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Research report

Major depressive disorder in a population of urban,
African-American young adults: prevalence, correlates,
comorbidity and unmet mental health service need

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Abstract

Background: The U.S. Surgeon General recently highlighted the relative dearth of research on the mental health of minority populations in the U.S. The present report describes the prevalence of major depressive disorder (MDD) in an epidemiologically-defined population of 1197, predominately poor, African-American 19–22-year-olds, living in the greater Baltimore, MD metropolitan area. *Method:* The prevalence and correlates of MDD, its comorbidity with other mental and substance disorders, and unmet mental health service need were assessed via a structured clinical interview administered by lay interviewers. *Results:* Using DSM-IV criteria, the overall prevalence of lifetime MDD for the study population was 9.4%, whereas the last year and last month prevalences were 6.2 and 2.7%, respectively. Females were approximately 1.6 times more likely to report a lifetime episode of MDD than males. MDD was highly comorbid with substance disorders. Just under 10% of those who had experienced an episode of MDD within the last year reported receiving mental health specialty services within the last year. *Limitations:* A major limitation was the reliance on a single interview conducted by a lay interviewer as opposed to a comprehensive psychiatric assessment carried out by a highly trained clinician, integrating information on symptoms and functioning from multiple sources. *Conclusions:* The lifetime prevalence of MDD found in the present study suggests that it is a significant mental health problem in the African-American young adults studied, particularly amongst women. Moreover, most episodes of MDD went untreated.

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1. Introduction

Precise estimates of the prevalence and incidence of mental disorders are essential if the limited preventive and treatment mental health resources in the U.S. are to be appropriately allocated. Equally important is an understanding of the extent of unmet mental health services need and the reasons for it. The National Comorbidity Survey (NCS) (Kessler et al., 1994) represents the most recent and comprehensive effort to ascertain the incidence and prevalence of mental disorders and unmet mental health service need in the U.S. The NCS study population ($n=8098$) focused on non-institutionalized 15–54-year-olds in the coterminous 48 states and was drawn to approximate the national population distributions of age, gender, racial/ethnic group, marital status, education, living arrangements, region, and urbanicity. Although providing critical information on the rates of mental disorders and unmet health service need in the U.S. population as a whole, national probability studies, such as the NCS, are less informative when it comes to understanding the mental health needs of sub-groups within the larger U.S. population. This is particularly true for economically disadvantaged, ethnic minority populations living in large urban areas. Indeed, just over 100 African-Americans between the ages of 19–22 were assessed in the NCS and only a fraction of those were from high poverty, urban areas.

The community epidemiological approach employed in the Epidemiologic Catchment Area studies (ECA; Eaton et al., 1981) is more informative in terms of the mental health of ethnic minority populations. The ECA drew its study population from five epidemiologically defined metropolitan areas in the U.S. in 1980–1981 and provided perhaps the most extensive examination of the prevalence, incidence, and correlates of mental disorders in African-Americans living in urban settings to date. Importantly, the ECA findings highlighted the variation in the prevalence of mental disorder as a function of ethnicity and socioeconomic status (SES) (Williams et al., 1992a,b). The ECA data suggest that lower levels of SES increase the risk for mental disorders (Williams et al., 1992b). However, the link between SES and the prevalence of mental disorder varies by the type of disorder and by ethnicity. For example,

whereas the 6-month rate of MDD was unrelated to SES amongst African-American males, it was inversely related for European-Americans. Moreover, and of particular relevance given the topic of the present study, lower SES European-American males had higher rates of MDD and psychiatric disorders, in general, than their African-American counterparts. Relatedly, rates of MDD were lower for African-Americans than European-Americans in the NCS as well (Blazer et al., 1994; Kessler et al., 1994), with the exception of 35–44-year-olds. The National Survey of Black Americans (Neighbors and Jackson, 1996) is the only study other than the ECA to provide important insights into the mental health of the African-American community. Although the NSBA did not include measures of psychiatric disorder, it did assess unmet mental health service need amongst a national probability sample of African-Americans 18 years and older in the continental U.S. from 1979 to 1980. In keeping with the NCS (Kessler et al., 1994), African-Americans tended to underutilize mental health services in the presence of mental health need (Neighbors and Jackson, 1996).

Both the ECA and NSBA were quite informative with regard to the mental health and service utilization patterns of African-Americans. However, there were too few African-Americans in either study to allow for definitive statements to be made about the mental health and service use of a particularly understudied sub-group of African-Americans—urban, economically disadvantaged, young adults. Moreover, from a life course developmental perspective, the gap in the understanding of the mental health of African-Americans in the late adolescent and young adult years is a particularly important one, given the number of unprecedented transitions and developmental challenges that an individual must face during this time (Kellam and Rebok, 1992). These include the transition from school to the workplace and, for some, from the family of origin to the family of procreation. In line with Kellam and Rebok (1992) and life course developmental theory, Miech et al. (1999) report that the transition from adolescence to young adulthood represents the period of highest risk for the emergence of new mental disorders.

Consistent with the above and the Surgeon General's recent call for more research on the mental health of ethnic minorities (U.S. Public Health

Service, 2001), the present study describes the prevalence of major depressive disorder in an epidemiologically-defined population of 1197, predominately poor, African-American 19–22-year-olds, living in the greater Baltimore, MD metropolitan area between 1999 and 2000. The correlates of MDD, its comorbidity with other mental and substance disorders, and unmet mental health service need are also examined.

2. Method

2.1. Participants

Participants included 1197 African-Americans (528 males and 669 females) between the ages of 19 and 22 living in the Baltimore, MD metropolitan area in 1999–2000. These young adults were first assessed at age 6 as part of an evaluation of two school-based, universal preventive interventions targeting early learning and aggression in first and second grade (Kellam and Rebok, 1992) in 19 Baltimore City public schools. The 19 schools were drawn from five geographic areas within the eastern half of the city, which were defined by census tract data and vital statistics obtained from the Baltimore City Planning Office. The five areas varied by ethnicity, type of housing, family structure, income, unemployment, violent crime, suicide and school drop out rates. However, each area was defined so that the population within its borders was relatively homogeneous with respect to each of the above characteristics.

The 1197 participants represent 79.1% of the 1514 African-Americans originally available within these 19 Baltimore City public schools in first grade. These 1514 African-Americans were representative of the entering cohort of African-American first graders in the 19 participating Baltimore City schools in the 1985–1986 and 1986–1987 school years, respectively. Of the original study population of 1514 African-Americans, 37 refused to participate in the age 19–20 follow-up, 25 had died prior to the follow-up as confirmed by a search of the National Death Index and/or an immediate family member or friend, and the remaining young adults either failed to respond to repeated requests for an interview or proved unlocatable during the fielding period.

2.2. Measures

2.2.1. Fall of first grade assessments

First grade assessments were carried out prior to the initiation of the interventions and included intervention condition, free lunch status, standardized achievement scores, and teacher ratings of concentration problems and aggressive and shy behavior.

2.2.2. Age 19–20 follow-up

2.2.2.1. *Composite International Diagnostic Interview-University of Michigan Version (CIDI-UM)*. The CIDI-UM (Kessler et al., 1994), modified to yield Diagnostic and Statistical Manual-IV diagnoses (American Psychiatric Association, 1994), was used to determine the lifetime, past year, and past month occurrence of the following disorders at the age 19–20 follow-up: major depressive disorder (MDD), dysthymic disorder (DD), generalized anxiety disorder (GAD), and substance abuse and dependence disorders. The CIDI-UM was also used to obtain lifetime prevalences of conduct disorder (CD) and antisocial personality disorder (ASP). An additional module was developed to obtain the lifetime prevalence of attention deficit hyperactivity disorder (ADHD). Diagnoses were derived in accordance with DSM-IV criteria using a computerized scoring algorithm. The CIDI-UM is a fully structured psychiatric interview that specifies the exact wording and sequence of questions and provides a complete set of categories for classifying respondents' replies. The CIDI-UM differs from the standard CIDI by placing diagnostic probe questions at the beginning of the interview (to minimize response biases associated with fatigue effects). In the present study, young adult lay interviewers administered the CIDI-UM as part of a larger, standardized interview that was carried out in most cases as part of a telephone interview.

2.2.2.2. *Service Assessment for Children and Adolescents (SACA): Young Adult Report (Horwitz et al., 2001)*. The SACA is a structured interview, designed to obtain information on mental health service utilization. Subscales from the SACA were used at the age 19–20 follow-up to obtain: (1) past and present use of mental health and educational services, including the setting (e.g. outpatient, inpatient, school-

based, primary care, juvenile justice system), (2) the nature, frequency, and duration of the services, and (3) health insurance coverage.

2.2.2.3. Demographic characteristics. The demographic data gathered at the age 19–20 follow-up included current employment status, annual income (and the sources of that income), marital/relationship status, and highest level of education completed.

3. Results

3.1. Analytic plan

The percent prevalence of lifetime, last year, and last 30-days episodes of MDD are presented along with their standard errors. Two-way contingency tables and logistic regression are used to examine the associations between the prevalence of MDD and demographic characteristics and other mental disorders, including antisocial personality disorder, conduct disorder, attention deficit hyperactivity disorder, generalized anxiety disorder, and substance abuse and dependence disorders.

3.2. Preliminary analyses

3.2.1. Equivalence of Baltimore follow-up population with the original study population

No differences were found in terms of intervention condition or free lunch status—used as a proxy for income—between those who participated in the age 19–20 follow-up and those who did not. Those who did participate in the follow-up had significantly lower teacher ratings of aggressive behavior (0.16 standard deviations) and concentration problems (0.24 standard deviation difference) than non-participants, but the magnitude of these differences was quite small. In addition, females were over represented at follow-up (51.8% at grade 1 versus 55.9% at follow-up). Importantly, a χ^2 analysis revealed that the rates of lifetime (LT) and past year (PY) MDD did not vary as a function of first grade intervention condition (control LT MDD, 8.6% vs. intervention, 10.2%; χ^2 (1, 1191)=0.83, $P \leq 0.36$; control PY MDD, 5.7% vs. intervention, 6.9%; χ^2 (1, 1191)=0.80, $P < 0.37$), allowing pre-

sentation of the data for the Baltimore population as a whole.

3.2.2. Prevalence and demographic correlates

Just under 56% (55.7%) of the age 19–20 follow-up participants were female, 52% had less than a high school education, 31.9% had completed high school, and 5.6% were in college or had some college, while the level of education was missing for 0.5%. Some 57.5% reported less than \$5000 in annual income in the year prior to the age 19–20 interview, 14.8%, \$5000–9999, 7.1%, \$10,000–14,999, 3.1%, \$15,000–19,999, 4.1% more than \$19,999, and 13.4% refused to report or stated they did not know their annual income.

Table 1 shows the percentages of the population that qualified for a lifetime, past year, and current (in the past 30 days) diagnosis of MDD by selected demographic characteristics, including gender. Clear absence of a LT MDD diagnosis could not be determined for 19 participants, or 1.6% of the sample. Excluding these cases yielded a lifetime prevalence of 9.4% for MDD in the remaining 1178 cases. Crude (bivariate) odds ratios of MDD with various demographic factors are presented in Table 2. The relative risk of lifetime and past year MDD was significantly higher in females than males (at $P \leq 0.05$). Other demographic factors showed no bivariate relationship to MDD.

3.2.3. Illness course

The overall median age of onset of the first episode of MDD was 16 (range, 5–21), whereas it was 15.5 for males (range, 6–20) and 16 for females (range, 5–21). In terms of the number of lifetime episodes of MDD, the overall median was 2 (range, 1–24), with the median for males, 3 (range, 1–20), and for females, 2 (range, 1–24). With respect to the number of weeks of the longest episode, the overall median was 3 (range, 2–120), whereas the median for males was 4 (range, 2–120) and for females, 2.5 (range, 2–120). Just above 32% (32.4) of the males and 27.5% of the females reported only a single episode of LT MDD, while the remainder in each group reported recurrent MDD, a difference that was not significant between genders (χ^2 (1, 103)=0.26, $P \leq 0.61$). A *t*-test showed no age of onset difference between genders, t (99)=−1.24, $P \leq 0.22$. Non-

Table 1
Prevalence of major depressive disorder across selected demographic variables in the study population

Demographic variables	Major depressive disorder (%)		
	Lifetime	Past year	Past month
<i>Sex</i>			
Male	6.9 (± 1.1)	4.2 (± 0.9)	1.7 (± 0.6)
Female	11.4 (± 1.2)	7.8 (± 1.0)	3.5 (± 0.7)
Total	9.4 (± 0.8)	6.2 (± 0.7)	2.7 (± 0.1)
<i>Education</i>			
Less than high school	8.4	5.5	3.1
High school or equivalent	10.0	6.5	2.3
Vocational/technical/business degree or some college ^a	11.2	7.9	2.3
<i>Current employment</i>			
Full-time	9.7	6.5	2.6
Part-time	9.3	5.3	1.8
Student	12.2	9.6	2.4
Not employed	7.3	5.4	3.6
Seasonal/varies	9.7	5.2	3.5
<i>Last year's income^b</i>			
At or below poverty	9.4	6.7	2.6
>Poverty	12.2	6.0	3.8
<i>Current relationship</i>			
Married/committed relationship	10.4	6.8	2.6
No relationship ^c	7.7	5.5	3.0

^a Includes five participants who had completed college degrees.

^b 1999 Poverty threshold determined at \$8667 by the U.S. Census Bureau, Current Population Survey.

^c Includes participants who were casually dating.

parametric Mann–Whitney *U* showed no difference in number of lifetime MDD episodes between genders, $z = -0.66$, $P < 0.51$; however, the number of weeks of the longest MDD episode was greater for males than females, $t(40) = 2.71$, $P < 0.05$.

3.3. Comorbidity

The comorbidity of LT MDD with other psychiatric disorders is presented for the full sample and by gender in Table 3. Use of the term comorbidity encompasses what Angold et al. (1999) refer to as concurrent comorbidity (two disorders overlap in time) as well as successive comorbidity where two disorders do not overlap in time. As shown in the first column of the table, about two-thirds of all the participants diagnosed with an episode of LT MDD also met the criteria for at least one of the other

disorders in the table at some point in their lives. Over 18% of those diagnosed with LT MDD were also diagnosed with at least three of the other conditions listed in the table, including some type of substance disorder. For this calculation, the nine different substance categories comprising ‘other’ substances were each counted individually. The larger percentages of males with LT MDD (compared to females with LT MDD) who also had each of the other diagnoses in the table reflect the higher base rates of all disorders in the table (except GAD and MDD) in males compared to females.

Table 3 also shows the odds ratio of each disorder in the table with LT MDD for the full sample and by gender. Crude odds ratios are presented for the full sample because only gender predicted LT MDD in the multivariate demographic analysis conducted with the full sample. The odds

Table 2
Odds ratios (or relative risks) of major depressive disorder by demographic factors

Demographic variables	Major depressive episode					
	Lifetime		Past year		Past month	
	OR ^a	(95% CI) ^b	OR ^a	(95% CI) ^b	OR ^a	(95% CI) ^b
<i>Gender</i>						
Male	1.0	–	1.0	–	1.0	–
Female	1.7	(1.1, 2.4)	1.9	(1.1, 3.0)	2.0	(0.9, 4.3)
<i>Education</i>						
Less than high school	0.8	(0.5, 1.3)	0.8	(0.5, 1.4)	1.3	(0.6, 3.0)
High school or equivalent	1.0	–	1.0	–	1.0	–
Vocational/technical or business degree or some college ^c	1.1	(0.7, 2.0)	1.2	(0.6, 2.3)	1.0	(0.3, 3.0)
<i>Current employment</i>						
Full-time	1.0	–	1.0	–	1.0	–
Part-time	1.0	(0.5, 1.7)	0.8	(0.4, 1.6)	0.7	(0.2, 2.2)
Student	1.3	(0.7, 2.3)	1.5	(0.8, 3.0)	0.9	(0.3, 3.0)
Not employed	0.7	(0.4, 1.3)	0.8	(0.4, 1.6)	1.4	(0.6, 3.4)
Seasonal/varies	1.0	(0.5, 2.0)	0.8	(0.3, 2.0)	1.3	(0.4, 4.4)
<i>Last year's income^d</i>						
At or below poverty	1.0	–	1.0	–	1.0	–
>Poverty	1.3	(0.8, 2.2)	0.9	(0.5, 1.7)	1.5	(0.6, 3.5)
<i>Current relationship</i>						
No relationship ^e	1.0	–	1.0	–	1.0	–
Married/committed relationship	1.4	(1.0, 2.1)	1.2	(0.8, 2.1)	0.9	(0.4, 1.8)

^a OR, odds ratio, used as an estimate of relative risk of major depressive disorder for each time period, with the level of the demographic variable in the row. For the variable 'Gender,' the numbers listed in the OR columns are actually relative risks, rather than odds ratios.

^b 95% CI, 95% confidence interval for the odds ratio (relative risk).

^c 'Vocational/technical', vocational or technical degree; 'some college' includes five participants with college degrees.

^d 1999 Poverty threshold determined at \$8667 by the U.S. Census Bureau, Current Population Survey.

^e Includes people who were dating casually.

ratios presented in Table 3 may be interpreted as follows. Participants with an episode of LT MDD were 4.0 times more likely to have a lifetime episode of alcohol dependence than were participants who had not had an episode of LT MDD. This is an estimate of the relative risk (in this example) of alcohol dependence in those with an episode of LT MDD; however, it does not imply whether the two conditions were successive or concurrent. Note that odds ratios for the aggregate number of comorbid disorders in the full sample show that participants with an episode of LT MDD were 3.7 times as likely to have at least one other disorder (of those in the table) than were participants with no history of MDD. (Under 'Aggregate

no. of Disorders', antisocial personality disorder and conduct disorder were considered one diagnosis due to their substantial overlap by definition with each other). Participants with a lifetime episode of MDD were almost three times as likely to have two, three, or more other disorders than participants with no history of MDD. Thus, a lifetime episode of MDD appeared generally associated with increased psychopathology and substance dependence in the study population. Odds ratios were generally comparable across genders (as shown by the overlapping 95% confidence intervals between genders for each comorbid condition). The odds ratio between other substance dependence and major depression was significant in males but not in females; how-

Table 3
Comorbidity of lifetime major depressive disorder with other lifetime DSM-IV diagnoses

Comorbid condition	Lifetime major depressive disorder								
	Full sample			Males ^a			Females ^b		
	% ^c	OR ^d	(95% CI)	% ^c	OR ^d	(95% CI)	% ^c	OR ^d	(95% CI)
<i>Comorbid mental disorder</i>									
Generalized anxiety	9.2	13.3	(5.1, 34.6)	11.1	12.5	(3.2, 49.8)	8.2	14.7	(3.4, 63.5)
Antisocial personality	36.0	2.3	(1.5, 3.5)	63.9	4.2	(2.0, 8.8)	22.7	3.3	(1.7, 6.6)
Conduct disorder	24.3	1.6	(1.0, 2.5)	44.4	2.2	(1.1, 4.4)	14.7	2.4	(1.1, 5.6)
Attention deficit disorder	35.1	5.4	(3.4, 8.3)	58.3	12.2	(5.6, 26.4)	24.0	5.3	(2.7, 10.4)
<i>Comorbid substance disorder</i>									
Alcohol dependence	14.5	4.0	(2.2, 7.4)	27.8	4.9	(2.2, 11.1)	8.1	5.4	(1.7, 17.0)
Alcohol abuse	7.3	0.9	(0.4, 2.0)	13.9	1.1	(0.4, 2.9)	4.1	1.5	(0.4, 5.5)
Other ^c substance dependence	15.5	2.4	(1.4, 4.3)	30.6	3.6	(1.7, 7.8)	8.1	1.4	(0.4, 4.3)
Other ^c substance abuse	6.5	0.9	(0.4, 2.1)	14.7	1.1	(0.4, 3.0)	2.7	1.3	(0.3, 6.3)
Any substance disorder	31.1	1.9	(1.2, 3.0)	55.9	2.9	(1.4, 6.0)	19.4	2.1	(1.0, 4.2)
<i>Aggregate no. of disorders</i>									
1+	65.4	3.7	(2.5, 5.7)	82.9	5.6	(2.2, 14.0)	56.9	5.5	(3.2, 9.6)
2+	36.7	2.9	(1.9, 4.4)	69.4	6.0	(2.8, 12.8)	20.5	3.8	(1.8, 7.7)
3+	18.5	2.8	(1.7, 4.9)	42.9	5.0	(2.3, 10.6)	6.8	4.8	(1.5, 16.0)

^a Odds ratio for males are adjusted for education.

^b Odds ratios for females are adjusted for education, income, and work status.

^c Percent of those with lifetime MDD who were diagnosed with the disorder labeled in the row (also lifetime).

^d OR, odds ratio of MDD with the disorder labeled in the row.

^e ‘Other’ substance refers to non-alcoholic substances, including analgesics, cocaine, heroin, inhalants, marijuana, sedatives, stimulants, tranquilizers, and hallucinogens.

ever, the two odds ratios did not significantly differ from one another as shown by the overlapping confidence intervals.

3.4. Unmet mental health service need

Just under 10% of those diagnosed with a past year episode of MDD reported receiving mental health specialty services (i.e. seeing a psychiatrist, psychologist, or social worker in an out- or inpatient setting) in the last year, whereas 13.5% reported receiving mental health service use broadly defined to include specialty mental health, general medical, religious, and self-help services. Only a small fraction reported seeking help from religious sources. Logistic regression analyses revealed that mental health service use, both mental health specialty and any mental health service use, in the last year did not vary significantly ($P \leq 0.05$) as a function of gender, level of education, level of poverty, the number of previous episodes of MDD, the severity of impairment in daily functioning,

the presence of a comorbid mental or substance disorder, or whether the young adults had health insurance coverage.

4. Discussion

The lifetime prevalence of MDD found in the present study suggests that it is a significant mental health problem in African-American young adults within the age range studied. Importantly, only approximately 10% of the participants diagnosed with MDD within the past year received treatment from a mental health specialist. This may account for the fact that the majority of those reporting a lifetime episode of MDD reported more than one episode. The prevalence of last 30-day MDD found is generally commensurate with the prevalence reported by Blazer et al. (1994) for African-Americans in the 15–24 age range, although the lifetime prevalence was slightly higher in the Baltimore

population for both males and females. The number of African-Americans assessed within the 15–24 age range in the NCS was likely too small ($n=237$) to examine differences in the prevalence of MDD as a function of demographic correlates, which may explain why neither Blazer et al. (1994) nor Kessler and Walters (1998) provide such analyses for African-Americans. Women in the present study were approximately 60% more likely to have experienced a lifetime episode of MDD than men. This is consistent with evidence from the NCS (Kessler and Walters, 1998; Kessler et al., 1994) and the extant literature, which suggests that from puberty on, females are approximately twice as likely to experience an episode of MDD than males (Lewinsohn et al., 1993).

The prevalence of MDD amongst African-Americans in the NCS (Blazer et al., 1994; Kessler et al., 1994), as well as in the present study, was about half that for European-Americans in the NCS between the ages of 15 and 24. Unfortunately, we were not in a position to contrast the two populations (i.e. NCS and Baltimore) in terms of the prevalence of MDD taking into account, or controlling for, sociodemographic characteristics, given there are too few European-American 19–22-year-olds in the NCS with similar sociodemographic characteristics to our Baltimore population. Future epidemiologic studies will need to sample sufficient numbers of European- and African-Americans across the distribution of SES in the U.S. to allow for comparisons between European- and African-Americans in terms of the prevalence of MDD, which take into account sociodemographic characteristics.

Eaton and Harrison (2001) can, however, be drawn upon for a potential explanation for the apparent anomaly in the prevalence of MDD between European- and African-Americans in the NCS (Blazer et al., 1994; Kessler et al., 1994), and between the African-Americans in our Baltimore study population and European-Americans in the NCS between the ages of 15 and 24. Eaton and Harrison (2001) suggest that the discrepancy between aspiration and achievement may be a better predictor of psychiatric illness than SES—with the larger the discrepancy between aspiration and achievement the greater the risk for emotional distress. Perhaps due to the higher rates of racism and/

or discrimination African-Americans report experiencing relative to European-Americans (Kessler et al., 1999), African-Americans may be more likely to believe that their path to educational and occupational success may be limited by institutional racism and discrimination. Accordingly, African-Americans who perceive this to be the case may have more modest aspirations in terms of occupational and educational success than European-Americans. In turn, the discrepancy between aspiration and achievement in such African-Americans may be smaller than in their European-American counterparts. Consequently, such African-Americans may be at less risk for MDD.

With respect to unmet mental health service need, approximately 10% of those with a past year episode of MDD in the Baltimore population reported mental health specialty service use within the last year. In terms of potential explanations for the relatively small percentage of Baltimore study participants with MDD who reported mental health specialty service use, Neighbors et al. (1998) reported that African-Americans may be more likely than European-Americans to look to religious institutions for help with mental health problems. But this did not prove to be the case in the present study. Nor was there any evidence that gender, education, poverty status, the number of previous MDD episodes, the presence of a comorbid mental or substance disorder, or the availability of health insurance predicted mental health service use—specialty or otherwise—for those with a past year episode of MDD.

The high rate of comorbid substance abuse/dependence found in the Baltimore study population is consistent with what Kessler and Walters (1998) report for 15–24-year-olds in the NCS as a whole and has important implications for prevention and treatment. An examination of the age of onset data suggests that MDD may be an antecedent as well as a consequence of substance abuse and dependence, although the trend was for MDD to be the primary versus the secondary disorder, which is also consistent with Kessler and Walters (1998). In terms of preventive intervention efforts aimed at reducing the risk of substance disorders in African-American young adults, it appears that depression may be an important antecedent for such interventions to target. At the very least, a measure of depressive symptoms could be incorporated into

screening batteries designed to select those at risk for substance disorders and who might potentially benefit from an indicated or selective preventive intervention for substance abuse and dependence. These results also support the targeting of substance abuse in preventive interventions aimed at reducing the risk for MDD. Moreover, community screening for depression should be augmented with screens for comorbid substance abuse and dependence. The implications for treatment are similar to those for prevention. The mental health specialist treating a depressed African-American young adult must include in their treatment plan an assessment of substance use and dependence. Even in the case where the substance use played no role in the etiology of the MDD episode, it is likely that comorbid substance disorder may affect treatment response.

Key study limitations include the fact that the determination of the prevalence of MDD and the comorbid disorders was based on a single interview conducted over the phone by a lay interviewer. A comprehensive psychiatric assessment carried out by a highly trained clinician, integrating information on symptoms and functioning from multiple sources, would have been preferable. A second limitation centers on the reliance of lifetime recall for the onset and offset of symptoms and disorder. However, we report last year and last month prevalences for MDD, which should be less subject to the limitations of lifetime recall. A third limitation of the present study is the 20% attrition rate at the time of the follow-up in late adolescence/early adulthood. Nevertheless, few meaningful differences were found in terms of fall of first grade characteristics between those who attrited and those who did not.

To summarize, data were presented on the prevalence, age of onset, course, demographic correlates, and comorbidity of MDD in a population of socioeconomically disadvantaged, African-American young adults living in a large metropolitan area. Key findings included a high rate of comorbidity of MDD with other mental and substance disorders. In addition, only approximately 10% of those with a past year episode of MDD in the study population received treatment from a mental health specialist. The latter should be a serious concern for mental health policy makers.

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References

- Angold, A., Costello, E.J., Erkanli, A., 1999. Comorbidity. *J. Child Psychol. Psychiatry* 40, 57–87.
- American Psychiatric Association, A., 1994. *Diagnosis and Statistical Manual of Mental Disorders*, 4th Edition-Revised. American Psychiatric Association, Washington, DC.
- Blazer, D.G., Kessler, R.C., McGonagle, K.A., Swartz, M.S., 1994. The prevalence and distribution of major depression in a national community sample: The National Comorbidity Survey. *Am. J. Psychiatry* 151, 979–986.
- Eaton, W.W., Harrison, G., 2001. Life chances, life planning, and schizophrenia: a review and interpretation of research on social deprivation. *Int. J. Mental Health* 30, 58–81.
- Eaton, W.W., Regier, D.A., Locke, B.Z., Taube, C.A., 1981. The Epidemiologic Catchment Area Program of the NIMH. *Public Health Rep.* 96, 319–325.
- Horwitz, S.M., Hoagwood, K., Stiffman, A.R., Summerfeld, T., Weisz, J.R., Costello, J., Rost, K., Bean, D., Cottler, L., Leaf, P., Roper, M., Norquist, G., 2001. Measuring youth's use of mental health services: reliability of the SACA—Services Assessment for Children and Adolescents. *Psychiatr. Serv.* 52, 1088–1094.
- Kellam, S.G., Rebok, G.W., 1992. Building developmental and etiological theory through epidemiologically based preventive intervention trials. In: McCord, J., Tremblay, R.E. (Eds.), *Preventing Antisocial Behavior: Interventions from Birth through Adolescence*. Guilford Press, New York, pp. 162–195.
- Kessler, R.C., Mickelson, K.D., Williams, D.R., 1999. The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *J. Health Soc. Behav.* 40, 208–230.
- Kessler, R.C., Walters, E.E., 1998. Epidemiology of DSM-III-R major depression and minor depression among adolescents and young adults in the National Comorbidity Survey. *Depress. Anxiety* 7, 3–14.
- Kessler, R., McGonagle, K., Zhao, S., Nelson, C.B., Hughes, M., Eshleman, S., Wittchen, H., Kendler, K., 1994. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. *Arch. Gen. Psychiatry* 51, 8–19.
- Lewinsohn, P.M., Hops, H., Roberts, R.E., Seeley, J.R., Andrews, J.A., 1993. Adolescent psychopathology, I: prevalence and incidence of depression and other DSM-III-R disorders in high school students. *J. Abnorm. Psychol.* 102, 133–144.
- Miech, R., Caspi, A., Moffitt, T.E., Enter Wright, B.R., Silva, P.A., 1999. Low socioeconomic status and mental disorders: a longitudinal study of selection and causation during young adulthood. *Am. J. Sociol.* 104, 1096–1131.
- Neighbors, H.W., Jackson, J.S., 1996. *Mental Health in Black America*. Sage, Thousand Oaks, CA.

- Neighbors, H.W., Musick, M.A., Williams, D.R., 1998. The African American minister as a source of help for serious personal crises: bridge or barrier to mental health care? *Health Educ. Behav.* 25, 759–777.
- U.S. Public Health Service, D.R., 2001. *Mental Health: Culture, Race, and Ethnicity. A Supplement to Mental Health: A Report of the Surgeon General.* U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, Rockville, MD.
- Williams, D.R., Takeuchi, D.T., Adair, R.K., 1992a. Socioeconomic status and psychiatric disorder among Blacks and Whites. *Soc. Forces* 71, 179–194.
- Williams, D.R., Takeuchi, D.T., Adair, R.K., 1992b. Marital status and psychiatric disorders among Blacks and Whites. *J. Health Soc. Behav.* 33, 140–157.