Brief Screening for Family Psychiatric History

The Family History Screen

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Background: Brief screens to collect lifetime family psychiatric history are useful in clinical practice and for identifying potential families for genetic studies.

Methods: The Family History Screen (FHS) collects information on 15 psychiatric disorders and suicidal behavior in informants and their first-degree relatives. Since each question is posed only once about all family members as a group, the administrative time is 5 to 20 minutes, depending on family size and illness. Data on the validity against best-estimate (BE) diagnosis based on independent and blind direct interviews on 289 probands and 305 relatives and test-retest reliability across 15 months in 417 subjects are presented.

Results: Agreement between FHS and BE diagnosis for proband and relative self-report had median sensitivity (SEN) of 67.6 and 71.1 respectively; median specificity (SPC) was 87.6 and 89.4, respectively. Marked decrease in SEN occurred when a single informant (the proband) reported on a relative (median, 37.5); however, median SPC was 95.8. Use of more than 1 informant substantially improved SEN (median, 68.2), with a modest reduction in SPC (median, 86.8). Test-retest reliability across 15 months resulted in a median $k$ of 0.56.

Conclusions: The FHS is a promising brief screen for collecting lifetime psychiatric history on an informant and/or first-degree relatives. Its validity is best demonstrated for major depression, anxiety disorders, substance dependence (alcohol and drug dependence), and suicide attempts. It is not a substitute for more lengthy family history if more detail on diagnosis is required.

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A HISTORY of psychiatric illness in biological relatives is a risk factor for most psychiatric illnesses. Information can be obtained from informants (family history) or by direct interview of each relative (family study). Available family history or family study methods may be too time-consuming for epidemiological studies, clinical use, or genetic research screening. Systematic family history methods are necessary, since some first-degree relatives cannot be interviewed directly because of refusal, death, or cost. There is agreement that, compared with direct interviews, the family history method underreports illness and that more informants can partially correct this problem.

The first systematic family history method, the Family History Method for Research Diagnostic Criteria (FH-RDC), has excellent test-retest reliability and an acceptable level of validity compared with direct interviews. Other methods include the Family Informant Schedule and Criteria, the Family Interview for Genetic Studies, and the Family History Assessment Module. These instruments take 10 to 50 minutes per family member to record lifetime psychiatric history. Only the Family History Assessment Module asks the initial screening questions for 6 diagnoses for all relatives as a group. Other self-report screens, including multiple DSM-III-R* diagnoses, use current but not lifetime diagnoses, and thus are not useful for family history.

The Family History Screen (FHS) originally was developed for screening in genetic linkage studies. It was adapted for a community study of psychiatric disorders and called the Family History Screen for Epidemiologic Studies. It identifies the biological relatives for assessment (pedigree collection) and screens lifetime history of psychiatric disorders of the informant and the biological relatives identified in the pedigree. The early version, administered to a single informant in 77 families and tested
SUBJECTS AND METHODS

DESCRIPTION OF THE FHS

The FHS is administered to a family informant, who reports on himself or herself as well as on other biological relatives. It takes 5 to 20 minutes to administer, depending on the size of the family and the presence of family illness. Information on 15 lifetime psychiatric disorders and suicide attempts is obtained. The pedigree is collected by identifying the proband's immediate biological relatives (biological parents, siblings, and offspring), their names, ages, sex, and whether they are alive. A unique identifying number is assigned to each member (Table 1).

The FHS begins with general questions about psychopathological features, treatment, and impairment, followed by more specific questions about psychopathological features during the course of the entire lifetime of all family members. If the informant answers affirmatively to any question, the interviewer determines specifically which family members had the symptom and records the name and identifying number. Probes are included for inquiring about family members and for helping the informant recall which relatives are involved. Periodically, the interviewer is instructed to remind the informant by naming the relatives. Identifying family members as a group markedly decreases the time required to complete the instrument. However, it may sacrifice quality and lead to loss of information. Information about age of onset is sacrificed as well.

There is at least 1 question for each diagnosis (for major depressive disorder [MDD], there are 3; for mania, panic, conduct, and antisocial personality disorders, 2) that corresponds to the core symptom(s) of the disorder. There are screening questions that probe for the presence of a symptom and subsequently probe to specify which individual(s) exhibits the symptom (eg, “Did anyone on the list feel sad, blue, or depressed for most of the time for 2 days or more? If yes, who was that?”). The screening question serves as a gate for the impairment, duration, and exclusion questions asked only of screen-positive individuals (Figure). For conditions with multiple compound questions, a positive response to any of the screening questions identified a person having that diagnosis. Data can be collected on alcohol dependence, other drug dependence, MDD, mania, panic disorder, generalized anxiety, agoraphobia, simple phobia, social phobia, obsessive-compulsive disorder, psychosis, antisocial personality disorder, separation anxiety, conduct disorder, attention-deficit hyperactive disorder, and suicide attempts or completed suicide. Only data for 8 diagnoses and their relatives were excluded from these analyses because of suicide (n = 7), adoption (n = 6), or partial or unusable data (n = 30). The follow-up rate did not differ by childhood diagnostic group.

Family psychiatric history of first-degree adult family members of the probands (their parents, siblings, and offspring aged ≥ 6 years) was obtained via the FHS collected from the relatives and from the probands at the follow-up. Lifetime psychiatric status of the proband was obtained by direct interview and independently by a separate interview with 1 parent about each proband; the parent also provided FHS data. The psychiatric history of at least 1 other first-degree relative (of each proband) was obtained by direct interview.

Eighteen experienced clinicians completed the diagnostic Schedule for Affective Disorders and Schizophrenia–Lifetime Version. Most of the FHS data was collected at the time of the direct interview or within 1 month (50%) of the interview with the relative. Since the probands were young, they had too few offspring or spouses to include in the analyses.

Eighteen experienced clinicians completed the diagnostic Schedule for Affective Disorders and Schizophrenia interviews after completing training with at least 2 supervised interviews and reaching acceptable reliability with the clinical supervisor. In addition, 80 cases were corated in all possible pairs with the use of probable or definite DSM-III-R criteria. The κ coefficients (SEs) for the major categories were 0.78 (0.09) for MDD, 0.79 (0.20) for panic disorder, 0.65 (0.12) for any anxiety, 0.80 (0.11) for suicide attempts, 0.81 (0.09) for alcohol abuse or dependence, 0.96 (0.03) for other drug abuse or dependence, and 0.80 (0.07) for any psychiatric disorder.

BE DIAGNOSIS

Best-estimates diagnoses served as the criterion standard. To derive BE diagnoses, experienced clinicians (n = 8) not involved in interviewing, who were unaware of the initial diagnostic status of the proband and the FHS results, reviewed all other available information and then assigned a against best-estimate (BE) diagnosis, demonstrated high sensitivity (SEN) and specificity (SPC) for depression and panic disorder and high SPC, but low SEN, for substance abuse with informant self-reports. However, SEN was lower for informants reporting on others. The validity criteria in the original study were based on information from interviews completed on relatives several years before the screen was administered. Thus, it occurred in 2.8% of all families. Within these 8 families, 7 siblings and 7 children could not be accommodated.

SAMPLE

The sample derived from a 15-year follow-up of 439 probands who originally received a childhood diagnosis as depressed (n = 190) or anxious (n = 65) or as healthy control subjects (n = 175). The original sample and follow-up have been described elsewhere. The probands ranged in age from 17 through 33 years (mean ± SD age, 23.3 ± 3.1 years) at follow-up. Of the original sample, 332 probands (76%) were followed up. The total number of probands in the family study sample was 289 of the 332. Forty-three probands and their relatives were excluded from these analyses because of suicide (n = 7), adoption (n = 6), or partial or unusable data (n = 30). The follow-up rate did not differ by childhood diagnostic group. The follow-up interviews were conducted with the interviewers unaware of the original proband diagnosis.

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lifetime DSM-III-R diagnosis to each proband or family member. Using probable or definite DSM-III-R criteria, κ coefficients (SEs) for agreement between clinicians were 0.86 (0.03) for MDD, 0.88 (0.11) for panic disorder, 0.68 (0.06) for any anxiety, 0.80 (0.07) for suicidal behavior or attempts, 0.92 (0.03) for alcohol abuse or dependence, 0.89 (0.03) for other drug abuse or dependence, 0.85 (0.04) for any psychiatric disorder, and 0.80 (0.06) for never mentally ill. The κs for definite diagnosis were similar to those for probable or definite diagnosis.

DATA ANALYSIS

The performance of the FHS in relation to the BE diagnosis was assessed for the following 3 different situations: proband self-report; relative self-reports and probands reporting on these same relatives; and a proband and at least 1 other relative reporting on family members (other than themselves).

The SEN, SPC, positive predictive value (PPV), and negative predictive value (NPV) of the FHS in these specific situations were computed in the standard manner, except when computing SEs for these quantities. Since more than 1 subject per family was included in this study, and consequently the assumption of independence of observations that underlies the computation of SEs in the usual manner may be violated, the software package SUDAAN, which takes into account the lack of independence of observations, was used to compute SEs and 95% confidence intervals for these parameters.

The manner in which the SEN and SPC of proband or relative self-reports and proband reports on relatives varied with demographic characteristics of probands and relatives, such as age and sex as well as relationship to the proband, were investigated using logistic regression analysis as follows: (1) to explore the effects of these characteristics on the SEN of a particular diagnosis, a logistic regression analysis was performed on the sample of individuals who had the specific BE diagnosis, where the dependent variable was considered to be the FHS-positive status of individuals and the independent variables were the demographic and other characteristics of interest; and (2) to explore the effects of these characteristics on the SPC of a particular diagnosis, a logistic regression analysis was performed on the sample of individuals who did not have the specific BE diagnosis, where the dependent variable was considered to be the FHS-negative status of individuals and the independent variables were the demographic and other characteristics of interest.

Formal comparisons of these parameters for relatives reporting on themselves vs a single proband reporting on the same relative were obtained by restricting the sample to only those relatives who had a self-report and a proband report. The SEN and SPC were compared by performing the McNemar test for paired comparisons. Formal comparisons of PPV and NPV, however, are not reported, since not all relatives who have a positive diagnosis on the self-report will have a positive diagnosis on the proband’s report, and not all relatives who have a negative diagnosis on a self-report will have a negative diagnosis on the proband’s report. Since there will be some overlap between both samples, tests for independent samples and tests for paired samples are not applicable.

To assess the effect of multiple informants on the performance of the FHS, the sample was restricted to those subjects who had the proband and at least 1 other relative reporting on the subject. This made it possible to make direct comparisons on the same subject between diagnoses based on the proband’s report and the diagnoses based on combining the proband’s and relative’s reports.

Subjects were classified as having a particular disorder if a diagnosis had been given on the basis of the family history data for the proband or 1 or more of the additional relatives. This classification system is equivalent to the method referred to by epidemiologists as “combining tests in parallel,” which is known to enhance the sensitivity of testing. As noted by Thompson et al, this classification system ensures that the SEN of a diagnosis by multiple informants is at least as good as the SEN of a diagnosis by a single informant. This system also results in the SPC of the diagnosis by multiple informants being as low as or lower than that of the FHS diagnosis by a single informant. Formal tests of hypotheses and estimates of the magnitudes of the difference in SEN and SPC, respectively, between single and multiple informants are derived as follows: the difference in SEN between a single-proband diagnosis and multiple-informant diagnosis is equivalent to the proportion of subjects among those with a BE diagnosis, who received a false-negative diagnosis on the single-informant report but a positive diagnosis on the multiple-informant report. Likewise, the differences in SPC can be shown to be equivalent to the proportion of subjects among those who were classified as not having a BE diagnosis, who were classified as having a true-negative diagnosis on the proband FHS but were classified as having a false-positive diagnosis on the multiple-informant FHS. Formal tests of the hypothesis that there is no difference in these SENs and SPCs are equivalent to results of 1-sided testing that these proportions are 0. The 95% confidence intervals have been derived assuming that this proportion is the parameter of a binomial distribution. We have presented these values as an indicator of the magnitude of these differences in SEN and SPC.

Test-retest reliability of the FHS after 15 months was also calculated using the Cohen κ statistic, which corrects for chance agreement. All criterion BE diagnoses were at the definite level. Since multiple FHS may have been collected within a single family, the analysis was performed by comparing the latest criterion interview against the last collected FHS for that person’s family.

| RESULTS |

PROBAND SELF-REPORTS

This sample included 289 probands with a self-reported FHS; BE diagnoses with a base frequency of less than 5 were excluded from analyses. The SEN ranged from 23.1 (simple phobia) to 86.8 (MDD; median, 67.6). The SPC ranged from 61.3 (any diagnosis) to 95.3 (alcohol dependence; median, 87.6). The PPV ranged from 17.0 (social phobia) to 86.1 (any diagnosis; median, 64.2) (Table 2).

These analyses were rerun excluding the 177 original probands with a diagnosis of childhood depression or anxiety disorders. Since the ill probands were identified patients and had received treatment, detection may...
have been easier and may have inflated the agreement rates. However, their exclusion from the analysis did not change the findings substantially.

Forty-six percent of the probands were female; ages ranged from 17 to 33 years. We tested the effect of probands’ sex and age (divided at the median age of 23 years) on agreement. Probands who were younger than 23 years compared with those who were aged 23 years or older had a significantly lower SPC for any anxiety (74.5 vs 86.3; \( P = .04 \)). No other comparisons of SEN or SPC by diagnosis with probands’ sex or age differed significantly (full data available from the authors on request).

### Relative Self-reports and Proband Reports on Same Relative

Agreement of FHS and BE for relative self-reports were tested (Table 3). These results can be compared with proband self-reports (Table 2) as well as proband family history reports on these same relatives.

From 193 families, 305 relatives (188 parents and 117 full siblings) completed a Family History Screen for Epidemiologic Studies on themselves and had an FHS report about them from a proband informant. The median SEN, SPC, PPV, and NPV for the relative self-reports (71.1, 89.4, 56.9, and 94.6, respectively; Table 3) are in the same range as those for the proband self-reports (67.6, 87.6, 64.2, and 88.4, respectively; Table 2). As expected, the level of agreement is lower for the proband informing on a relative (family history) than for the proband self-report, resulting in significantly lower SEN (median, 37.5) and lower PPV (median, 44.6). However, there was little change in SPC (median, 95.8) and NPV (median, 91.1). The PPV and NPV are shown, although no formal statistics were performed, as discussed above.

Probands reporting on relatives in this sample were 47% female (91/193); ages ranged from 17 to 30 years. Of 188 parents, 148 (79%) were mothers, with ages ranging from 39 to 72 years. Of 117 siblings, 80 (68%) were sisters, with ages ranging from 14 to 40 years. There was no significant difference in SEN for the relative self-reports for age and sex. Relatives aged 30 years or older had significantly higher SPC for MDD (\( P = .03 \)). Looking simultaneously at the separate effects of age and sex of probands and relatives on SEN, there is a trend for ages to be associated with SEN of suicide attempt, with older probands and older relatives rating more accurately (\( P = .06 \) for probands’ age; \( P = .07 \) for relatives’ age).

The SPC for MDD, agoraphobia, and social phobia varied with proband age and sex and relative age as follows. Female probands had significantly greater SPC when reporting on MDD in their relatives (\( P = .01 \)). Older probands had significantly greater SPC when reporting on agoraphobia (\( P = .05 \)) and social phobia (\( P = .04 \)) in their relatives. Reports by probands had greater SPC for social phobia in older (\( \geq 30 \) years) relatives compared with younger relatives (\( P = .04 \)). Agreement did not vary significantly by relationship to proband (full data available from the authors on request).

### Effects of Multiple Informants on FHS Accuracy

The analyses of single vs multiple informants were restricted to families with multiple informants (\( \geq 1 \), \( n = 115 \) with 220 relatives) to ensure that sampling change did not account for findings. Of 115 families, 110 had 2 informants (proband and a relative), and 5 families had 3 or more informants. The figures for single-informant reporting of family history differ slightly between Table 3 and Table 4 because of different samples, but are closely in the same range.

### Table 1. Example of Pedigree Collection

<table>
<thead>
<tr>
<th>Relationship</th>
<th>First Name</th>
<th>Sex</th>
<th>Age, y</th>
<th>Deceased</th>
<th>Subject No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological mother</td>
<td>Mary</td>
<td>F</td>
<td>60</td>
<td>Yes</td>
<td>01</td>
</tr>
<tr>
<td>Biological father</td>
<td>John</td>
<td>M</td>
<td>62</td>
<td>No</td>
<td>02</td>
</tr>
<tr>
<td>Sibling 1</td>
<td>Sarah</td>
<td>F</td>
<td>58</td>
<td>No</td>
<td>03</td>
</tr>
<tr>
<td>Sibling 2</td>
<td>David</td>
<td>M</td>
<td>54</td>
<td>No</td>
<td>04</td>
</tr>
<tr>
<td>Sibling 3</td>
<td>Kathy</td>
<td>F</td>
<td>51</td>
<td>No</td>
<td>05</td>
</tr>
<tr>
<td>Child 1</td>
<td>Pam</td>
<td>F</td>
<td>18</td>
<td>No</td>
<td>06</td>
</tr>
<tr>
<td>Child 2</td>
<td>Don</td>
<td>M</td>
<td>16</td>
<td>No</td>
<td>07</td>
</tr>
</tbody>
</table>

* The following is the text of question 1 of the Family History Screen:

Please tell me the first names and ages of your biological mother and father. Now tell me the names, ages, and sexes of all the children born to your mother (name) and father (name). Please start with the firstborn (the oldest) and include yourself in the list. Now tell me the names of your children, if any. Start with the firstborn (the oldest).

† Includes now or at death.

Sample questions from the Family History Screen for depression. Zero indicates no; 1, yes; and 9, don’t know.

8. Did anyone on the list ever feel sad, blue, or depressed for most of the time for 2 days or more?

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mother</th>
<th>Father</th>
<th>Sibling 1</th>
<th>Sibling 2</th>
<th>Sibling 3</th>
<th>Sibling 4</th>
<th>Sibling 5</th>
<th>Child 1</th>
<th>Child 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td></td>
</tr>
</tbody>
</table>

B. Without including times of physical illness or mourning after a death, did anyone have a period during which they felt sad, blue, or depressed that lasted 2 WEEKS OR MORE?

If no or don’t know, go to question 9.

If yes, ask: A. Who was that? Anyone else? (until no more names are given)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mother</th>
<th>Father</th>
<th>Sibling 1</th>
<th>Sibling 2</th>
<th>Sibling 3</th>
<th>Sibling 4</th>
<th>Sibling 5</th>
<th>Child 1</th>
<th>Child 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
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<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td></td>
</tr>
</tbody>
</table>

9. Did anyone on the list ever have a period of feeling quite tired, having less energy, or not caring about their usual activities?

If no or don’t know, go to note 1.

If yes, ask: C. Who was that? Anyone else? (until no more names are given)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mother</th>
<th>Father</th>
<th>Sibling 1</th>
<th>Sibling 2</th>
<th>Sibling 3</th>
<th>Sibling 4</th>
<th>Sibling 5</th>
<th>Child 1</th>
<th>Child 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
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<td>0 1 9</td>
<td></td>
</tr>
</tbody>
</table>

B. Don’t include times of physical illness or mourning after a death. Other than that, did anyone feel VERY tired MOST of the time, have no energy, or not care about their usual activities, for at least 2 WEEKS?

If no or don’t know, go to note 1.

If yes, ask: C. Who was that? Anyone else? (until no more names are given)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mother</th>
<th>Father</th>
<th>Sibling 1</th>
<th>Sibling 2</th>
<th>Sibling 3</th>
<th>Sibling 4</th>
<th>Sibling 5</th>
<th>Child 1</th>
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<tr>
<td>0 1 9</td>
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<td>0 1 9</td>
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<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td>0 1 9</td>
<td></td>
</tr>
</tbody>
</table>

8. Did anyone on the list ever feel sad, blue, or depressed for most of the time for 2 days or more?

If no or don’t know, go to question 9.

If yes, ask: A. Who was that? Anyone else? (until no more names are given)
The use of more than 1 informant dramatically improved the SEN of the FHS (Table 4). The increase in SEN was statistically significant for all disorders that were examined except agoraphobia (median SEN for 1 informant, 35.2; for multiple informants, 68.2). The increase in SEN with the use of multiple informants was accompanied by a modest but statistically significant decrease in SPC (except for any substance dependence [alcohol or drug], median SPC of 92.8 decreased to 86.8) (Table 4).

The variation of SEN and SPC with type of informant for single informants (where the single informant was a proband) was examined. There was a trend for offspring to give more accurate reports (higher SEN) on parents for any anxiety disorder (P = .08) and any substance abuse (P = .09), compared with the probands’ reports on their siblings. The SEN was not significantly different between probands who were offspring reporting on their parents or who were siblings reporting on their siblings for MDD. In addition, there were no differences in SEN when the proband was an older vs a younger sibling (data available from the authors on request).

### TEST-RETEST RELIABILITY

The test-retest reliability of the FHS, based on self-reports of 417 subjects on 2 occasions (average, 15 months apart) ranged from \( \kappa = 0.30 \) (simple phobia) to 0.74 (substance abuse; median \( \kappa \) was 0.56) (Table 5).
The FHS was developed as a brief screen to collect lifetime history of psychiatric disorders. Agreement between FHS and BE diagnosis was best for the broad categories of any diagnosis, any depression, substance abuse, and suicide attempts and for proband or relative self-reports. Median SPC from self-report was 87.6 for probands and 89.4 for relatives, but median SEN was lower (67.6 for probands and 71.1 for relatives). When SEN is examined by specific disorders for proband and relative self-reports, lowest rates were for simple phobia (probably because of early age of onset) and highest were for MDD. The SEN did not vary with age and sex for proband or relative self-reports, but SPC varied with age for probands for any anxiety and with age of relatives for MDD. (Discrepancies may be attributed to the fact that age of probands ranged from 17-33 years, whereas age of relatives ranged from 14-72 years). As found in other screens, agreement by the screen and BE diagnoses is considerably better for self-reports, whether by proband or relative, than for persons informing on their relatives, although this may vary by disorder.

Consistent with our previous study using the FHS, SEN was markedly decreased when a single informant (in this study, the proband) reported on a relative compared with a relative with multiple informants (median SEN for single informant, 37.5; median SEN for relative self-report, 71.1). However, SPC was not altered and remained high (median SPC for single informant, 95.8; median SPC for relative self-report, 89.4).

In agreement with others, use of more than 1 informant substantially improved SEN (median of 35.2 with 1 informant vs 68.2 with multiple informants), with only a modest reduction in SPC (median 92.8 with 1 informant vs 86.8 with multiple informants). Positive predictive value was generally not affected. There was no significant difference in SEN for the relative self-reports by their age and sex. There was no variation of SEN of a single informant vs 86.8 with multiple informants). Positive predictive value was generally not affected. There was no significant difference in SEN for the relative self-reports by their age and sex. There was no variation of SEN for the relative self-reports by their age and sex.
or better than that for the single-informant screen, whereas the SPC of the multiple-informant screen will be equal to or worse than that for the single-informant screen. Thus, the issue herein is whether we can improve the SEN of the screen with the use of multiple informants while keeping the decrease in SPC at an acceptable level. Our findings show that for these data, the addition of multiple informants dramatically increases the SEN of the screen, ranging from 79% for any diagnosis to 200% for any anxiety disorder. However, the decrease in SPC that accompanied this increase in SEN was modest and ranged from 2% for substance abuse to 29% for any diagnosis. Although the SPC decreases with multiple informants, it is still at a fairly high level for specific disorders of interest, ranging from 72% for any depression to 94% for substance abuse.

The test-retest reliability across the average of 15 months was low to acceptable for most disorders. It is difficult to compare these results with those in published literature, since studies of reliability of family history have reported interrater reliability based on case vignettes or joint interviews or have had short-term test-retest reliability.

Our study has limitations. The sample was still too small to test many of the disorders. Because of the young age of the original proband group at last interview, there were too few minor offspring to include, and relative data were limited to parents and full siblings. Since information on FHS interviews was collected as part of an ongoing family study and depended on the availability of the informant, the time between the FHS and direct interview varied. In screening for multiplex families with large numbers of siblings, the FHS form needs to be extended to accommodate additional family members. Although our results did not generally change when we excluded probands who were a treated sample, the screen will need to be tested in a primary care setting or in a community survey where base rates are low before its operating characteristics in these populations as a lifetime history assessment can be assumed.

The modifications in the instrument and the larger sample size from the initial pilot study resulted in improvement in the SEN for the proband self-report for MDD (67 to 87), suicide attempts (50 to 79), alcohol dependence (22 to 46), and other drug dependence (44 to 61) and little change for any disorder (89 to 84). The SEN for any anxiety disorder decreased from 90 to 68. This could be attributed to the original study’s not including simple or social phobia and these disorders’ having low SEN in these new analyses.

As a family history screen, the FHS with the use of multiple informants is better than or comparable with the reported FH-RDC results for any illness (SEN, 79; SPC, 87) and any affective disorder (SEN, 59; SPC, 88), which also used multiple informants. However, unlike the FH-RDC, the FHS cannot make more fine-tuned distinctions on psychosis, makes no effort to distinguish between affective and psychotic depression in schizophrenia, and does not include information on age of onset.

The comparable results with the use of a modification of the FH-RDC were poorer in studies reported by Kendler et al and Roy et al. We are puzzled as to the reasons, except that the latter study was conducted in a rural area of Ireland where concepts of mental illness and cultural attitudes may decrease reporting of mental illness, or the wording of the US-developed measure may have posed problems. This possibility is increased, since test-retest results in that study were strong, indicating that the problems were in the reporting of the relatives.

There was a trend for offspring to give more accurate reports on parents for anxiety disorders and substance abuse compared with the probands’ reports on the siblings. There was no difference in SEN between when the proband was an older sibling compared with when the proband was a younger sibling. These results are not entirely consistent with the results of Thompson et al, but may be attributed to our probands’ being young (17-33 years) and probands in that study having a far wider age range. Because of the young age of our probands, few were parents or spouses and we could not test this.

The FHS could be used as a first step to screen potential families for high risk, genetic sibpair, or association studies. Our findings are most generalizable to the samples, where base rates are expected to be higher than in the community. If a family is selected for study, then the more expensive and necessary direct interview can take place. If the FHS is used in family genetic studies, as with all other available instruments, family history from an informant will tend to underreport cases. There is little way around this problem except to use multiple informants. Although we would not recommend that a family history be substituted for direct interviews, in many cases a direct interview is not possible. To reduce cost, family members could be asked to report on themselves on the FHS, since the operating characteristics were best for self-reports. The FHS could be shortened by removing diagnoses of less interest (eg, childhood diagnoses in adult samples). If cost allows, use of family history and direct interviews compared with either alone will produce a more accurate measure of the individual’s true psychiatric history. Screening for family psychiatric history is the first step in identifying potential families for genetic studies. However, it is becoming increasingly critical for patient information in clinical research and practice.

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REFERENCES


