Self-reported symptoms of depression in late adolescence: A comparison of black and white females

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Abstract

The prevalence of depressive symptoms from adolescence through young adulthood was examined in 1,146 African-American adolescent girls and 1,075 Caucasian adolescent girls who completed the Center for Epidemiological Studies of Depression scale. Caucasian girls’ scores decreased over time, whereas scores for African-American girls were fairly consistent. Future studies are needed to examine age-specific risk factors in adolescent girls. © 2005 Society for Adolescent Medicine. All rights reserved.

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Depression ranks among the most common mental health problems in adolescent girls, with an estimated 8.3% of adolescents affected [1]. Weissman et al. [2] reported on the perniciousness of early-onset depression and found that depression that begins in adolescence persists, recurs, and often leads to more serious illness in adulthood. Adolescent depression increases the risk for suicide [2,3] and often co-occurs with anxiety, substance abuse, and medical illnesses [4,5].

Health disparities in racial and ethnic groups have been well documented [6]; however, studies of common mental health problems are far fewer [7]. Recent calls to eliminate health disparities require a full understanding of prevalence rates of mental disorders in diverse groups [8]. Once prevalence rates have been documented, studies of factors that might account for differences between minority and nonminority individuals (e.g., clinician bias, access to care, stigmatization, insurance status) can be studied [9].

A review of the literature on adolescent mental health concluded that the prevalence of depression is lower in African-American adolescent girls than in Caucasian adolescent girls [10]. As Franko and Striegel-Moore [11] noted, however, only 5 studies have examined specifically the differences in rates of depression in African-American and Caucasian adolescent girls, and these studies have found either no difference or significantly higher depression scores in African-American girls compared with Caucasian girls.

One potential source of conflicting results arises from comparing mixed age group samples without adjusting for age differences between the ethnic groups. In addition, studies have varied in their use of reporting either mean
scores or percentage of individuals who are over a threshold when considering prevalence rates. Related, it is possible that ethnic groups vary in the average age of onset of a disorder, as has been shown for eating disorders [12]. Therefore the present study compared mean depression scores in a large age-matched cohort of African-American and Caucasian female girls across the adolescent and early adulthood years (ages 16–22 years).

Method

Participants and recruitment

Beginning in 1987, 2,379 girls (1,213 African-American, 1,166 Caucasian) aged 9 and 10 years were enrolled in the 10-year longitudinal National Growth and Health Study (NGHS) at 1 of 3 sites [13]. In 1998, NGHS–Wave II was initiated to study risk factors for eating disorders. For Wave II, all girls who had entered the NGHS at baseline were recruited over a period of 3 years, commencing 1 year after the final NGHS assessment. Staff contacted NGHS participants by telephone and, after obtaining consent, administered a telephone interview [12]. All participants were asked to complete a brief packet of self-report instruments, in which the Center for Epidemiological Studies of Depression scale (CES-D) was included.

Instruments and procedures

The CES-D [14] is a 20-item self-report symptom rating scale used to measure symptoms of depression, with an emphasis on the affective, depressed mood component. Although originally developed for use in adult populations, the psychometric properties of the CES-D have been examined in several studies with adolescents from diverse groups [15–17]. The CES-D was administered in years 8 and 10 and Wave-II in NGHS. In the present report, consistent with Roberts et al. [18], adolescent depression was defined by a CES-D score of 24 or greater, which has been found to maximize the sensitivity and specificity of the CES-D in predicting major depressive disorder in adolescent girls.

Statistics methods

To examine cross-sectional age and ethnic group differences in depression, mixed modeling was performed using the MIXED procedure of SAS, version 8.2 (SAS Institute, Inc., Cary, NC). The analyses were performed using a Toeplitz covariance structure, because this structure had the lowest Akaike information criterion. A random coefficient model, allowing each person to have her own intercept, was fitted. The centered variables were age at last birthday, ethnicity, parental education (a proxy for socioeconomic status), study site, and all possible interaction terms [19]. Because multiple significance tests were performed, a conservative significance level of \( p < 0.001 \) was adopted. To test whether the proportion of girls over the cutoff point of 24 for the CES-D varied between the African-American and Caucasian girls, the method of generalized estimating equations was used.

Results

The sample included in the present study was comprised of 2,221 adolescent girls (1,146 African-American, 1,075 Caucasian), representing 93.36% of the original NGHS cohort.

Table 1 shows the unadjusted means, standard deviations, and percent exceeding cutoff of the CES-D score by age and ethnic group. Significance testing using generalized estimating equations indicated that the percentages above cutoff did not differ significantly between the groups (\( p = 0.069 \)). Regression analysis revealed a significant main effect for age (SE = .24; estimate = −.31; \( p < 0.0001 \)) and a significant age by ethnicity interaction effect (SE = .15; estimate = −.57; \( p < 0.0001 \)). The interaction effect indicates that CES-D scores for Caucasian girls decrease over age, whereas the means are fairly consistent over time for African-American girls. Neither the main effect for ethnic group nor any higher level interactions were significant. (A complete table of all main effects and interactions can be provided on request.)
Discussion

The overall aim of this study was to compare self-reported symptoms of depression in African-American girls and Caucasian girls from adolescence to early adulthood. Results of our analyses showed that age moderated the association between ethnicity and depressive symptoms. This finding may help explain why previous studies have reported mixed results when comparing African-American and Caucasian girls on measures of depression. It is likely that different answers will be found to the question of which group reports greater depression, depending on the age when the comparison is made. For example, in a recent study [20] of African-American and Caucasian girls (mean age, 12 years), more Caucasian than African-American adolescents were found to have full-syndrome depression, consistent with our finding of higher depression symptom scores in Caucasian girls at younger ages.

The moderating effect of age on the relationship between ethnicity and depressive symptoms points to an interesting difference in the developmental trajectory of depression. Whereas for Caucasian girls there was a trend toward decreased depressive symptoms with increasing age, for African-American girls depression symptom scores were similar across age. We propose that different age-specific risk factors may be present for African-American girls compared with Caucasian girls. For example, Caucasian girls, but not African-American girls, experience a significant decrease in body satisfaction subsequent to pubertal development [21,22]. Alternatively, African-American girls may cope better with the changes of adolescence than Caucasian girls do [23]. Future studies need to explore whether the different age-related trends are the result of ethnicity-specific risk or protective factors.

The differences found may be related to a number of proposed explanations for racial and ethnic disparities in other areas of health. Access to and utilization of care, financial constraints, cultural stigmatization of mental health problems, clinician bias, provider preference, and health insurance status are but a few of the potential explanations for the findings in this study [24]. For example, it is possible that compared with African-American girls, Caucasian girls who experience depression may be more likely to receive treatment (i.e., have greater access to care), resulting in a reduction of their depression. The clinical and policy implications of this study indicate that future investigations should examine the potential sources of the observed racial differences to better understand how and why they occur, which would inform both prevention and treatment approaches for diverse groups of adolescent girls.

The limitations of our study include the use of a self-report instrument to measure depressive symptoms and that depression was only measured in middle and late adolescence. It is possible that depressive symptoms peak earlier in black girls than in Caucasian girls, and our data did not enable us to discern this difference, because depression scores were not available in earlier years of NGHS. Further, the available data did not allow us to examine other moderating variables of interest (e.g., substance abuse, maternal depression). Recent studies have suggested that the use of race as a variable in studies can be problematic, because of inconsistencies in the quality of racial data, differences in the definitions and procedures used to collect such data, and the reluctance of individuals to provide information on race and ethnicity [25].

In conclusion, global comparisons between ethnic groups (e.g., Caucasian adolescent girls report more depression than African-American adolescent girls do) may need to be revised to include specific details concerning age, correlates, and means of assessment in order to more accurately depict ethnic differences that may be present in adolescent mental health.

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References


