Diagnosis and Treatment of Childhood Depression and Self-Destructive Behavior

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This paper presents the results of a survey of Washington, DC, area physicians who confront the diagnosis and treatment of childhood depression and potential suicide. Questions addressed included the prevalence of childhood depression and self-destructive behavior, beliefs about such phenomena, criteria used in the diagnosis of depression, and treatment preferences for both childhood depression and self-destructive behavior.

Nearly half of respondent physicians reported knowing of suicide attempts among patients under 14 years old; almost two thirds currently had a patient in treatment for depression with a mental health professional. Physicians subscribed to a number of traditional but false beliefs about young children's capacity for intentional self-destruction and the incidence of such acts being disguised as "accidents."

Wide variation was observed in the symptoms physicians used to diagnose depression. In general, physicians attended most to overt behavior and family history, followed by psychological problems. Physicians need to be alert to the diagnostic significance of "masked" symptoms of depression, such as somatic complaints and acting-out, antisocial behaviors.

Recently, mental health professionals as well as the general public have shown an increasing and well-founded concern about childhood depression and self-destructive behavior. The suicide rate among 15-to-19 year olds (7.6 per 100,000 population annually) has tripled in the 20 years from 1955 to 1975, while the incidence of suicides among 10-to-14 year olds (0.8 per 100,000 population annually) has climbed nearly as dramatically. Suicides are grossly underreported[1-4]; some estimate that the actual frequency of suicide attempts may be as much as 100 times greater than that which is reported. For example, accidents, many of which may be concealed suicide attempts,[2,3,5-8] were responsible for a total of 6,308 deaths among children from 5-to-14 years old in 1976.[9] According to one estimate, approximately half of these accidental deaths, involving 3,154 children, actually were disguised suicide attempts.[10]

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In the belief that children do not fully comprehend the irreversible and permanent nature of death until about the age of ten, suicide statistics traditionally have not been tabulated for children below this age. Research in this area, however, increasingly is debunking this myth. Findings show that children as young as five not only have the capacity to be depressed, but also can engage in intentional self-destructive behavior.[3,11-14]

The manifestation of childhood depression, however, is different from that of adults. Until age 14 years, children display what some have labeled "masked depression."[4,14-18] Rather than internalizing anger that is aroused in response to real or perceived losses, as adults may do, children express their hostility outwardly toward themselves or those who threaten their psychological well-being. The helplessness, resignation, and withdrawal characteristic of depression in adults may thus be replaced by aggressive and antisocial behavior in children. Other common, active depressive symptoms described in the literature are disobedience, temper tantrums, truancy, frequent accidents, and repetitive running away. Passive manifestations include short attention span and difficulty concentrating, enuresis, encopresis, obesity, and other somatic complaints.

The nature of these "masked" symptoms makes the diagnosis of childhood depression and self-destructive behavior difficult.[7,16,19] Those alert only to the despair and hopelessness observed with depressed adults may not recognize the diagnostic value of behavioral and somatic symptoms in depressed children. Although it is estimated that less than ten percent of children's self-destructive behavior results in completed suicide, early detection and treatment following such "distress signals" are considered vital.[8,15,17,20]

This study was undertaken to determine current practices in the diagnosis and treatment of depressed and suicidal children under 14 years old from the perspective of primary care physicians. The frequency with which children visit physicians, for annual check-ups as well as for childhood illnesses, makes it likely that these professionals are in the best position to observe changes in physical and emotional well-being. An investigation of physicians' beliefs about the capacity of children to be depressed and to engage in self-destructive behavior, the criteria they use to diagnose depression, and their treatment preferences following such diagnoses is, therefore, crucial to an evaluation of the current management of such children.

Methods

Subjects

The 375 pediatricians listed in the 1978 *Washington Physicians Directory*, who represented the largest homogeneous medical specialty treating children, were sent a questionnaire, a stamped, self-addressed envelope, and a cover letter explaining the purpose of this study.

Design of Questionnaire

From a thorough review of the literature, 58 questions were compiled addressing major areas of concern for primary care physicians. The questionnaire was designed to obtain the following information: (a) the perceived prevalence of childhood depression and self-destructive behavior; (b) physicians' beliefs about such phenomena; (c) criteria used in the diagnosis of depression; and (d) physicians' treatment preferences for both depression and self-destructive behavior.

Sixty-nine physicians (27 percent) returned the questionnaire. Respondents ranged in age from 30 to 68 years (median age 44.5 years) and had been in practice for a median of 14.5 years. Eighty-three percent were male.

Results

Suicide

Surprisingly, almost half (45 percent) of the respondents reported knowing of suicide attempts

among their patients under 14 years old. Only five percent of these physicians indicated knowledge of completed suicides among their patients, resulting in a total of six deaths. Chemical ingestion was cited almost exclusively (90 percent) as the suicide method used by children who attempted suicide, while firearms and hanging were each used by five percent of suicide attempters. As will be discussed, these findings are in contrast with reports in the literature. The majority of physicians (58 percent) believed the incidence of attempted suicide in their practices had been stable during the previous 10 to 15 years, but another 42 percent reported an increase or great increase in this rate. No physician believed that the rate of childhood suicide attempts had decreased in recent years.

Depression

Sixty-four percent of respondents had at least one patient under 14 years who was in treatment for depression with a mental health professional. In general, respondents had a mean of 2.9 patients in therapy, while those who reported depressed patients in therapy had a mean of 4.4 such patients each. Depressed patients ranged in age from 5 to 14 years.

Accidents and Self-Destructive Behavior

Four out of five (80 percent) respondents believed that less than 20 percent of children's "accidents" were, in fact, acts of intentional self-destruction. Only ten percent of respondents indicated that at least 40 percent of all accidents actually are disguised self-destructive behavior.

On the average, a child of eight years (median age 7.7 years) was believed capable of intentional self-destructive behavior. A non-significant trend was observed for more recently trained physicians (in practice less than 15 years) to consider a six-year-old's self-destructive behavior intentional; in contrast, those practicing medicine more than 15 years believed a child must be two years older (median eight years) to deliberately attempt suicide.

Criteria Used in the Diagnosis of Depression

There was wide variation in the value of individual symptoms used to diagnose depression. Table 1 lists diagnostic values assigned to individual symptoms by respondents. Overall, physicians assigned the greatest diagnostic value to overt behavioral symptoms and family history, followed by psychological problems. Least critical, as a group, were somatic concerns.

Within this somatic subgroup, anorexia and insomnia were by far the most powerful indicators of depression for these physicians. Enuresis, fecal incontinence, and injuries resulting from "accidents" were considered least suggestive of childhood depression. It is noteworthy that the five respondents who believed that "greater than 20 percent of accidents are truly intentional" assigned significantly greater diagnostic value to injuries than did other respondents (Fischer's Exact Text; $P<.025$). Psychological symptoms were about equally important to physicians, except for nightmares, which were believed least critical in diagnosing depression.

The most important diagnostic criteria within the behavioral category were, by far, withdrawal from family members and withdrawal from friends. It is noteworthy that physicians attended least to acting-out behavior, such as antisocial acts, truancy, and disobedience. However, those physicians who reported patients in psychotherapy, in contrast to those who did not, attended significantly more to children's disobedience ($\chi^2 = 4.61$; $P<.05$) and truancy ($\chi^2 = 9.14$; $P<.005$) in diagnosing depression. Family history criteria were believed of equal diagnostic value except for the lesser importance assigned to economic instability and absence of the father.

It can be seen from Table 1 that the symptoms most likely to suggest childhood depression to physicians were withdrawal from family members and/or friends, disruptions in patterns of sleeping and eating, parental divorce, depressed mother, physical or emotional abuse, and reduced academic performance. Next, physicians were apt to respond to other overt symptoms such as anxiety, mood swings, behavior changes, and concentration problems, as well as to familial history of suicide.

In contrast, symptoms which were rated least diagnostically useful were the so-called "masked"

Table 1. Median Diagnostic Value Ratings for Symptoms of Depression

Median Diagnostic Value*	Behavioral	Family History	Psychological	Somatic
2.75-3.00	2.82 withdrawal from friends 2.76 withdrawal from family			
2.50-2.74		2.60 parental divorce 2.59 physical or emotional abuse		2.63 anorexia 2.60 insomnia
	2.53 drop in school performance	2.50 depressed mother		
2.25-2.49	2.35 behavior change	2.47 history of suicide	2.46 mood swings 2.36 anxiety 2.27 concentration difficulties	
2.00-2.24	2.20 tantrums 2.20 antisocial behavior 2.10 truancy		2.16 fears	2.18 obesity 2.08 hypochondriasis
1.75-1.99		1.97 absent father	1.79 nightmares	
1.50-1.74		1.71 economic instability		1.61 injuries
1.25-1.49				1.39 fecal incontinence 1.24 enuresis

3=symptom used *frequently* to diagnose depression
2=symptom *sometimes* used
1=symptom *rarely* used
0=symptom *never* used

symptoms of depression. Passive manifestations included enuresis, fecal incontinence, obesity, hypochondriasis, and nightmares, while repeated injuries, disobedience, tantrums, antisocial behavior, and truancy constituted the acting-out expressions. As will be discussed, the minimization of diagnostic value assigned to these symptoms may well be a critical oversight in the differential diagnosis of childhood depression.

Assessment of Risk of Self-Destructive Behavior

Eighty-seven percent of physicians indicated

that they considered the possibility of a child's self-destructive behavior following the diagnosis of depression. The most important criteria used by physicians were the severity of depressive symptoms, overt action, dangerous behavior, repeated injuries, the wish to be dead, and past history.

Treatment for Depression

The most preferred mode of treatment following a diagnosis of depression was psychotherapy, including child, family, and parent therapies. Next, respondents preferred contact with schools and clinics. The least desired treatment options were outpatient and, lastly, inpatient medical treatment. Drugs were rarely, if ever, administered. Specialists, who saw children on a consultant rather than on a regular basis, were more likely to make referrals after diagnosing depression.

Treatment for Self-Destructive Behavior

Following a diagnosis of self-destructive behavior rather than depression, physicians were more likely to make more frequent referrals for all types of treatment. The order of preference among treatment options also changed significantly. Whereas the outpatient medical setting was chosen more frequently than the inpatient setting for depressed children, this preference was reversed for self-destructive children, with more referrals for inpatient treatment. Moreover, hospitalization was preferred over contact with both schools and clinics.

Pharmacological Therapy

Pharmacological therapy was the least preferred treatment modality for both depression and self-destructive behavior among physicians. But among those who indicated drugs of choice, five classes were endorsed: antidepressants (47 percent); anxiolytics (20 percent); neuroleptics (13 percent); antihistamine-sedatives (13 percent); and massive B-vitamins (7 percent). Notably, the antihistamines were prescribed by pediatricians rather than pediatric allergists.

Family Conferences and Follow-Ups

Although this information was not specifically requested, 17 physicians indicated that following suspected depression or self-destructive behavior in children, family conferences were arranged in their offices to obtain further data and make referrals. An additional nine physicians spontaneously mentioned their efforts to provide continued support and active follow-up after making referrals to mental health professionals.

Discussion

The high incidence of both depression and self-destructive behavior in children under 14 years reported in this study confirms the need for development of more precise, uniform diagnostic standards and effective therapeutic strategies. In this study, it is likely that respondent physicians were cognizant of only a fraction of their depressed and self-destructive patients.

It is well-known that suicide statistics in general under-represent the actual rates of completed suicides. Suicide survivors may conceal the genuine cause of death to avoid the cultural stigma associated with self-destruction,[15] or even to retain insurance awards. In addition to those possible motives for intentional concealment, childhood suicides are especially vulnerable to unintentional misrepresentation. The impulsive nature of children's suicidal acts makes them easily misperceived as accidental by parents and physicians. Moreover, suicide statistics do not include attempted suicides. Because of the non-lethal methods available to them, children's efforts are

less frequently successful,[4] resulting in fewer completed suicides.

Self-destructive acts demand attention. Similarly, depressive reactions in childhood, which frequently are highly associated with suicidal behavior, cannot be considered transitory; if untreated, they can continue into adulthood.[20] In one study of 75 children who attempted suicide, 40 percent had made previous attempts.[16] A study of successful suicides demonstrated that between 40 and 46 percent of these children discussed, threatened, or attempted suicide prior to their deaths.[17] Clearly, children make repeated suicide attempts. If depressive symptoms and self-destructive behavior are not detected early in childhood, the chance of successful suicide attempts escalates increasingly as children mature. In 1975, the suicide rate among 15-to-19 year olds was tenfold that of 10-to-14 year olds, but only half that of the 20-to-24 year age category.[21]

Prevention of childhood suicides seems to rest on accurate diagnosis; following recognition of depressive and potential self-destructive symptoms, the prognosis for resolution of conflicts and successful adjustment has been described as excellent.[7] In discussing issues pertinent to accurate diagnosis and effective treatment, it seems imperative to dispel from the outset several myths about childhood depression and self-destructive behavior:

Myth 1: *Physicians alert for signs of overdose in children are assured of detecting self-destructive behavior in patients under 14 years.*

Chemical ingestion, cited almost exclusively as the method used by patients in this study who attempted suicide, is reported more frequently as the method of choice of adolescents rather than of younger children. In 1937, Bender and Schilder[11] reported that common suicide methods of children included running into cars, jumping, and hanging; 37 years later, Mosse[7] estimated that these methods are used in 75 percent of young children's suicide attempts. Running into cars, declared the most common method of suicide attempts in children under 14 years,[22] has been described in many case reports.[1,3-5,14] Shaw and Schelkun[4] argue that children resort to these impulsive acts of jumping or running into traffic because they lack planning skills and have limited access to lethal materials. Given that physicians responding to this survey do not note the prevalence of these methods in the suicide attempts of their patients, it is likely that they are unaware of additional patients who engage in such self-destructive behavior.

As children mature and develop better planning and organization skills, they attempt more frequently to overdose from chemicals or drugs in their suicidal acts. Mattson et al,[16] whose population included only five percent under 12 years old, found that 85 percent of suicide attempters used chemical ingestion. Similarly, Lukianowicz[13] reported that chemical ingestion is more common with adolescents. Among children under 14 years, physicians need to be alert to reports of children jumping from fire escapes and tall trees, hanging themselves, and running into traffic. This leads to the next myth.

Myth 2: *Children's accidents are just that—accidental.*

The methods young children use to attempt suicide, particularly jumping and running into traffic, lend themselves easily to misinterpretation or intentional concealment as accidents. Moreover, the impulsive nature of young children's self-destructive acts discourages their perception as intentional simply because they are not premeditated. In contrast to the belief of most physicians in this study that less than one in five of children's accidents actually are intentionally self-destructive, some estimate that up to half of actual suicide attempts are disguised as accidents.[10] In his study of poisoning suicides of children and adolescents, Jacobziner[2] discovered that 15 percent had a history of previous accidents. Case reports of suicidal children include histories of repeated accidents,[1,3] although Shaffer[17] found no evidence of accident-proneness in his retrospective study of completed childhood suicides. Mosse[7] wrote that many so-called accidents, including incidents of children being "struck" by cars, "burned," "shot" by real or toy guns, or "falling," actually are conscious or unconscious wishes for self-destruction. Accidents are the number one cause of death of children 5 to 14 years of age, occurring at a rate of 17.0/100,000.[9] That many of these are concealed acts of self-destruction demands the close attention of physicians to "accidental" injuries of children.

Myth 3: *Children younger than ten years old cannot intentionally commit suicide.*

Because suicide statistics are not tabulated for children under ten years, it is difficult to document the prevalence of their attempts to kill themselves. Moreover, the impulsive, often non-lethal methods young children choose, as described above, may prevent the accurate identification of their self-destructive behavior. Yet, the literature is replete with case reports of children as young as five or six years old who have made repeated suicide attempts.[3,11-14,23] Although these children may conceptualize death differently than adults do, ie, they may believe in the magical impermanence of death,[14] their behavior still must be considered deliberately self-destructive.

Myth 4: *Somatic concerns are, in general, least indicative of childhood depression.*

Although respondent physicians were alerted to depression least frequently by children's physical complaints, many writers have cited symptoms such as hypochondriasis, stomach aches, headaches, fatigue, dizziness, and fainting as highly valuable diagnostic clues in the clinical cases they reported.[7,14,17,18,23] In fact, Mattson et al[16] found that 46 percent of children who completed suicide displayed somatic complaints and fears, among other symptoms, prior to their deaths.

Myth 5: *Depressed children are typically withdrawn. The disobedient child, who is truant from school and engages in other antisocial behaviors, is delinquent rather than depressed.*

The symptoms of withdrawal from family members and friends, assigned highest diagnostic value by respondent physicians, are displayed by depressed children, but occur far less frequently than do acting-out behaviors.[23] In his case studies of depressed children, Schrut[3] found that 21 percent were of the quiet, withdrawn type, while 79 percent displayed acting-out, aggressive behavior. Of 26 depressed children described by Shaffer,[17] 19 percent engaged in antisocial behavior, including fighting, stealing, lying, and running away, and 65 percent displayed such behavior in conjunction with emotional difficulties; but only 15 percent of the children demonstrated purely emotional or affective symptoms. Similarly, Mattson et al[16] found that 28 percent of completed suicides displayed a behavior disorder of at least one year's duration prior to their deaths. Pfeffer[23] estimated that 75 percent of suicidal children who required hospitalization displayed acting-out, aggressive behavior, and impulsivity. Truancy from school and running away from home have been cited as most suggestive of a depressive reaction.[7,13,14,17,18] The physicians in this study who reported depressed patients in therapy, as a group, assigned higher diagnostic values to these "depressive equivalents," suggesting greater awareness of these cues as significant.

Many reasons for children's active expression of depression have been postulated. First, children are less capable of verbalizing emotions than adults are,[19] and therefore must express themselves through actions. Moreover, young boys, who attempt and complete suicide more frequently than do girls,[21,24] often think that the expression of feelings constitutes weakness.[18] Acting-out behavior, then, may be used to defend against or displace depression,[18,25] or to provoke parental concern.[3] Paradoxically, however, such antisocial behavior and its negative consequences may reinforce the child's depressed belief that he or she is bad and unworthy of life.[18]

Conclusions

Physicians subscribing to the above myths may overlook the potential of depression and self-destructive behavior in certain patients. Consider, for example, the case of a 6-year-old boy, whose presenting complaints are stomach aches, enuresis, and difficulty concentrating on tasks. His mother reports that he is disobedient, is frequently truant from school, and has been fighting with friends and classmates. A physical examination reveals many bruises and scars. A physician whose beliefs and practices coincide with the median responses of physicians in this study might not be alerted to depression and possible self-destructive behavior in this boy.

Once this child's depression is diagnosed, however, what is the most effective treatment plan for

him? Physicians responding to this survey indicated appropriately that after diagnosing depression, they nearly always made referrals for various forms of psychotherapy. When there was an attempted suicide rather than simply a display of depressive symptomatology, referrals were made far more frequently for inpatient treatment. There is considerable debate in the literature about the necessity of hospitalization. Some advocate hospitalization when there is imminent harm to the child or others.[7,15,24] For others, the decision is based upon an evaluation of environmental responsivity to the child; when a sensitive, sympathetic person is available, home care may be sufficient.[4] Recently, there has been some concern that hospitalization may be prescribed too frequently as a result of therapists' fears and their desires to be conservative.[16,20] For adolescents, however, hospitalization may be required more often in order to interrupt ongoing parental conflict.

The low endorsement of pharmacological therapy by physicians in this study is consistent with practices reported in the literature.[7,13,15] Moreover, some believe that mood elevating drugs, primarily tricyclic antidepressants, are effective for overtly depressed, older children and adolescents rather than for young children who display masked depression.[4,10,20]

As Malmquist[26] noted, the area of childhood depression is not well understood. In particular, attempts to isolate etiologic factors in the development of childhood depression continue to yield inconclusive results. Numerous psychological, genetic, and biochemical theories of depression have been proposed, but definitive predisposing factors have not been identified.[27] Myths and false beliefs, as described in this study, exacerbate the difficulties in accurate, early detection of depressive and suicidal symptomatology. Moreover, because of the age-specific prevalence of acting-out behaviors in this patient population, it is easy to imagine that physicians not specifically trained to be alert to these behaviors as depressive symptoms would ignore their diagnostic significance or misdiagnose them. The results of this study, as well as the average 200 percent increase in suicidal death among 10-to-24 year olds in the last two decades, make imperative the need for increased emphasis in the training of primary care physicians on the differential diagnosis of childhood depression and self-destructive behavior. Physicians need to be alert to the diagnostic significance of "depressive equivalents" and disguised self-destructive behavior of children.

References

1. Bawkin H: Suicide in children and adolescents. J Pediatr 50:747, 1957
2. Jacobziner H: Attempted suicides in children. J Pediatr 56:519, 1960
3. Schrut A: Suicidal adolescents and children. JAMA 188:1103, 1964
4. Shaw CR, Schelkun RF: Suicidal behavior in children. Psychiatry 28:157, 1965
5. Lesse S: Depressive equivalents and the multivariant masks of depression. In Lesse S (ed): Masked Depression. New York, Jason Aaronson, 1974, pp 3-23
6. McIntire M, Angle C: The taxonomy of suicide as seen in poison control centers. Pediatr Clin North Am 17:697, 1970
7. Mosse H: The psychotherapeutic management of children with masked depressions. In Lesse S (ed): Masked Depression. New York, Jason Aaronson, 1974, pp 174-201
8. Toolan J: Suicide and suicidal attempts in children and adolescents. Am J Psychol 118:719, 1962
9. Advance Report, Final Mortality Statistics, 1976. In National Center for Health Statistics (Hyattsville, Md): Monthly Vital Statistics Report. DHEW publication No. (PHS) 78-1120. Government Printing Office, 1978, p 19
10. Toolan J: Suicide in children and adolescents. Am J Psychol 29:339, 1975
11. Bender L, Schilder P: Suicidal preoccupations and attempts in children. Am J Orthopsychiatry 7:225, 1937
12. Glaser K: Masked depression in children and adolescents. Am J Psychol 21:565, 1967
13. Lukianowicz N: Attempted suicides in children. Acta Psychiatr Scand 44:416, 1968
14. Paulson MJ, Stone O, Sposto R: Suicide potential and behavior in children ages 4 to 12. Suicide Life Threat Behav 8:225, 1978
15. Garfinkel BD, Golombek H: Suicide and depression in childhood and adolescence. Can Med J 110:1278, 1974
16. Mattson A, Seese L, Hawkins JW: Suicidal behavior as a child psychiatric emergency. Arch Gen Psychiatry 20:100, 1969
17. Shaffer D: Suicide in childhood and early adolescence. J Child Psychol 15:275, 1974
18. Toolan J: Masked depression in children. In Lesse S (ed): Masked Depression. New York, Jason Aaronson, 1974, pp 141-164
19. Blumberg ML: Depression in children on a general pediatric service. Am J Psychol 32:20, 1978
20. Toolan J: Therapy of depressed and suicidal children. Am J Psychol 32:243, 1978
21. Frederick CJ: Current trends in suicidal behavior in the United States. Am J Psychol 32:172, 1978
22. Winn D, Halla R: Observations of children who threaten to kill themselves. Can Psychiatr Assoc J 11:283, 1966
23. Pfeffer C: Psychiatric hospital treatment of suicidal children. Presented at the Annual Meeting of the American Association of Suicidology, Boston, May 1977
24. Lesse S: Hypochondriasis and psychosomatic disorders masking depression. In Lesse S (ed): Masked Depression. New York, Jason Aaronson, 1974, pp 53-74
25. Spiegel R: Anger and acting out as depressive equivalents. In Lesse S (ed): Masked Depression. New York, Jason Aaronson, 1974, pp 75-89
26. Malmquist CP: Depression in childhood and adolescence. N Engl J Med 284:887, 1971
27. Lewis M, Lewis DO: A psychobiological view of depression in childhood. In French A, Berlin I (eds): Depression in Children and Adolescents. New York, Human Sciences Press, 1979