Brief Report

Gender Differences in the Prevalence of Somatic Versus Pure Depression: A Replication

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Objective: Using data from the Epidemiologic Catchment Area (ECA) study, the author attempted to replicate the finding of the National Comorbidity Survey that the prevalence of depression associated with somatic symptoms was much higher among women than men.

Method: The author reanalyzed data from the ECA study. He divided respondents into those who met criteria for major depression and exhibited appetite and sleep disturbances and fatigue (somatic depression) and those who met depression criteria but did not exhibit all of these somatic criteria (pure depression).

Results: The reanalysis revealed that the prevalence of somatic depression but not pure depression was much higher among women than men. Somatic depression was associated with high rates of pain; among women, it was associated with high rates of anxiety disorders and chronic dysphoria.

Conclusions: The gender difference in depression may result from a difference in a specific type of depression—anxious somatic depression.

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The higher prevalence of depression among women than men appears to result from a much higher prevalence of a type of depression associated with somatic symptoms (appetite and sleep disturbances and fatigue accompanied by pain and anxiety). Support for this hypothesis comes from studies of the individual criteria of depression that found large gender differences in rates of appetite and sleep disturbances and fatigue but much smaller differences in other criteria of depression, such as psychomotor disturbance, guilt, and loss of interest. These studies were performed on many samples, including the sample of probands (1) and the sample of relatives and control subjects (2) from the National Institute of Mental Health (NIMH) Collaborative Study on the Psychobiology of Depression and the Epidemiologic Catchment Area (ECA) study (3).

A number of research reviews (4, 5) have found that appetite disturbance, sleep disturbance, fatigue, and anxiety never load highly on the endogenous factor reported in factor analytic studies of depressive symptoms. Other criteria of depression often load highly on the endogenous factor. In addition, studies using the Center for Epidemiologic Studies Depression Scale along with other self-report measures found that women were much more likely than men to report high levels of depressive symptoms involving appetite and sleep disturbances, fatigue, pain, and anxiety. Women have not been found to report higher levels of depressive symptoms not greatly associated with these additional symptoms. This result has been found in studies of high school students (6), college students (7), and a multigenerational sample of adults (8).

Finally, research interview data from the National Comorbidity Survey (9), a representative nationwide sample, revealed that women were much more likely than men to report clinical depression associated with appetite and sleep disturbances and fatigue (labeled "somatic depression"). Women were not much more likely than men to report clinical depression not greatly involving these symptoms (labeled "pure depression"). Furthermore, women with somatic depression were more likely than those with pure depression to report an anxiety disorder, to report pain, and retroactively to report onset of depression in early adolescence.

In this article, these analyses are replicated on the other large U.S. survey of psychiatric disorders, the ECA study.

Method

The NIMH ECA study (3) is a survey of psychiatric morbidity in five U.S. communities conducted between 1980 and 1984. Data analyzed in this article are from the noninstitutionalized community sample measured in wave 1 of the study. Data in the study were weighted to compensate for variations in the probabilities of selection, but the analyses presented here are based on unweighted data.

In the ECA, DSM-III diagnoses were based on the NIMH Diagnostic Interview Schedule. The earlier analysis of the National Comorbidity Survey (9) found that use of lifetime or 6-month criteria for diagnoses produced similar results. In order to maximize cell sizes, the lifetime criteria were used in this analysis of the ECA. Respondents were categorized into three depression categories. Those with somatic depression met lifetime criteria for major depression, excluding depression due to psychosis, organicity, or severe grief reaction. They also reported having experienced each of the following symptoms for at least 2 weeks: 1) sleep disturbance (sleeping too much, trouble falling asleep or staying asleep, or waking too early), 2) fatigue, 3) appetite disturbance (loss of appetite, loss of weight without trying, increased eating). (In the Yale subsample of the ECA, a 1-week period was used.) Respondents with pure depression met criteria for major depression (with exclusions) but did not report symptoms in all three of these categories. Nondepressed respondents did not meet lifetime criteria for major depression, including depression attributable to psychosis, organicity, or severe grief reaction.

The first analysis was a two-by-three (gender-by-depression category) chi-square analysis. Follow-up two-by-two (pure/somatic depression-by-presence/absence of additional symptoms) chi-square analyses (Yates corrected) were performed on 1) lifetime prevalence of any anxiety disorder, 2) lifetime prevalence of pain (reports of pain in the head, back, joints, or legs), and 3) lifetime prevalence of chronic dysphoria (reports of experiencing 2 years or more feeling depressed or sad almost all the time). A t test was performed on the age at which symptoms of depression were first exhibited.

Results

As in the earlier analysis of the National Comorbidity Survey, female respondents had twice the prevalence of somatic depression as male respondents (2.8% versus 1.4%) but a much smaller difference in prevalence in pure depression (2.3% versus 1.7%) (overall χ^2=48.30, df=2, p<0.001). Among women, those with somatic depression were more likely than those with pure depression to have had an anxiety disorder (31.4% versus 22.9%) (χ^2=4.52, df=1, p=0.03), to have had pain (60.9% versus 48.6%) (χ^2=6.39, df=1, p=0.01), and to have had chronic depression (49.2% versus 36.8%) (χ^2=8.08, df=1, p=0.004). Men with somatic depression were more likely than those with pure depression to have had pain (48.9% versus 28.6%) (χ^2=8.20, df=1, p=0.004), but they were not more likely to have had an anxiety disorder (39.3% versus 31.9%) (χ^2=1.22, df=1, n.s.) or chronic dysphoria (37.8% versus 33.3%) (χ^2=0.39, df=1, n.s.).

No significant differences between respondents with somatic versus pure depression were found in the age respondents first exhibited depressive symptoms among either women (mean somatic=27.75 years, pure=27.75) (t=0.003, df=549, n.s.) or men (mean somatic=26.64 years, pure=24.72) (t=1.2, df=255, n.s.)

Discussion

This is the fifth sample (the other four are reported in references 6–9) in which the gender difference in depression was found to result primarily from a difference in somatic depression. Several self-report studies (6–8, 10) found measures of limitations placed on women attributable to traditional gender roles to be associated with somatic depression but not pure depression. One of these studies (10) found that self-reports of depression made by mothers were associated with their daughters' reports of pure, but not somatic, depression. The overlap between these results and the factor analytic studies of endogenous depression (4, 5) discussed earlier in this article suggest an intriguing hypothesis: Women and men may exhibit roughly equal rates of endogenous depression (pure depression). Women show higher overall prevalence of depression because they have much higher prevalence of another type of depression, somatic depression, based on psychosocial factors. Hypotheses about the processes by which gender-role limitations lead to symptoms of somatic depression are discussed in detail elsewhere (11).

Future studies should investigate whether somatic depression might better be defined as a disorder (involving chronic dysphoria, anxiety, and somatic symptoms) distinct from major depression or anxiety disorders defined by current criteria. Racial differences in somatic and pure depression should be investigated.

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