed: 8427305]
- Milling L, Campbell NB, Bush E, et al. The relationship of suicidality and psychiatric diagnosis in hospitalized pre-adolescent children. *Child Psychiatry Hum Dev* 1992;23:41–49. [PubMed: 1424942]
- Borchardt CM, Meller WH. Symptoms of affective disorder in pre-adolescent vs. adolescent inpatients. *J Adolesc* 1996;19:155–161. [PubMed: 9245273]
- Juon HS, Ensminger ME. Childhood, adolescent, and young adult predictors of suicidal behaviors: a prospective of African Americans. *J Child Psychol Psychiatry* 1997;38:553–563. [PubMed: 9255699]
- Pfeffer CR, Normandin L, Kakuma T. Suicidal children grow up: suicidal behavior and psychiatric disturbance among relatives. *J Am Acad Child Adolesc Psychiatry* 1994;33:1087–1097. [PubMed: 7982859]
- Jackson H, Nuttall RL. Risk for preadolescent suicidal behavior: an ecological model. *Child Adolesc Soc Work J* 2001;18:189–203.
- Lewinsohn PM, Rohde P, Seeley JR. Psychosocial risk factors for future adolescent suicide attempts. *J Consult Clin Psychol* 1994;62:297–305. [PubMed: 8201067]
- Pfeffer CR, Klerman GL, Hurt SW, et al. Suicidal children grow up: demographic and clinical risk factors for adolescent suicide attempts. *J Am Acad Child Adolesc Psychiatry* 1991;30:609–616. [PubMed: 1890095]
- Garrison CZ, Waller JL, Cuffee SP, et al. Incidence of major depression disorder and dysthymia in young adolescents. *J Am Acad Child and Adolesc Psychiatry* 1997;36:458–465. [PubMed: 9100419]
- Shaffer D, Gould MS, Fisher P, et al. Psychiatric diagnosis in child and adolescent suicide. *Arch Gen Psychiatry* 1996;53:339–348. [PubMed: 8634012]
- Gould MS, Fisher P, Parides M, et al. Psychosocial risk factors of child and adolescent completed suicide. *Arch Gen Psychiatry* 1996;53:1155–1162. [PubMed: 8956682]

21. Shaffer D, Craft L. Methods of adolescent suicide prevention. *J Clin Psychiatry* 1999;60:70–74. [PubMed: 10073391]
22. Weissman MM, Wolk S, Goldstein RB, et al. Depressed adolescents grown up. *JAMA* 1999;281:1701–1713. [PubMed: 10328069]
23. Vermeiren R, Ruchkin V, Leckman PE, Deboutte D, Schwab-Stone M. Exposure to violence and suicide risk in adolescents: a community study. *J Abnorm Child Psychol* 2002;30:529–537. [PubMed: 12403155]
24. Garbarino, J.; Guttman, E.; Seeley, J. *The Psychologically Battered Child*. San Francisco: Jossey-Bass; 1986.
25. Brown J, Cohen P, Johnson JG, et al. Child abuse and neglect: specificity and effects on adolescent and young adult depression and suicidality. *J Am Acad Child Adolesc Psychiatry* 1999;38:1490–1496. [PubMed: 10596248]
26. Schwab-Stone ME, Ayers TS, Kaspro W, et al. No safe haven: a study of violence exposure in an urban community. *J Am Acad Child Adolesc Psychiatry* 1995;34:1343–1352. [PubMed: 7592272]
27. Gould MS, King R, Greenwald S, et al. Psychopathology associated with suicidal ideation and attempts among children and adolescents. *J Am Acad Child Adolesc Psychiatry* 1998;37:915–923. [PubMed: 9735611]
28. Tousignant M, Bastient MF, Hamel S. Suicidal attempts and ideations among adolescent and young adults: the contribution of the father's and mother's care and of parental separation. *Soc Psychiatry Psychiatr Epidemiol* 1993;28:256–261. [PubMed: 8284740]
29. Brent DA, Perper JA, Moritz G, et al. Familial risk factors for adolescent suicide: a case-control study. *Acta Psychiatr Scand* 1994;89:52–58. [PubMed: 8140907]
30. Kosky R, Silburn S, Zubrick S. Somatic depression and suicidal ideation: a comparative study with 628 children. *J Nerv Ment Dis* 1986;174:523–538. [PubMed: 3746278]
31. Kosofsky BE, Hyman SE. No time for complacency: the fetal brain on drugs. *J Comp Neurol* 2001;435:259–262. [PubMed: 11406809]
32. Tronick EZ, Frank DA, Cabral H, Mirochnick M, Zuckerman BS. Late dose response effects of prenatal cocaine exposure on newborn neurobehavioral performance. *Pediatrics* 1996;98:76–83. [PubMed: 8668416]
33. Frank DA, McCarten KM, Robson CD, et al. Level of in-utero cocaine exposure and neonatal ultrasound findings. *Pediatrics* 1999;104:1101–1105. [PubMed: 10545554]
34. Frank DA, Brown J, Johnson S, et al. Forgotten fathers: an exploratory study of mothers' report of drug and alcohol problems among fathers of urban newborns. *Neurotoxicol Teratol* 2002;24:339–347. [PubMed: 12009489]
35. Frank DA, Rose-Jacobs R, Beeghly M, et al. Level of prenatal cocaine exposure and scores on the Bayley Scales of Infant Development: modifying effects of caregiver, early intervention, and birth weight. *Pediatrics* 2002;110:1143–1152. [PubMed: 12456912]
36. Beeghly M, Frank DA, Rose-Jacobs R, et al. Level of prenatal cocaine exposure and infant-caregiver attachment behavior. *Neurotoxicol Teratol* 2003;25:23–38. [PubMed: 12633734]
37. Kovacs, M. *Child Depression Inventory Manual*. Ontario: Multi-Health Systems, Inc; 1992.
38. Helsel WJ, Matson JL. The assessment of depression in children: the internal structure of the Child Depression Inventory (CDI). *Behav Res Ther* 1984;22:289–298. [PubMed: 6466279]
39. Charman T, Pervova I. The internal structure of the Child Depression Inventory in Russian and UK schoolchildren. *J Youth Adolesc* 2001;30:41–51.
40. Hayward C, Gotlib IH, Schraedley PK, et al. Ethnic differences in the association between pubertal status and symptoms of depression in adolescent girls. *J Adolesc Health* 1999;25:143–149. [PubMed: 10447041]
41. Twenge JM, Nolen-Hoeksema S. Age, gender, race, socioeconomic status, and birth cohort differences on the Children's Depression Inventory: a meta-analysis. *J Abnorm Psychol* 2002;111:578–588. [PubMed: 12428771]
42. Fox, NA.; Leavitt, LA. *The Violence Exposure Scale for Children–VEX*. College Park: University of Maryland; 1995.

43. Shahinfar A, Fox NA, Leavitt LA. Preschool children's exposure to violence: relation of behavior problems to parent and child reports. *Am J Orthopsychiatry* 2000;70:115–125. [PubMed: 10702856]
44. Richters, JE.; Martinez, P.; Valla, JP. Levonn: A Cartoon-Cased Structured Interview for Assessing Young Children's Distress Symptoms. Bethesda, MD: National Institute of Mental Health; 1990.
45. Martinez P, Richters JE. The NIMH Community Violence Project: II. Children's Distress Symptoms Associated with Violence Exposure. *Psychiatry* 1993;56:22–35. [PubMed: 8488209]
46. Achenbach, TM. Manual for the Child Behavior Checklist for Ages 4–18 and 1991 Profile. Burlington, VT: University of Vermont; 1991.
47. Derogatis, LR. Brief Symptom Inventory. Baltimore: Clinical Psychometric Research;
48. McLellan A, Kushner H, Metzger D, et al. The fifth edition of the Addiction Severity Index. *J Subst Abuse Treat* 1992;9:199–213. [PubMed: 1334156]
49. Pfeffer CR, Plutchik R, Mizruchi MS, Lipkins R. Suicidal behavior in child psychiatric inpatients and outpatients and in nonpatients. *Am J Psychiatry* 1986;143:733–738. [PubMed: 3717395]
50. Stillion, JM.; McDowell, EE.; May, JH. Suicide Across the Lifespan: Premature Exits. New York: Hemisphere; 1989.
51. Pastore DR, Fisher M, Friedman SB. Violence and mental health problems among urban high school students. *J Adolesc Health* 1996;18:320–324. [PubMed: 9156543]
52. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Washington, DC: American Psychiatric Association; 2000.
53. Rey JM, Schrader E, Morris-Yates A. Parent-child agreement on children's behaviours reported by the Child Behavior Checklist (CBCL). *J Adolesc* 1992;15:219–230. [PubMed: 1447409]
54. Martin JL, Ford CB, Dyer-Friedman J, et al. Patterns of agreement between parent and child ratings of emotional and behavioral problems in an outpatient clinical setting: when children endorse more problems. *J Dev Behav Pediatr* 2004;25:150–155. [PubMed: 15194898]
55. Frankenfield DL, Keyl PM, Gielen A, et al. Adolescent patients—healthy or hurting? Missed opportunities to screen for suicide risk in the primary care setting. *Arch Pediatr Adolesc Med* 2000;154:162–168. [PubMed: 10665603]

Table 1**Total Sample Characteristics**

Characteristic	
Children with positive suicidal ideation	14.5%
Child age, yr	
Range	9.1–11.3
Mean	9.9 yr
SD	0.5
Child gender (% female)	49%
Biological mother's race/ethnicity	
African American (born in US)	79%
African Caribbean (born outside US)	11%
Hispanic	2%
White	6%
Other	2%
Cocaine exposed in utero	51%
Primary caregiver at age 9–10 yr	
Biologic mother	72%
Kinship caregiver	18%
Nonkinship	10%

Table 2
t Tests on Caregiver Psychosocial Measures by Children's Endorsement of Suicidal Ideation

Caregiver Measure	Child Suicidal Ideation					
	Endorsed Suicidal Ideation			Denied Suicidal Ideation		
	Sample Size ^a	Mean	SD	Sample Size ^a	Mean	SD
ASI Psychiatric Composite Score ^b	18 17	0.06 0.23	0.14 0.30	111 98	0.05 0.27	0.11 0.36
BSI GSI ^c						
CBCL/4–18 Behavior Problems (t scores)	18	52.4	16.5	105	50.0	11.2
Total behavior problems	18	49.8	15.2	105	48.2	10.7
Internalizing problems	18	52.7	15.0	105	50.7	12.1

ASI, Addiction Severity Index; BSI, Brief Symptom Inventory; CBCL/4–18, Child Behavior Checklist for Ages 4–18.

^a Sample sizes vary due to missing data.

^b ASI was given to biological mother at intake in ongoing, longitudinal study. The psychiatric composite score was used for data analyses.

^c Global Severity Index score from the Brief Symptom Inventory.

* $p < .05$;

** $p < .01$.

Table 3*t* Tests on Child Psychosocial Measures by Endorsement of Suicidal Ideation

Child Measure	Child Suicidal Ideation					
	Endorsed Suicidal Ideation			Denied Suicidal Ideation		
	Sample Size ^b	Mean	SD	Sample Size ^b	Mean	SD
CDI total score ^a	19	14.8	6.2	112	5.8	5.9**
CDI subscale score						
Negative mood	19	3.4	2.6	112	1.3	1.5**
Interpersonal problems	19	1.8	1.6	112	0.8	1.3**
Ineffectiveness	19	3.0	2.2	112	0.9	1.4**
Anhedonia	19	5.3	3.5	112	2.5	2.6**
Negative esteem ^a	19	1.3	1.9	112	0.4	0.9
VEX-R	18	23.2	10.9	104	13.1	10.4**
Levonn	18	61.2	12.3	102	48.5	11.3**

CDI, Child Depression Inventory; VEX-R, Violence Exposure Scale for Children-Revised. All scores are raw scores.

^a Suicide item was omitted for analysis.^b Sample sizes vary due to missing data.* $p < .05$;** $p < .01$.