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FAMILIAL FACTORS IN DEPRESSIVE DISORDERS: CHILDREN AT RISK

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The topics of the two plenary sessions for today are concerned with the sociological and with the genetic aspects of psychiatry. The study of familial factors as risk for a psychiatric disorder could be presented in either session. Family studies are useful precisely for their ability to bridge both genetic and environmental risk factors in disease.

While the dichotomy between genes and environment may seem simple (genes are transmitted in the chromosomes received from one's parents and the environment consists of the things to which one is exposed after conception) with an increasingly greater understanding of diseases this dichotomy has become less clear.<sup>1</sup> No disease is determined solely by genes or by environment, nor by any one single cause. Rather than ask whether a disease is caused by genes or environment, one should determine the limits and characteristics of the factors that produce each kind of disease.

In studies of families the observation that certain disorders cluster in families raises the question as to what extent the familial recurrence is due to the repetition of specific gene combinations in families, and to what extent it is due to shared environmental factors. Twin and cross-fostering studies provide the most powerful methods for detecting genetic etiology. Family studies, while less conclusive, can provide a considerable amount of information about a variety of risk factors contributing to the development of a disorder. A study of children is particularly useful as early signs of the disorder, and the factors contributing to their onset, may be detected.

Our interest in the children of depressed parents began over ten years ago when we observed that acutely-ill depressed women, compared with normal nonpsychiatrically-ill women in their neighborhood, were more irritable and resentful of their children, as well as less affectionate and involved with them.<sup>2</sup> Moreover, the children continued to manifest many problems long after their mother's recovery. Because these earlier studies focused on the social and interpersonal relationships of depressed women, the children's problems were not systematically assessed. These studies, however, led to our current interest in genetic-family studies of children of depressed parents. This paper summarizes our preliminary data comparing the offspring (ages 6-18) of probands with major depression to the offspring of normal controls. It differs from many previous studies in that: 1) a matched control proband group is included for comparison purposes; 2) DSM-III diagnoses are made on children; 3) a large sample of children is included; and 4) best estimate diagnoses in children are made blindly with respect to the clinical status of the proband. However, this is a pilot study in that the data are based on parents' reports of their children rather than direct assessment of the children.

We now have under way a large-scale study incorporating direct interviews of these children.

#### METHOD

The subjects studied were the children, ages 6-18, of probands from a family-genetic study of affective disorders in adults. The probands of the children studied were adults (18 years and older) and derive from one of the following groups: severe major depressives (with severity defined as hospitalization) (N=44); mild major depressives (i.e., ambulatory, never hospitalized) (N=89); or a normal never-psychiatrically-ill control group (N=82) drawn from a community sample in New Haven, Connecticut. In this report the results from the severe and mildly ill depressed probands are combined in order to increase the sample size of children. Thus, there were 215 probands. Of the 215, 100 probands had 194 children between the ages of 6-18 years.

The proband groups were white and group matched by age and sex. All of the depressed probands were primary non-bipolar depressives. The diagnostic assessment of the probands was based on RDC criteria following a modified SADS-L interview. The full details of that study, including design, diagnostic procedures, and findings, have been described elsewhere.<sup>3-7</sup>

## SUMMARY

The findings showed:

1. Children of depressives are at increased risk for psychological symptoms, treatment for emotional problems, school problems, suicidal behavior, and DSM-III diagnoses. The magnitude of the risk is increased threefold for any DSM-III diagnosis in the children of depressed probands compared with the children of normal probands.
2. Major Depression is the most common psychiatric disorder in children of depressives, followed by attention deficit and separation anxiety. Multiple diagnoses are common.
3. The risk to children of major depression and of any DSM-III diagnosis increased linearly if both parents were psychiatrically ill than if only one or neither parent had psychiatric illness.
4. The proband's current age, sex, social class, number of children, childhood history of behavioral problems such as stuttering, enuresis, sleepwalking, or separation from their own parents did not increase the risk of major depression or any DSM-III diagnosis in his/her children.
5. The significant predictors of risk to children were early onset of the proband's depression, an increased number of the proband's first degree relatives who were ill with any psychiatric disorder and/or major depression, and if the proband was divorced, separated or widowed.

These findings are provocative and, in future reports, will be explored more fully according to severity and subtype of parental depression, and by timing the onset of disorders in children. The implications of these findings for understanding gene-environment interactions will be examined on the basis of the data reported here, and the most comprehensive data we are now collecting through the direct interviewing of these children and through the study of their first-degree relatives.

This study is presented to illustrate an approach to integrating sociological and genetic factors in the study of psychiatric disorders. It is our conviction that an integrated approach will be the most informative and that systematic studies of biological families will be fruitful.

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