

# Depressed Parents and Their Children

## General Health, Social, and Psychiatric Problems

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• **Two hundred twenty children (aged 6 to 23 years) from families with either depressed or normal (nonpsychiatrically ill) parents of comparable sociodemographic backgrounds were studied. The children from families in which at least one parent had experienced a major depression were reported to have had more adverse perinatal events; were later in achieving some developmental landmarks; had more convulsions, head injuries, operations, and psychiatric disorders (particularly major depression); and made more suicide attempts. Overall, there were no significant differences in IQ between children in both groups. Mothers in families with a depressed parent reported more medical problems during pregnancy and labor, and the children were reported to have experienced more distress at birth. Since major depression is a highly prevalent disorder in women of childbearing ages, these findings have direct clinical implications for pediatricians. Their specificity for major depression, as contrasted with other psychiatric disorders or chronic illnesses in the parents, requires further study.**  
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Several studies have demonstrated the impact of family disruption<sup>1-5</sup> and life events<sup>6-8</sup> on increased susceptibility to a variety of illnesses in children. There have been a few studies of the general medical and perinatal (ie, prenatal, perinatal, and postnatal) histories of depressed children and the children of depressed parents. In a study of the marital and family lives of depressed patients compared with matched normal controls,<sup>9</sup>

it was found that the children of the depressives had significantly more medical problems, but the nature of the problems was unspecified in the report. Salk et al,<sup>10</sup> in a retrospective study of the perinatal histories of adolescents who committed suicide compared with controls, found that the suicide victims had experienced significantly higher respiratory distress at birth and that their mothers more often had not received antenatal care before 20 weeks of pregnancy and more frequently had a chronic disease during pregnancy. Salk et al<sup>10</sup> suggested that decreased infant mortality was related to the increased rates of suicide among adolescents. In relating these risk factors to adolescent suicide, Salk et al<sup>10</sup> did not discuss whether parental depression might be a possible explanation of the perinatal risk factors that were related to the eventual suicide of the children.

Shaffer et al,<sup>11</sup> in an elegant ten-year follow-up of 180 adolescents, found a significant relationship between neurological soft signs at age 7 years and affective and anxiety disorders at age 17 years. The soft signs were not related to psychiatric disorder at age 7 years, to IQ, or to numerous other social or environmental factors. There was no assessment of parental clinical status or of perinatal events in this study, but soft signs have been linked with perinatal abnormalities.

A problem with many of these studies is that few have simultaneously considered the psychiatric or general health status of the parents and the behavior and psychopathologic findings in the children.<sup>9,11</sup> Such studies are required to further our understanding of the relationship between illness in parents and illness in children.

The recent availability of reliable methods for the assessment of psychiatric disorders in both adults and children has made possible a number of

studies of depressed parents and their children.<sup>12-16</sup> We previously reported the results of a family study of children (aged 6 to 17 years) of depressed and normal probands in which parents provided brief behavioral and psychiatric histories of their children.<sup>17,18</sup> Although these data were regarded as tentative due to the lack of direct interviews with the children, we showed that compared with the children of normal parents, the children of depressed parents were at increased risk for major depression and other psychiatric disorders.<sup>17</sup>

This article presents some initial findings from a longitudinal study of 220 children at high and at low risk for major depression by virtue of the presence or absence of major depression in their parents. Information on the perinatal, developmental, general health, and social histories of the children was obtained from direct interviews with the parents, and information on the child's psychopathologic characteristics and social functioning was obtained from direct interviews with parents and children. Since major depression is a highly prevalent disorder among young persons, especially women in the childbearing years, any impact on the children has important public health consequences.<sup>19</sup>

### SUBJECTS AND METHODS Selection of Families

The proband parents derive from the Yale Family Study of Major Depression.<sup>20-22</sup> Ninety-one (87.5%) of the 104 eligible families with children between the ages of 6 and 23 years agreed to participate. The 12.5% of families who refused to participate were equally divided between depressed and normal families. Sixty-five couples with 153 children in which either one or both parents had a history of a treated major depression were included. Major depression was defined according to Research Diagnostic Criteria, which require four weeks' duration of symptoms and impairment in a ma-

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Table 1.—Criteria for Major Depression\*

- A. Dysphoric mood characterized by symptoms such as depressed, sad, blue, hopeless, down in the dumps, empty, "don't care," irritable, fearful, worried. The dysphoric mood must be prominent and relatively persistent but not necessarily the most dominant symptom. Does not include momentary shifts from one dysphoric mood to another dysphoric mood.
- B. Four of the following symptoms:
  - (1) Poor appetite or weight loss or increased appetite or weight gain.
  - (2) Sleep difficulty or sleeping too much.
  - (3) Loss of energy, fatigability, or tiredness.
  - (4) Psychomotor agitation or retardation.
  - (5) Loss of interest or pleasure in usual activities, or decrease in sexual drive.
  - (6) Feelings of self-reproach or excessive or inappropriate guilt.
  - (7) Complaints or evidence of diminished ability to think or concentrate, such as slow thinking or mixed-up thoughts.
  - (8) Recurrent thoughts of death or suicide, including thoughts of wishing to be dead.
- C. Depressive features of illness lasting at least 4 wk or requiring hospitalization.
- D. At least one episode in which A through C are true but none of the following that suggest schizophrenia were present:
  - (1) Bizarre or fantastic delusions.
  - (2) Hallucinations of any type throughout the day for several days, or intermittently throughout a 6-mo period.
  - (3) Auditory hallucinations in which two or more voices discuss the patient or his thoughts or actions in the third person.
  - (4) At some time during period of illness had delusions or hallucinations for more than 1 mo in the absence of prominent depressive symptomatology (although typical depressive delusions such as those of guilt, sin, poverty, nihilism, or self-deprecation or hallucinations with similar content are permitted).
  - (5) Preoccupation with a delusion or hallucination to the relative exclusion of other symptoms or concerns (other than delusions of guilt, sin, poverty, nihilism or self-deprecation or hallucinations with similar content).
  - (6) Definite instances of verbal production that make communication difficult because of a lack of logical or understandable organization (obvious thought disorder).
- E. The condition has resulted in impairment in principal social role functioning, eg, unable to go to work, or hospitalization.

\*A through E are required for a positive diagnosis.

job role. The criteria for major depression are shown in Table 1. Parents were rarely acutely ill when interviewed for this study, but most had been treated by us during a past, acute depressive episode.

The normal controls were 26 couples with 67 children in which neither parent had a history of major depression or any other psychiatric disorder. This sample, originally identified in a longitudinal community survey conducted in New Haven, Conn, between 1967 and 1975,<sup>23</sup> had reported no history of psychiatric illness or treatment based on at least five direct interviews over this period. All of the probands were white and were group-matched by age and sex.

### Assessments

Direct interviews were obtained from 83% of the eligible children and from a parent for about 97% of the children. In all but six cases the parent interviewed was the biological mother. Interviewers were MD, PhD, and masters-level mental health professionals with a minimum of four years' experience in child assessment or treatment. The interviewer of the child and of the mother about the child was blind to the diagnostic status of the child's parents. Similarly, the interviewer of the parent was blind to the diagnostic status of the child and any previous psychiatric data on the parents. The interviewers received approx-

imately 30 hours of training in research assessments during which diagnostic reliability was achieved using videotaped interviews. Additional checks on interrater reliability were made by the field supervisor during study interviews.

Mothers were asked to provide detailed information in a structured format about prenatal, birth, and postnatal events, as well as their own and the child's medical and medication histories, and about the child's developmental history, using an interview developed and tested by us in several studies.<sup>24,25</sup>

The psychiatric diagnostic assessment of the children was made using the Schedule for Affective Disorders and Schizophrenia for School-Aged Children, Epidemiologic Version (K-SADS-E),<sup>26</sup> which is a widely used research instrument for obtaining lifetime *Diagnostic and Statistical Manual*, ed 3, diagnoses in children<sup>16,27</sup> for most of the major Axis-I disorders.

Children were given the Peabody Picture Vocabulary Test, Form M,<sup>28</sup> and those who were under 17 years of age also completed the Wechsler Intelligence Scale for Children-Revised vocabulary and block-design subtests.<sup>29</sup>

## RESULTS

### Age and Sex of Children

Two hundred twenty children (105 boys and 115 girls) were studied.

Thirty-five were 6 to 11 years old; 77 were 12 to 17 years old; and 108 were 18 to 23 years old. Their mean age was 17 years. There were no significant differences in the age or sex of children by the clinical status of the parents.

### Demographic Characteristics of Proband Parents and Families

The children of depressed and normal parents derived from demographically comparable families. The groups did not differ significantly by the parents' ages, number of marriages, education, current marital status, religion, social class, or number of children in the family. More than 30% of the parents came from professional and upper-middle classes, and over 80% had at least a high school education and were currently married.

### Paranatal Histories

Of the 64 items included in the portion of the self-administered report that mothers completed about prenatal, birth, and postnatal events for each of their children, there were eight significant differences ( $P < .05$ ) in the reports of mothers from the depressed and nondepressed families. Mothers from depressed families were younger when their children were born and reported fewer previous miscarriages. They accounted for all 11 reports of medical problems during pregnancy and also reported that they took more medications during pregnancy. Mothers in the depressed families were found not only to have taken medication during more of their pregnancies than mothers in the normal families (20.6% vs 9.2%) but to have taken a wider variety. In addition to the antiemetics and diuretics reported by both groups of mothers, mothers in the depressed families reported taking sedatives, tranquilizers, thyroid supplement, diethylstilbestrol, other unspecified hormones, and unspecified pills for weight gain.

Mothers from depressed families also reported more adverse perinatal events, including the use of mid or high forceps ( $P < .05$ ), infant's weak or abnormal cry at birth ( $P < .05$ ), and the infant's not breathing for one minute or more ( $P < .05$ ). They also reported that

Children's Status	Parents' Clinical Status		
	≥1 Parent Depressed	Normal	P
Mean age at developmental landmark, mo			
Able to sit without assistance	6.2	5.7	<.05
Bowel training completed	25.8	21.7	<.01
Day urinary training completed	24.9	20.2	<.001
Night urinary training completed	32.9	23.9	<.01
Health history, No. (%) of children			
Difficult to manage as an infant	2 (1.6)	6 (9.2)	<.05
Convulsions, seizures, epilepsy	11 (7.2)	0 (0.0)	<.01
Operations requiring hospitalization	54 (35.3)	14 (20.9)	<.01

	Parents' Clinical Status	
	≥1 Parent Depressed	Neither Parent Depressed
<b>IQ scores, mean ± SD†</b>		
Vocabulary, WISC-R	107.4 ± 26.8	111.8 ± 24.6
Block design, WISC-R	110.2 ± 24.5	121.6 ± 26.3
PPVT	99.0 ± 14.9	101.8 ± 13.5
<b>School history and performance</b>		
Mean ± SD age began nursery or day care, mo‡	37.6 ± 10.1	46.2 ± 11.6
Special class for math problem, No. (%) of children§	9 (7.0)	0 (0)
Special class for attention problem, No. (%) of children‡	7 (5.7)	0 (0)

\*WISC-R indicates Wechsler Intelligence Scale for Children—Revised; PPVT, Peabody Picture Vocabulary Test.

†P was not significant. ‡P < .01. §P < .05.

their children were less active and strong during the first month ( $P < .05$ ).

### Developmental Landmarks and General Health of Child

The children of depressed parents were described by their mothers to be significantly later in being able to sit without assistance and later in completing bowel training and both day and night urinary training (Table 2). However, the children of normal controls were described by their mothers to have been more difficult to manage as infants.

Reports of convulsions in 11 children all came from depressed families. Six of these seemed to be febrile convulsions and three were isolated seizures following accidental head injuries. Two cases of continuing epilepsy requiring medication were reported, one being idiopathic, while the second was

secondary to an astrocytoma.

Nine (5.9%) of the children of depressed parents were said to have suffered a head injury, and three injuries were serious enough to require hospitalization. Only one child (1.5%) from the normal group suffered a head injury and this was a minor sports accident not requiring hospitalization. While these differences in rates did not reach statistical significance, they are of interest in relation to the findings regarding seizures.

Children of depressed parents were more frequently hospitalized for a wide variety of major and minor surgical procedures; 54 children (35%) from depressed vs 14 children (21%) from normal families were hospitalized for surgical procedures. In both groups, the majority of procedures were relatively routine, eg, tonsillectomies, appendectomies, and grommet insertions.

All three cases of major surgery, resulting from "accidents," occurred in the children of the depressed parents. Two of these episodes involved self-inflicted gunshot wounds, while the third was a below-the-knee amputation due to an automobile accident.

### IQ and School History and Performance

There were no significant differences between the IQs of the children of depressed and normal parents as measured by the Wechsler Intelligence Scale for Children—Revised vocabulary and block-design subscales or by the Peabody Picture Vocabulary Test (Table 3). Discrepancies between vocabulary and block-design scores for each child were also calculated, and these did not differ between groups.

The children of depressed parents were reported to have entered nursery school or day care at an earlier age ( $P < .01$ ). They also had more school problems including special classes for math ( $P < .05$ ) and for attention problems ( $P < .05$ ). Although it is not shown in Table 3 because significance was marginal ( $P < .10$ ), 14 (9.2%) of the children from depressed and only two children (3%) from normal parents were described by educational or health professionals as having learning disabilities. Five of the 14 learning problems in the children of the depressed parents were sufficiently severe to require special education. Neither of the two reported learning problems in the children of the normal controls required treatment or special education and were described as reading comprehension problems.

### Rates of Diagnostic and Statistical Manual, ed 3, Disorders and Suicide Attempt in Children

Information on the child's diagnosis was available independently from the child and from the mother about the child. Table 4 shows the rates of psychiatric disorders in children according to the most conservative requirement that both the mother and the child agree on the presence of a particular psychiatric disorder. In subsequent reports we will present the specific discrepancies between reports of the mother and child regarding psychi-

Table 4.—Rates of Psychiatric Disorder in Children by Parents' Clinical Status\*

DSM-III Diagnosis in Children	Parents' Clinical Status		Relative Risk (P)
	≥1 Parent Depressed	Normal	
Major depression	11.6	1.6	7.3 (<.01)
Attention deficits	1.6	0.9	...
Conduct disorder	6.3	4.5	...
Anxiety disorder	13.4	3.2	4.2 (<.01)
Substance abuse	1.8	1.6	...
Any diagnosis	44.6	20.6	2.2 (<.001)

\*Values are the rates per 100 in children. DSM-III indicates *Diagnostic and Statistical Manual*, ed 3.

atric symptoms<sup>30</sup> and disorders.<sup>31</sup>

The rates of major depression, anxiety disorders, and any diagnosis were significantly increased among the children of depressed parents compared with the children of normal controls. Although it is not shown here, the direction of these findings was similar regardless of whether the informant was the child or the mother.

The relative risk of major depression and any anxiety disorder in the children of depressed parents compared with the children whose parents were not depressed was 7.3 and 4.2, respectively. The relative risk of any diagnosis was lower (2.2).

The children of depressed parents when compared with the children of normal controls reported a history of more suicidal gestures or attempts (ie, 8.6% and 3.3%, respectively;  $P < .05$ ).

### Treatment

The children of depressed parents received treatment for psychiatric or behavioral problems significantly more frequently than did the children of normal controls (39.2% vs 17.9%;  $P < .05$ ). Two children of depressed parents had been placed in a residential treatment facility for behavior problems. In both cases the children had multiple diagnoses, including major depression. Four of the 153 children of depressed parents and none of the 67 children of normal controls were hospitalized for psychiatric disorders. Three of the four hospitalizations were for serious suicide attempts in the children. In all four cases the children met criteria for multiple diagnoses, including major depression and anxiety disorders.

### COMMENT

Developmental history, behavior profile, and symptoms of psychopathology were examined among 220 children (ages, 6 to 23 years) of couples in which neither parent was depressed as compared with couples in which one or both parents were depressed. The parents from both groups were white and were similar in age, social class, and marital status. The findings clearly show that major depression in a parent is associated with several serious health and behavior problems in the children. The risk of major depression, anxiety disorders, other psychiatric disorders, and suicide attempts was significantly greater among the children of depressed parents. Although there were no significant differences in IQ between groups, the children of depressed parents were reported by educational and health professionals to have more learning problems and more frequently required special education classes. The mothers reported that they had experienced more medical problems during pregnancy and labor and that their children had experienced more distress at birth.

The children's problems could be seen early in their developmental and general medical histories. The children of depressed parents had higher rates of injuries, accidents, and convulsive disorders. Although most of the convulsive disorders were transitory and due to febrile episodes, three cases were secondary to accidents, persisted to the time of the interview, and required medication. The generally poorer health of the

children of depressed parents was reflected in their greater frequency of hospitalizations that, in some cases, was related to their psychiatric state, eg, treatment for self-inflicted wounds.

An increase in injuries and accidents among the children of "distressed" parents has been noted by others. In a random sample of 458 mothers from a South London community, Brown and Davidson<sup>32</sup> found an increased risk of accidents that required urgent medical attention among the children of mothers with psychiatric disorders, usually depression. This association could not be explained by the employment status of the mother or the size of the family. Since most accidents occurred while the mother was in the next room, the authors believed that most of the accidents could not be attributed to the lack of parental supervision. The authors suggested that the emotional unavailability and irritability of depressed mothers may produce distressed and accident-prone children.

In a study of accidental injuries among nearly 12 000 preschool children, Bijur<sup>33</sup> found that poor psychological health of the mother was the most powerful predictor of children's injuries. However, the nature of the mothers' psychological problems was unspecified. Similar findings have been reported by others.<sup>34-38</sup>

The increased risk of major depression among children of depressed parents that we observed is consistent with our previous pilot study findings<sup>38</sup> and also with an accumulating body of evidence from studies of children at risk for depression.<sup>12,13,39,40</sup>

The design of the present study does not allow us to determine if genetic factors are involved in the transmission of psychiatric disorders between parents and children, nor does the design permit us to examine the specificity of the findings with regard to major depression. The problems we found could be a reflection of stress in ill families or inadequate parenting among ill mothers and may not be specific to major depression. We do not yet understand the significance of the perinatal and the developmental problems in the children of depressed par-

ents. While there were significant differences between groups, some of the differences, such as reported time for day and night urinary training and for bowel training, may not have clinical significance.<sup>41</sup> Reporting bias may account for some of the problems reported by the mothers. It should be noted, however, that the mothers' clinical status may not account for overreporting. While information was obtained from the mothers, in about 40% of the cases the depressed parent was the father. Moreover, the parents were rarely in an episode of depression when interviewed and information was

also obtained from the children directly.

Clearly, the findings suggest that children of parents with a history of major depression are exposed to more illness and problems in their parents and themselves. These findings have direct clinical implications for children and highlight the importance of the psychiatric status of parents as risk factors for a variety of health problems in their children. Major depression is a highly prevalent disorder in women and somewhat less so in men aged 24 to 35 years<sup>19</sup> and may be increasing.<sup>42</sup> Pediatricians may be able to determine

the vulnerability of the children under their care by direct inquiry into the past and current psychiatric status of the parents as well as the children. The development of structured interviews and specific diagnostic criteria for psychiatric disorders makes such inquiries feasible in pediatric practice.<sup>43</sup>

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