Black-White Differences in Alcohol Use by Women: Baltimore Survey Findings

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Synopsis ....

Although black women suffer disproportionately from alcohol-related illnesses and causes of death, little is known about the extent to which poorer outcomes are a function of differences in drinking, the use of health services, or some combination of these factors. This study, using interview data obtained in the Baltimore Epidemiologic Catchment Area household survey, compares racial differences in alcohol use and abuse among a sample of 2,100 women.

After controlling for differences in sociodemographic characteristics, black women were found to be at no greater risk than whites for heavy drinking or for suffering from alcohol abuse or dependence. Racial differences, however, were observed in heavy drinking by years of education. A similar percentage of black women and white women who had not completed high school were heavy drinkers, but black women with 12 or more years of education were less likely to be heavy drinkers than whites with comparable education.

These findings raise questions about the extent to which differences in drinking contribute to the poorer alcohol-related health outcomes of black women in Baltimore. Additionally, the finding that education was inversely related to heavy drinking among black women may be helpful in shaping early alcohol abuse intervention and treatment services that target black women.

THIS STUDY INVESTIGATES patterns of alcohol use and abuse among black women in Baltimore, MD. Empirical data on the nature and extent of alcohol problems among black women is limited (1, 2). The available data, however, suggest that alcohol use is of more serious consequence among black women than white women. The most frequently cited data on racial differences in alcohol use are from the 1965 and 1979 national surveys of Adult Drinking Practices (3,4). These data indicate that a larger percentage of black women than white women abstain from drinking, but among women who do drink, a larger percentage of black women are heavy drinkers.

Data analyzed by The Secretary's Task Force on Black and Minority Health (5) provide evidence that black women suffer disproportionately from alcohol-related morbidity and mortality compared with white women. The Task Force found that age-adjusted mortality rates for chronic liver disease and cirrhosis, indicators of prolonged and heavy alcohol use, were twice as high among black women (13.5 per 100,000) as whites (6.9 per 100,000) in 1979–81. The Task Force estimated that among black women younger than 70 years of age 782 excess deaths due to cirrhosis of the liver occurred each year on average during the period from 1979 to 1981. Excess deaths were defined as deaths that would not have occurred if blacks experienced the same age-sex death rates as whites.

Factors contributing to the greater prevalence of alcohol-related illness and death among black women are not well understood. Little is known about the extent to which poorer outcomes are a function of differences in the quantity of alcohol consumed, the years of drinking, the use of health

services, or some combination of these factors. Information on each of these factors is needed to characterize the nature of the problem more precisely and to plan effective interventions. This study seeks to address this need. Based on interview survey responses from 809 black women and 1,291 white women, it provides new information that can aid in the development of policies and services that target the needs of black women and white women with respect to alcohol abuse prevention, intervention, and treatment.

Methods

This study involved a secondary analysis of interview data obtained in the Baltimore Epidemiologic Catchment Area (ECA) household survey, described in detail elsewhere (6). The analyses were designed to test the hypothesis that patterns of alcohol consumption differ for black women and white women. Specific subhypotheses examined were that (a) black women are more likely to be nondrinkers than white women, (b) black women are more likely to be heavy drinkers than white women, and (c) black women are more likely than white women to meet criteria for an alcohol use disorder, as defined by the third edition of the Diagnostic and Statistical Manual (DSM–III) of the American Psychiatric Association. To our knowledge, this is the first study to examine both drinking patterns and the diagnosis of alcohol abuse-dependence within the same population.

The data source. The ECA program was sponsored by the Division of Biometry and Epidemiology of the National Institute of Mental Health (NIMH) and conducted at five sites in the United States, including Baltimore (7). Its broad goals were to estimate the prevalence of specific mental disorders and to investigate patterns of use of mental and physical health services by persons with and without mental disorders. The core of the ECA survey instrument was the NIMH Diagnostic Interview Schedule (DIS), a standardized interview schedule designed to make mental disorder diagnoses according to criteria of the DSM–III. The opportunity to compare data on drinking patterns and alcohol use disorders was possible because the Baltimore survey also included a special supplement of questions on the quantity and frequency of alcohol intake. The questions were administered about 5-10 minutes before the DIS section on alcohol use disorder.

In 1981, ECA survey staff members conducted

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personal interviews with respondents from a representative sample of households in the eastern region of Baltimore City. Households were selected through a multi-stage probability sampling process. Interviews were conducted with 3,481 persons, or 82 percent of the 4,238 designated respondents in the household sample. For nonwhite women, the interview completion rate was 91 percent. Specific procedures used to ensure the quality of the ECA data, such as sampling methodology, data collection and editing, interviewer selection, training, and supervision were discussed in a publication edited by Eaton and Kessler (7).

Alcohol use measures. Alcohol intake was measured using a quantity-frequency (Q–F) scale modeled after the questionnaire items of Straus and Bacon (8) and further developed by Jessor and coworkers (9). The Q–F scale requests information on the amount of alcohol consumed, how often alcohol was consumed in the previous month, and the type of beverage consumed. Baltimore ECA respondents were asked, "During the past month, that is since _____(date)_____, on about how many different days did you drink any alcoholic beverages?" and " On the days that you drink, how many drinks do you have on the average?" Alcoholic beverages were defined as beer, wine, liquor, or anything else with alcohol in it. A drink was defined as a can of beer, a glass of wine, or a shot or glass of liquor.

Information from these questions was used to construct a variable "mean number of drinks per day in the prior month" by spreading the estimated number of drinks in the month over a 30-day period. An estimate of the average amount of alcohol consumed per day was then computed for each respondent by multiplying the number of drinks consumed by an estimate of the alcohol content of the beverage. The Baltimore ECA scor-

Table 1. Demographic and socioeconomic characteristics of the Baltimore ECA study population of women[1] by race

Characteristic	All women		Black women		White women	
	Number[2]	Percent	Number	Percent	Number	Percent
All women 18 years or older	2,100	100	809	100	1,291	100
Age (years):						
18–24	299	14.2	165	20.4	134	10.4
25–44	726	34.6	350	43.3	376	29.1
45–59	349	16.6	138	17.1	211	16.3
60 or older	726	34.6	156	19.3	570	44.2
Education (years):						
0–11	1,175	56.0	459	56.7	717	55.5
12	595	28.3	207	25.6	388	30.1
13 or more	329	15.7	143	17.7	186	14.4
Household income:						
Less than $6,000	597	33.7	319	46.2	278	25.7
$6,000–$14,999	591	33.3	234	33.9	357	32.9
$15,000 or more	586	33.0	137	19.9	449	41.4
Employment:						
Working	715	35.4	289	36.4	426	34.7
Not working	1,306	64.6	505	63.6	801	65.3
Marital status:						
Married	739	35.2	153	18.9	586	45.4
Separated, divorced, widowed	929	44.3	380	47.0	549	42.5
Never married	431	20.5	275	34.0	156	12.1
Household size:						
1 person	413	20.2	131	16.4	282	22.7
2 or more persons	1,627	79.8	668	83.6	959	77.3

[1] Women who reported their racial backgrounds as American Indian, Alaskan Native, Asian and Pacific Islander, or Hispanic were excluded.

[2] Numbers are unweighted; percents are weighted.

ing procedure assumed that each drink contained .50 ounces of absolute alcohol. Additional details on this scale have been published as part of earlier work (10).

Data on alcohol use were analyzed both as a continuous variable—mean number of drinks per day—and a categorical variable, classifying women as either nondrinkers, light, moderate, or heavy drinkers. The drinking groups were defined operationally to coincide with definitions used by Clark and Midanik (4) when comparing results of the 1967 and 1979 national surveys of adult drinking practices. The four categories derived were

1. Nondrinker—0 ounces of absolute alcohol per day

2. Light drinker—0.01—0.21 ounces of absolute alcohol per day

3. Moderate drinker—0.22—0.99 ounces of absolute alcohol per day, and

4. Heavy drinker—1.0 or more ounces of absolute alcohol per day

The presence of alcohol abuse or dependence, referred to as an alcohol use disorder in this paper, was assessed using the DIS interview items. Alcohol abuse was defined according to DSM III criteria as a pattern of pathological alcohol use or impairment in social and occupational functioning due to alcohol use. Alcohol dependence was defined as the presence of either of these criteria accompanied by tolerance or withdrawal. Some of the symptoms of alcohol abuse or dependence measured by the DIS include sustained high-dose drinking (at least 7 drinks on an occasion), family objections to drinking, job or school trouble due to drinking, blackouts while drinking, inability to stop drinking, and liver disease or pancreatitis due to drinking.

Current and life-time alcohol use disorder prevalence rates are presented in this study. Lifetime rates represent the percentage of respondents who ever met symptom criteria for a DIS alcohol disorder. After a disorder was diagnosed as present within a person's lifetime, the recency of the symptoms was determined. As in prior ECA publications, an alcohol use disorder was defined to be currently active if there was evidence of abuse or dependence within the 6 months prior to the interview. Current rates represent the percentage of respondents with symptoms present within the 2-week, 1-month, or 6-month period before the interview.

Data analysis. As a first step in the analysis, racial

Table 2. Overview of patterns of alcohol use among all women and among women drinkers, Baltimore ECA (weighted data, in percentages)

Women	Number	Nondrinker	Light	Moderate	Heavy	Alcohol abuse or dependence in lifetime	Current alcohol abuse or dependence
All blacks.................	788	47.7	34.8	12.5	5.1	6.3	3.1
All whites.................	1,221	39.7	40.6	15.5	4.2	[1]3.0	1.6
Drinkers only:							
Blacks	417	...	66.4	23.8	9.7	...	...
Whites	714	...	67.3	25.7	7.0	...	...

[1] P<.05.

Table 3. Percentages of women in selected drinking groups by race and sociodemographic characteristics (weighted data), Baltimore ECA

Characteristic	Nondrinkers		Heavy drinkers		Alcohol abuse or dependence ever in lifetime		Current alcohol abuse or dependence	
	Black	White	Black	White	Black	White	Black	White
Age (years):								
18–24.................	44.3	26.3	3.5	3.5	4.1	1.6	3.3	1.6
25–44.................	33.9	24.7	6.2	5.2	6.0	6.0	3.4	2.9
45–59.................	57.9	44.3	8.8	4.7	11.7	2.2	3.3	1.2
60 or older	83.1	55.8	0.0	3.3	4.7	1.4	1.2	0.5
Education (years):								
Less than 12..........	53.5	50.9	7.7	4.6	8.5	3.4	3.9	[1]2.2
12	41.6	31.5	2.6	3.7	4.8	2.6	3.0	1.1
13 or more	38.6	21.3	0.8	3.8	2.1	2.6	0.4	0.5
Household income:								
Less than $6,000......	48.8	55.8	7.0	8.1	10.2	[1]5.8	5.5	3.9
$6,000–$14,999	44.1	46.6	6.1	3.3	5.0	3.2	2.4	2.0
$15,000 or more	44.0	26.0	3.5	4.0	4.1	[1]2.1	2.3	[2]0.8
Employment:								
Working	42.4	28.6	3.3	3.6	4.3	2.0	1.3	0.7
Not working..........	51.0	46.5	6.2	4.6	7.7	3.6	4.3	2.1
Marital status:								
Married..............	58.5	37.0	3.8	3.1	3.5	2.0	1.7	1.0
Separated, divorced, widowed..............	47.7	47.0	5.9	5.5	9.8	[2]4.3	5.2	[3]2.6
Never married	41.4	32.9	5.1	5.4	4.7	3.5	1.8	1.4
Household size:								
1 person	57.6	47.7	3.4	5.7	4.9	2.5	2.8	1.6
2 or more persons.....	46.4	38.0	5.3	4.0	6.5	[1]3.1	3.1	1.6

[1]P<.05.   [2]P<.01.   [3]P<.1-0.

differences were assessed in the percentages of nondrinkers, heavy drinkers, or women with a present alcohol use disorder or a disorder at any time in their life. The next phase of the analysis compared patterns of alcohol use after stratifying the population by sociodemographic characteristics (age, education, income, employment, marital status, and household size) identified in previous studies as related to drinking. In this phase of the analysis, alcohol use estimates were weighted to represent the age-sex-race composition of the Baltimore ECA population (11).

Linear and logistic regression models were used to examine the extent to which race was associated

with alcohol use while holding constant and studying associations involving other socio- demographic characteristics. To test hypotheses regarding racial differences in alcohol use, interaction terms for race by each of the sociodemographic characteristics were included in the regression models. The interaction terms were used to assess how race and other sociodemographic variables were associated with alcohol use.

Adjusted percentages were derived by applying the coefficients of the logistic regression equation to distributions of the characteristics in the sample population. The coefficients provide an adjustment factor for differences in drinking resulting from the

Table 4. Regression results: likelihood of nondrinking, heavy drinking, or an alcohol use disorder among women by respondent characteristics

Independent variable	Likelihood of being a nondrinker		Likelihood of being a heavy drinker — All women		Drinkers only		Likelihood of a DIS alcohol use disorder — Within lifetime		Within 6 months of interview	
	Adjusted odds ratio	95 percent CI	Adjusted odds ratio	95 percent CI	Adjusted odds ratio	95 percent CI	Adjusted odds ratio	95 percent CI	Adjusted odds ratio	95 percent CI
Race:										
Black	[1]3.39	1.64–7.00	[2].10	.01–8.7	.12	.01–1.90	1.17	.71–1.90	.95	.48–1.89
White	Referent	...	Referent	...	Referent	...	Referent	...	Referent	...
Age (years):										
18–24	[2].34	.21–.55	1.45	.53–3.93	.71	.26–1.97	1.66	.60–1.53	[2]9.21	2.43–34.9
25–44	[2].32	.23–.45	4.06	2.12–7.74	[3]1.82	.92–3.62	[2]4.94	2.49–9.87	[2]10.80	3.82–30.5
45–59	[2].71	.50–1.01	[2]4.29	2.17–8.55	[2]3.02	1.47–6.27	[2]4.06	1.96–8.41	[1]4.60	1.39–15.33
60 or older	Referent	...	Referent	...	Referent	...	Referent	...	Referent	...
Employment:										
Working	.83	.65–1.05	.77	.45–1.31	.75	.44–1.27	.65	.37–1.12	.48	.21–1.11
Not working.........	Referent	...	Referent	...	Referent	...	Referent	...	Referent	...
Household income:										
Less than $6,000....	1.23	.93–1.62	[1]2.01	1.08–3.77	[2]2.41	1.26–4.60	[3]1.70	.90–3.19	2.52	.94–6.69
$6,000– $14,999	1.20	.95–1.51	1.37	.76–2.48	1.49	.81–2.74	1.18	.65–2.18	2.10	.80–5.48
$15,000 or more	Referent	...	Referent	...	Referent	...	Referent	...	Referent	...
Education (years):										
Less than 12........	[2]1.64	1.23–2.21	1.18	.50–2.81	1.40	.54–3.39	[3]2.-09	.98–4.50	3.10	.90–10.64
12	1.24	.90–1.69	.83	.33–2.08	.90	.36–2.25	1.17	.51–2.25	1.16	.29–4.58
13 or more	Referent	...	Referent	...	Referent	...	Referent	...	Referent	...
Marital status:										
Married.............	.76	.49–1.16	.55	.26–1.17	.60	.28–1.30	.57	.25–1.26	1.30	.38–4.50
Separated-divorced, widowed.........	.71	.45–1.12	1.00	.54–1.84	.96	.50–1.83	1.22	.66–2.25	[1]3.33	1.22–9.02
Never married	Referent	...	Referent	...	Referent	...	Referent	...	Referent	...
Race X education black:										
Less than 12 years ..	N.S.	[1]8.38		.96–74.1	[1]9.36	1.05–84.37		N.S.		N.S.
12 years............	N.S.	4.85		.13–175.3	4.96	.49–51.03		N.S.		N.S.
13 years or more....	N.S.	Referent		...	Referent	...		N.S.		N.S.
Race X age black:										
18–24 years	[1].43	.20–.96	N.S.		N.S.		N.S.		N.S.	
25–44 years	[2].26	.14–.49	N.S.		N.S.		N.S.		N.S.	
45–59 years	[2].29	.15–.57	N.S.		N.S.		N.S.		N.S.	
60 or older	Referent	N.S.	N.S.		N.S.		N.S.		N.S.	
Race X marital status black:										
Married.............	[1]2.28	1.19–4.34	N.S.		N.S.		N.S.		N.S.	
Separated-divorced-widowed..........	1.17	.46–2.15	N.S.		N.S.		N.S.		N.S.	
Never married	Referent	...	N.S.		N.S.		N.S.		N.S.	

[1]$P<.05$ [2]$P<.01$ [3]$P<.10$

NOTE: DIS = National Institute of Mental Health Diagnostic Interview Schedule;

CI = confidence interval; N.S. not statistically significant. Interaction terms that were not statistically significant were dropped from the model.

Table 5. Adjusted percentages and relative odds computed for the significant interaction terms in the regression models, Baltimore ECA

	Nondrinkers (adjusted percent)			Heavy drinkers (adjusted percent)					
				Total population			Drinkers only		
Characteristic	Black women	White women	Odds	Black women	White women	Odds	Black women	White women	Odds
Race X age (years):									
18–24	42.9	29.1	1.8	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
25–44	30.3	28.0	1.1	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
45–59	51.6	46.3	1.2	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
60 or older	83.8	54.8	4.3	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Race X marital status:									
Married...............	65.4	39.1	3.0	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Separated, divorced, widowed	47.9	54.4	.77	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Never married	52.4	45.9	1.3	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Race X education (years):									
Less than 12..........	N.S.	N.S.		4.3	4.9	.88	9.8	9.0	1.1
12	N.S.	N.S.		1.8	3.5	.52	.73	6.0	.12
13 or more	N.S.	N.S.		.45	4.2	.10	.82	6.6	.12

NOTE: NS = not statistically significant.

varying population characteristics of black women and white women. For this study, adjustment variables included age, education, income, marital status, and employment. The adjusted percentages give a hypothetical estimate of the occurrence of an event when the population group characteristics are comparable, whereas the regression statistically controls for the confounding effects of such things as black women being younger on average than white women in the study population.

Results

The study sample included 2,100 women, comprising 60 percent of the 3,481 respondents interviewed for the Baltimore ECA survey. The 106 respondents who reported their racial backgrounds as American Indian, Alaskan Native, Asian and Pacific Islander, or Hispanic, and 1,275 men respondents were excluded from the analysis. Of the 2,100 women remaining in the study sample, 809 (39 percent) were black, and 1,374 (65 percent) were ages 18-59 (table 1). Black women and white women in the study sample differed significantly in their distributions by age, income, education, and marital status. Black women were younger, had fewer years of formal education, and less income. Also, while a similar percentage of black women and white women were separated, divorced, or widowed, considerably fewer black women were married. These findings highlight the need to take into account sociodemographic differences when making comparisons by race.

Overview of drinking patterns. Overall, the drinking patterns of black women and white women were similar (table 2). About 48 percent of the black women and 40 percent of the white women reported no alcohol use in the month prior to the interview. Black women and white women consumed, on average, less than one drink per day (0.72 ± 1.83 ounces and 0.61 ± 1.40 ounces). In addition, the percentage of heavy drinkers among black women and white women also was similar (5 percent versus 4 percent). Examining the data for the subset of women who reported any alcohol use did not alter this finding. Race, however, was associated with a history of a DIS alcohol use disorder. A larger percentage of black women had a history of a DIS alcohol use disorder (6 percent and 3 percent), but not a current alcohol use disorder (3 percent and 2 percent).

Stratifying the population by sociodemographic characteristics suggested racial differences in drinking among subgroups of the population (table 3). Multivariate techniques, used to assess the degree of association between sociodemographic characteristics and drinking, found significant racial differences in the nondrinking and heavy drinking categories.

Nondrinking. The first two columns in table 4 are based on a logistic regression model in which the logit-transformed proportion of nondrinkers was regressed on race and the other sociodemographic variables under study. Racial differences were found in the likelihood of being a nondrinker by

'The finding suggests that explanations other than drinking patterns, such as later detection of symptoms, less effective treatment modalities, or the presence of other illnesses, should be investigated as possible factors that account for racial differences in alcohol-related morbidity and mortality.'

age and marital status. Adjusted estimates, computed for the significant interaction terms, indicate that blacks who were young (ages 18–24), of advanced age (ages 60 and older), or married were more likely to be nondrinkers than whites. Black women in these subgroups were two to four times more likely to be nondrinkers than whites (table 5). Additionally, the regression shows that, for black and white women, nondrinking was positively associated with age and was inversely associated with years of education. Women of 60 and older were more likely to be nondrinkers than younger women, and those with less than 12 years of formal education were more likely to be nondrinkers than those with more education.

Heavy drinking. Data presented in table 3 suggested racial differences in heavy drinking, which were clarified through regression analyses. Racial differences by age were among the most notable findings. The proportion of heavy drinkers appeared to peak at a later age (45–59 years) among black women than white women (25–44 years) and then dropped sharply among both groups. Among black women ages 60 or older, there were no heavy drinkers identified, compared with 3 percent of whites in this age group (Fisher's exact test, $P<0.01$).

The regression on the likelihood of heavy drinking among all women and among the subset of women drinkers (table 4) indicates that the relation between heavy drinking and education differed for black women and white women. Adjusted rates presented in table 5 show that education was inversely related to heavy drinking among black women, but had little relation to heavy drinking among white women. As a consequence, a similar percentage of black women and white women who had not completed high school were heavy drinkers, but black women with 12 or more years of

education were less likely than white women of comparable education to be heavy drinkers.

This study provides evidence that education has a differential impact on heavy drinking among black women and white women. Correlates of heavy drinking identified for black women and white women were ages 25–44 and 45–59 as well as a household income of less than $6,000 a year.

Alcohol abuse or dependence. The regression analysis showed that once other sociodemographic variables were taken into account, race was not associated with a history of an alcohol use disorder or a current alcohol use disorder (table 4). Nonsignificant interaction terms for race by each of the sociodemographic characteristics sustained the impression that these potential determinants of alcohol abuse or dependence did not differ for black women and white women. Thus, the preliminary bivariate analysis that showed a larger percentage of black women with an alcohol use disorder gave an incomplete picture. Once sociodemographic variables such as age or education were included in the regression models, racial differences in the prevalence of alcohol abuse were not detected.

Factors strongly associated with current rates of alcohol abuse or dependence for black women and white women were ages 18–59 years or being separated, divorced, or widowed. Modest, but not statistically significant ($P<.10$) associations were also observed between an alcohol use disorder and not working, not completing high school, having limited household income, or having some combination of these three.

Combined alcohol use or abuse measure. To assess the extent to which the two alcohol use measures were related, a new classification scheme integrated data on the DIS alcohol use disorder with data on the quantity-frequency alcohol use measure. Respondents were assigned to one of four groups—nondrinkers, light to moderate drinkers, heavy drinkers, or DIS alcohol use disorder. All women with a diagnosis of alcohol abuse or dependence were grouped together, irrespective of their classification based on the quantity-frequency measure of alcohol use.

Figure 1 shows the 2,100 Baltimore ECA women classified by the initial quantity-frequency measure and by the combined alcohol use or abuse measure. As is evident from this chart, only one-fourth (24 of 90) of the heavy drinkers met criteria for a current alcohol use disorder. However, more than half (24 of 42) of the women with an alcohol use

Figure 1. Classification of the study population based on the combined alcohol use and abuse measure
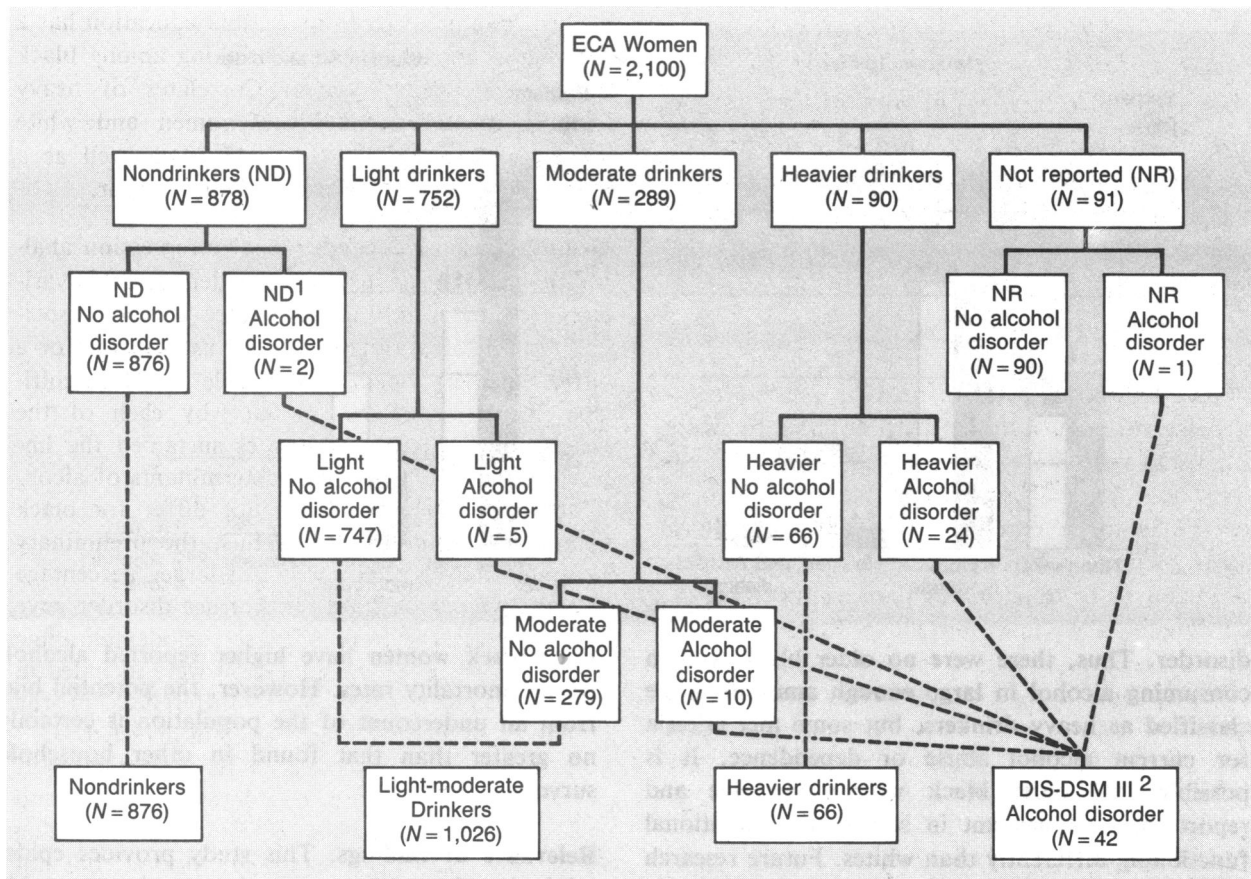
[1]Several explanations beyond errors in coding could account for the finding that two nondrinkers met criteria for a current diagnosis of alcohol abuse or dependence or both. First, a person could have denied alcohol use when the quantity-frequency of alcohol use questions were asked and then changed their response during the detailed discussion of problems related to alcohol use. Second, it is possible that a recovering problem drinker may not have had a drink in the past month, but reported symptoms of alcohol abuse in the past six months.

[2]Current disorder.

NOTE: DIS-DSM III = Diagnostic Interview Schedule according to criteria in the third edition of the Diagnostic and Statistical Manual.

disorder were current heavy drinkers. Figure 2, presenting the combined alcohol use or abuse measure by two summary age groups, shows that about 8 percent of black women and 5 percent of white women ages 18-59 were either heavy drinkers or had an alcohol use disorder. While black and white women ages 18-59 differed only modestly in the percentage of women in each drinking group, racial differences among women ages 60 and older were considerable.

Discussion

This study provides strong evidence that black women and white women in the Baltimore ECA did not differ significantly in the proportion with an alcohol use disorder. However, racial differences were observed in the likelihood of nondrinking and heavy drinking. The differences detected were a result of the joint effects of race with

sociodemographic characteristics of age, education, and marital status. Black women who were ages 18-24, 60 or older, or married were more likely to be non-drinkers than were white women. Among drinkers, women of each race drank on average similar amounts of alcohol, but the likelihood of being a heavy drinker was less for blacks than whites with 12 or more years of education. Of the sociodemographic characteristics examined, only education differed in its association with heavy drinking among black women compared with white women.

Findings regarding racial differences in heavy drinking among women ages 60 or older deserve further investigation. While the largest percentage of heavy drinkers was among black women ages 45-59, no black women ages 60 or older were identified as heavy drinkers. Moreover, about twice as many black women as white women ages 60 or older were diagnosed with a current alcohol use
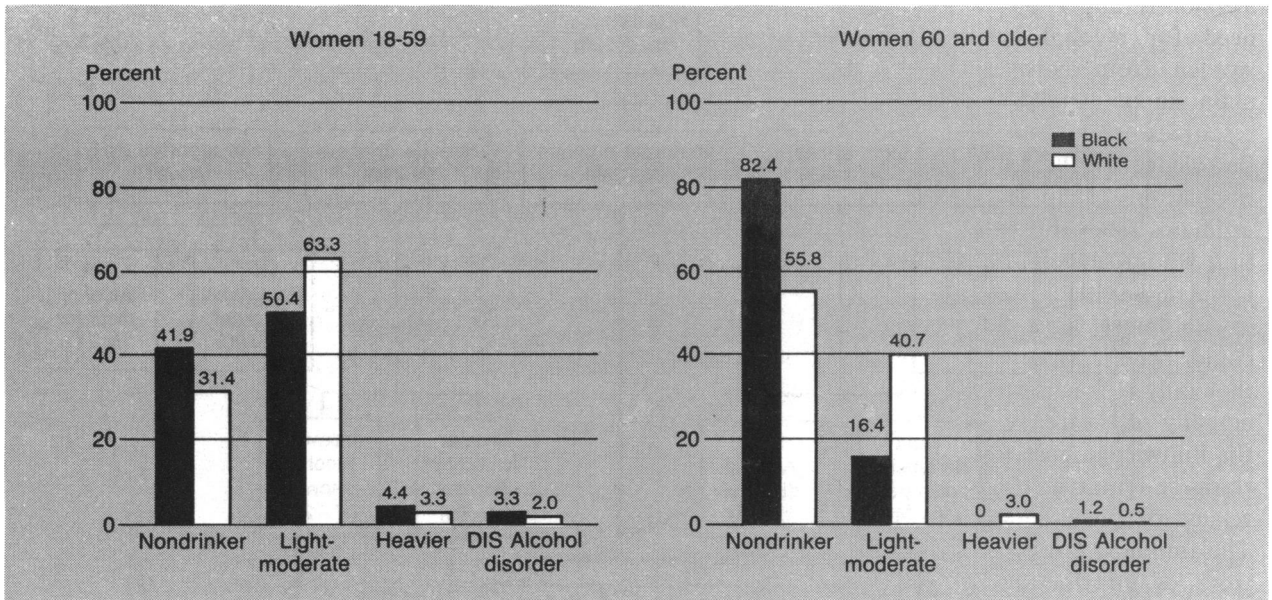
disorder. Thus, there were no older black women consuming alcohol in large enough amounts to be classified as heavy drinkers, but some met criteria for current alcohol abuse or dependence. It is possible that older black women perceive and report their impairment in social or occupational functioning differently than whites. Future research will be required to clarify whether the dramatic drop in heavy drinkers is real or a function of the measurement tools used in this study.

Study limitations. The accuracy of self-reported alcohol use measures has been the subject of long-standing debate and controversy. However, there is a growing body of literature that shows that self-reported alcohol use measures can provide reasonably accurate estimates depending on what is specifically measured and how it is measured (12,13). Moreover, for the purposes of this study, there was no evidence that underreporting varied for black women and white women with a resultant systematic bias in the findings.

The study findings, however, are subject to the limitations of household surveys generally. Population groups that are more transient than others or reside in large numbers in group homes or long-term care facilities are known to be undercounted in household surveys. Thus, there is the potential that the prevalence of abuse or heavy drinking could be underestimated due to these factors. Undercounting due to premature death is also a potential threat to the validity of these findings

since black women have higher reported alcohol-related mortality rates. However, the potential bias from an undercount of the population is certainly no greater than that found in other household surveys.

Relevance of findings. This study provides epidemiologic data that can be used to guide alcohol-related policy and planning efforts that target women. For the last two decades, national survey data have provided support for public perceptions that black women were more likely to be heavy drinkers than white women. The Baltimore ECA findings on heavy drinking differ from earlier national surveys, but they are consistent with findings from the 1984 U.S. National Drinking Survey (14). The finding that black women were at no greater risk of heavy drinking or of having an alcohol use disorder raises questions about the extent to which racial differences in drinking contribute to the vastly different alcohol-related health outcomes of black and white women in Baltimore.

The finding suggests that explanations other than drinking patterns, such as later detection of symptoms, less effective treatment modalities, or the presence of other illnesses, should be investigated as possible factors that account for racial differences in alcohol-related morbidity and mortality. Further analysis of the characteristics of the heavier drinking black women and white women identified in this study may help to reveal differences that affect health outcomes.

Information on the proportion of black women and white women who abuse or are dependent on alcohol is important in deriving estimates of the need for alcohol treatment services that target women from both racial groups. Decisions to maintain or expand financial, physical, or human resources to address a problem depend on our knowledge of the extent of the problem within a population group or geographic area. Applying estimates from this study to the Baltimore population would suggest that at any given point in time about 5,000 black women and 2,400 white women in Baltimore have an alcohol use disorder and could benefit from treatment. Since it is known that only a fraction of the people in need of care actually seek care, this study provides only part of the knowledge base needed to derive health service resource requirements for the treatment of alcohol-related problems among women in Baltimore (15). The findings, however, provide the essential framework of information needed to evaluate the adequacy of decisions about the allocation of resources.

This study identified factors associated with alcohol use that were common to black women and white women and one factor that was uniquely associated with heavy alcohol use among black women. For both racial groups, being ages 25–59 and having less than $6,000 annual income were correlates of heavy drinking. Ages 25–59 and being separated, divorced, or widowed were correlates of alcohol abuse or dependence. Thus, early intervention and treatment efforts should target black women and white women with these characteristics, even if the intervention approach for each racial group differs. The finding that education differed in its relation to heavy drinking among black women has implications for where interventions should occur and the types of interventions that might have greater relative value for black women than white women.

How or why education is associated with heavy drinking among black women is unclear. While it is conceivable that heavier drinking black women are less likely to complete high school, it is also possible that black female high school graduates are less likely to become heavier drinkers than white women. Although much remains to be learned, the findings of this study suggest that programmatic efforts that assist women in completing high school or passing a high school equivalency test may be important components for black women in treatment, even if they should be found to have only marginal value for white women.

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