Suicidality in Older African Americans

Findings From the EPOCH Study

Joan M. Cook, Ph.D., Jane L. Pearson, Ph.D.
Richard Thompson, Ph.D., Betty Smith Black, Ph.D.
Peter V. Rabins, M.D., M.P.H.

The authors examined the current frequency of suicidality and associated characteristics in a sample of 835 African-American older adult residents of six urban public housing developments who consented to participate in an intervention trial of mobile outreach. The frequency of passive and active suicidal ideation was 2.5% and 1.4%, respectively. Characteristics of individuals with both active and passive suicidality included elevated anxiety, social dysfunction, somatic symptoms, low social support, lack of a confidant, and low religiosity. Characteristics of those with passive, but not active, ideation also included older age, lower levels of education, elevated depressive symptoms, poorer cognitive functioning, and having recently discussed emotional problems with a healthcare provider. The characteristics of those reporting active, but not passive, ideation included having a history of mental health treatment and reporting no instrumental support. Multivariate analyses indicated that depression and religiosity were uniquely associated with passive suicidal ideation, and life satisfaction and religiosity were uniquely associated with active suicidal ideation. The authors discuss implications of these findings and offer suggestions for research and clinical practice. (Am J Geriatr Psychiatry 2002; 10:437–446)

Nearly all industrialized countries report that suicide rates rise progressively with age, with the highest rates occurring for men age 75 and older.[1] In 1998, the most recent year for which United States suicide data on race, sex, and age subgroups are available, 4,655 older (65+) white men died by suicide, a rate of 33.1 per 100,000; 132 of their African-American counterparts died by suicide, a rate of 11.7 per 100,000. Among older women, 902 white women died by suicide, which is a rate of 4.85 per 100,000. In contrast, there were fewer than 20 older African-American female suicides, precluding a reliable rate estimate.[2] This pattern of racial differences in older adult suicide rates has been stable for decades. Despite numerous efforts to explain these differences in rates[3,4] and recent calls for increased research on suicide among African Americans by the Surgeon General,[5,6] there remains limited empirical investigation on suicide ideation or completion among older African Americans.

Perhaps because of their small numbers, there are no investigations of risk or protective factors for completed suicide among older African Americans. Instead,

Received January 17, 2002; revised, accepted March 18, 2002. From the University of Pennsylvania, Philadelphia, PA (JMC,RT), the Philadelphia VA Medical Center (JMC,RT), the National Institute of Mental Health (JLP), and The Johns Hopkins University (BSB,PVR). Address correspondence to Dr. Cook, Philadelphia VA Medical Center, (116A), University and Woodland Aves., Philadelphia, PA 19104. e-mail: cook_j@mail.trc.upenn.edu

investigators have pursued research on suicide attempts and ideation (hereafter described as suicidality). Twenty-five years ago, Robins et al.[7] tested 10 hypotheses that might explain suicide risk factors among elderly white and African-American men by interviewing over 200 men age 45 to 64, half of whom had received mental health services. They found no racial differences in associations between suicidality and risk factors, but did find that when patient and non-patient groups were combined, whites were more likely than African Americans to believe that "suicide is sometimes justified."

More recent investigations of suicidality in older individuals have been primarily conducted in psychiatric[8–10] or nursing home[11,12] settings and have not reported frequency of suicidality or risk factors for suicidality by race. However, several studies based in primary care settings have provided data on frequency and characteristics of suicidality for older African Americans. Callahan and associates[13] examined current depression and suicidal ideation in a sample of more than 3,700 older adult patients in an academic primary care setting, where 63% of the sample was African American. Based on a sample weighted for those with elevations on the Center for Epidemiological Studies Depression Scale (CES–D[14]) and then backweighted, the prevalence of recent ideation (within the past week) was estimated at 1%. Among those with elevations on the CES–D, 5% reported suicide ideation in the past week. Severity of functional impairment was not related to suicidality.

Lish and colleagues[15] reported on current suicidal ideation in 703 older general-medical veteran outpatients, 98% of whom were male. African Americans comprised 45% of the sample. Although racial comparisons were not reported for associations between suicidality and risk factors, the prevalence of current suicide ideation was nearly twice as high among whites, at 9.5%, compared with the 5% prevalence among Hispanic, Asian, and African-American subjects combined (96% of whom were African Americans). For the total sample, poor mental and physical health increased the odds for suicidality. Patients with a history of mental health treatment were seven times more likely to have suicidal ideation than those without such histories. Also, those with suicidal ideation made more visits to their doctor in the previous year than did their counterparts.

Using data from the National Institute of Mental Health Epidemiologic Catchment Area study (ECA[16]) Baltimore and Durham–Piedmont sites, Gallo and colleagues[17] examined depressive symptoms in the previous month, including thoughts of death and suicide, among 2,454 white and black subjects age 60 and older. African Americans were more likely to endorse items pertaining to thoughts of death (9.27%–11.21%) than Caucasians (6.04%–6.32%) and were equal to Caucasians in endorsing "wanting to die" (1.35%–1.61%). However, no African Americans endorsed the item pertaining to committing suicide, whereas a small percentage of Caucasians did (0.13%–0.62%). This large, community-based study of older African-American and Caucasian elderly subjects provides the strongest evidence that there may be racial differences in prevalence and types of suicidal ideation. These findings suggest that thoughts pertaining to death, or "passive ideation," are higher among community-residing older African Americans, whereas thoughts pertaining to taking one's own life, or "active ideation," are more prevalent among their Caucasian counterparts.

In sum, with the exception of the work by Gallo and associates,[17] there are very limited data on the rates and type of suicidality among older African Americans, and a significant gap exists in our knowledge of possible risk and protective factors. With regard to risk factors, as noted by the Surgeon General,[5] little is known about rates of mental disorders among older African Americans. Studies conducted among older adults in the community report few differences in total depressive symptoms between African Americans and Caucasians.[17–19] Protective factors against suicide among older African-American adults have not been reported in any published study, except for one examining adult African-American women, which found that seeking emotional and psychological support from friends and family helps safeguard against suicide attempts.[20]

It is critical to understand whether, and why, African-American older adults report different rates of suicidality than Caucasians, who have been more studied. Prevention efforts need to build on empirically-based models of prevalence, risk, and protective factors. The risk factors for suicidality with the strongest evidence are depression; possibly, personality dimensions;[21] and single marital status for both Caucasians and African-American men.[22] Potential risk factors that have not been assessed include physical illness, social isolation, and loneliness.[21] Although these are important leads, these factors provide no clues as to why, given equal rates in symptoms of depression, for example, older African Americans report patterns of suicide ideation dif-

ferent from Caucasians, and they are less likely to die by suicide.

The purpose of this study is to investigate the current frequency of suicidality in an urban sample of older African Americans living in congregate public housing—both frequency of passive and active ideation—and associated risk and protective factors. Previous research on this sample indicated high rates of psychiatric illness[23] but did not examine frequency of suicidality. Among the risk factors examined here were emotional distress, alcohol use, cognitive functioning, healthcare utilization (as a marker of poor health), and a history of psychiatric treatment. Among the protective factors, we examined life satisfaction, social support (both instrumental and emotional), and religiosity.

METHODS

The data obtained for this study came from a larger investigation designed to evaluate the PATCH (Psychogeriatric Assessment and Treatment in City Housing) outreach model of psychiatric assessment and treatment.[24] This larger project, EPOCH (Evaluation of Psychogeriatric Outreach in City Housing), involved a three-phase study of residents in six public housing developments for elderly residents in Baltimore, Maryland: 1) baseline assessment; 2) program implementation; and 3) program evaluation.[23] The purpose of the baseline assessment was to determine the prevalence of psychiatric disorders, physical functioning status, and health status. The study reported here utilizes data from the baseline assessment. Detailed descriptions of the larger study, with full recruitment procedures and response rates, as well as results of the clinical effectiveness trial, have been reported elsewhere.[23,25]

Participants

When the study began, 1,194 individuals resided in the six public housing sites. Seventeen people moved or died before they could be contacted, leaving 1,177 residents who were asked to participate in the study. Of these, 80.3% agreed to participate and gave informed consent. Participants ($n = 945$) were more likely than non-participants ($n = 232$) to be African American ($t = 7.58$; $p < 0.01$), widowed ($t = 20.99$; $p < 0.001$), and to have a telephone in their apartment ($t = 19.42$; $p < 0.001$). Ninety-three percent of the non–African-American nonparticipants were Asian Americans ($n = 14$) who could not be interviewed because they were not English-speaking. When a chi-square analysis was performed excluding this group of Asian Americans, the difference between participants and nonparticipants based on race was no longer significant.

Using a structured interview that required approximately 30 minutes to complete, research assistants collected baseline data from 945 participants. Although these public housing buildings are predominantly for elderly persons, there were a small number of younger residents, who were there because of physical or mental impairments. Because this study focuses on African-American older adults, residents who were younger than age 55 and of other races were excluded from further analyses. Those who had missing data on suicide ideation were also excluded, which resulted in a total of 835 participants for this study.

The resulting sample examined here was 76.9% women, had an average age of 73.1 years (standard deviation [SD]: 8.2; range: 55–96), and had an average of 8.2 years of education (SD: 3.4; range: 0–17). A minority, 38.1% of these residents, had an average monthly income that exceeded $583 (the approximate estimate for poverty level). Only 6.0% were currently employed; 49.0% were retired, and another 25.5% described themselves as disabled.

Measures

Suicidality was measured by four items from the General Health Questionnaire (GHQ[26,27]), a 28-item screen for emotional disorder. The question stem for the GHQ is, "I would like to ask you some questions about how you've been feeling over the past few weeks." The two items representing passive ideation were "Have you felt that life isn't worth living?" and "Have you found yourself wishing you were dead and away from it all?" The two items representing active suicidality were "Have you thought of the possibility that you might do away with yourself?" and "Have you found that the idea of taking your own life kept coming into your mind?" Item responses were 1) Not at all; 2) No more than usual; 3) More than usual; and 4) Much more than usual. If a resident responded with a 1 or a 2 on both of the items for passive or active ideation, they were coded as absent of ideation. If a person endorsed a 3 or a 4 on either item for the passive or active ideation, they were coded as present for ideation. Interviewers who found

a resident to be in urgent need of care consulted with one of the study's psychiatrists by telephone and referred the participant to an appropriate provider.

The GHQ is composed of four subscales: Somatic Symptoms, Anxiety and Insomnia, Social Dysfunction, and Severe Depression. The Somatic Symptom subscale includes items such as "feeling well and in good health," "getting pains in head," and "feeling tightness or pressure in head." The Anxiety subscale contains items such as "losing sleep over worry," "getting edgy and bad-tempered," and "feeling nervous." The Social Dysfunction subscale includes items such as "managing to keep busy and occupied," "feeling capable of making decisions about things," and "playing a useful part in things." Because the four suicidal ideation items were taken from the GHQ Depression scale, a new depression scale excluding these items was constructed (i.e., "thinking of yourself as a worthless person;" "felt that life is entirely hopeless;" and "found at times you couldn't do anything because your nerves were too bad"). Cronbach's alpha for the modified depression scale was 0.31. This is low, primarily because the subscales were calculated on items scored dichotomously (Yes/No split), thus reducing the variance of each scale item. Using the raw items from which the modified Depression subscale was developed, Cronbach's alpha for the Depression subscale was in a higher, more acceptable range (0.68). A previous study of this sample reported a high level of internal consistency for the remaining GHQ subscales of Anxiety, Social Dysfunction, and Somatic Symptoms.[28]

If a resident responded with a 1 or a 2 on any individual GHQ item, they were coded as absent of that symptom (0). If a person endorsed a 3 or a 4 on a GHQ item, they were coded as present for that symptom (1). Examining the means and SDs of the GHQ subscales, the distributions were highly skewed, with mostly "0" responses. We thus dichotomized each GHQ subscale score into any disturbance (score equal to 1 or above) versus no disturbance (score equal to 0).

Alcohol-related problems were assessed with the CAGE,[29,30] a four-item screen for alcohol abuse/dependence often used to identify problem drinkers. Scores range from 0 through 4. Lifetime (ever) and current (past 6 months) drinking status were also assessed. Alcohol-related problems for lifetime drinkers referred to those who reported problems associated with drinking alcohol, as assessed by the CAGE. Current drinkers with alcohol-related problems were defined as those individuals who drank alcohol in the previous 6 months and who ever had problems associated with drinking alcohol. Thus, alcohol-related problems experienced by current drinkers may or may not have been current; but their use of alcohol was current. Again, both lifetime and current CAGE scores were dichotomized. A CAGE score of 2 or above represented problem drinking.[31]

Cognitive functioning was evaluated by means of the Mini-Mental State Exam (MMSE[32]). The MMSE briefly assesses for orientation, short-term memory, constructional capacities, and language. Scores range from 0 through 30, with 1 point assigned to each successfully completed task. Consistency of this scale, as evidenced by test–retest and interrater reliability, are high.[32]

Health services utilization was measured by a number of indicators. Use of healthcare services within the previous 6 months was determined by asking residents how many times they had visited a medical doctor, nurse, clinic, or emergency room, not including times spent overnight. The range of responses was 0 to 96 times. Discussion of mental health issues with healthcare providers during the previous 6 months was assessed by asking residents to indicate Yes or No if, during any of the aforementioned visits, they talked about problems with emotions/nerves or alcohol/drugs. Lifetime use of mental health services was assessed by asking residents to indicate whether or not they ever saw a mental health specialist, such as a therapist, social worker, psychologist, or psychiatric nurse or doctor for problems with their emotions/nerves.

Life satisfaction was assessed with the Life Satisfaction Index (LSI[33]), a 20-item measure of subjective well-being. This scale was developed for use in elderly subjects and was later revised, using a trichotomous scoring method.[34] Scores range from 0 through 40. Internal consistency of the scale, as measured by Cronbach's alpha, was moderately high.[28]

Two dimensions of social support were measured. We assessed instrumental social support by asking whether there was someone to help with daily tasks, such as grocery shopping and house-cleaning. The responses were "Yes," "No," and "I don't need help." Responses of either "Yes" or "I don't need help." were considered indicators of adequate instrumental support. The second dimension of support, presence of a confidant, was assessed by asking if there was one special person with whom they could share their most personal feelings, someone on whom they could depend. "Yes" responses were considered adequate confidant support.

Participants were asked if religious or spiritual beliefs were a source of support and comfort, referred to as "religiosity" for this study. Responses were "Not at all," "A little," and "A great deal." Because more than 90% of respondents reported a great deal of support and comfort from religion, this group was compared with the other two groups ("Not at all" and "A little").

For continuous variables, ANOVAs were conducted comparing the groups of those with no suicidal ideation, passive ideation, and active ideation on the variables of interest. For categorical variables, chi-square analyses were conducted, comparing the groups on the variables of interest. In regression analyses predicting passive and active ideation, all significant risk and demographic predictors were entered as a block first, followed by all significant protective factors as a block, to explore whether protective factors may mitigate the effects of risk factors.

RESULTS

The 835 elderly African-American residents who completed the suicide ideation questions were compared with the 14 who did not complete these questions on the variables of interest, with one exception. Because the suicidality questions were part of the GHQ, and failure to complete them was usually because the GHQ was not completed, it was impossible to compare the groups on GHQ subscale scores. There were few differences between those completing the suicidality questions and those not completing them. Those not completing the questions were older (79.4 years; SD 9.5) than those completing the questions (73.1 years; SD 8.2; $t_{[847]} = 2.79$; $p < 0.01$). They also had far more healthcare visits in the previous 6 months (56.6; SD 49.4 versus 8.2; SD 18.4; $t_{[13]} = 3.06$; $p < 0.005$). This likely reflects the poorer overall functioning of those unable to complete the GHQ.

Prevalence of Active and Passive Suicidal Ideation

Of the 835 respondents, 27 (3.2%) reported any suicidal ideation. This included 21 participants (2.5%) who endorsed current passive ideation and 12 (1.4%) who endorsed active suicidal ideation. Framing the prevalence estimates a different way, 15 (1.7%) reported only passive suicidal ideation, 6 (0.7%) reported both passive and active suicidal ideation, and 6 (0.7%) reported only active suicidal ideation.

Univariate Characteristics of Suicidality

To analyze the risk and protective characteristics of suicidal ideation, the sample was divided into three groups: those with no suicidal ideation, those with passive (but not active) suicidal ideation, and those with active suicidal ideation (which could include passive ideation). We used this approach because only 28.6% of those with passive ideation had active ideation, but half of those with active ideation had passive ideation. Because we had no evidence that active ideation was more or less severe than passive ideation, we did not hypothesize any ordinal comparisons. The results of these analyses are summarized in Table 1.

Reports of any ideation varied with a number of demographic, risk, and protective factors. Relative to those with no ideation, those with either passive or active suicidality were more likely to have anxiety and somatic complaints. They had lower life satisfaction and were less likely to have social support of a confidant and feel supported by their religious or spiritual beliefs. With regard to types of ideation, passive suicidality was associated with older age, less education, more depressive and social dysfunction complaints, poorer cognitive functioning, and having recently discussed emotional problems with a healthcare provider. Active suicidality was associated with lack of instrumental social support and a history of mental health treatment. Those with active suicidal ideation were twice as likely as those with no ideation to have received mental health treatment at some time in their life.

Multivariate Predictors of Suicidality

Because of the likelihood that the factors associated with suicidality were interrelated, we examined the degree to which each uniquely predicted suicidality. Also, because different variables were associated with active and passive suicidality, two multivariate logistic-regression analyses were conducted, one predicting passive suicidality (excluding active) versus no-suicidality, and one predicting active suicidality versus no-suicidality, entering all significant factors found from the univariate analyses. These analyses are presented in Table 2 and Table 3, respectively.

As can be seen in Table 2, when all significant uni-

variate demographic and risk predictors of passive suicidality were entered simultaneously, the logistic regression was significant, with GHQ Depression remaining a significant predictor. The second step, which entered all significant univariate protective predictors, was also significant, with religious support remaining a significant predictor. Both GHQ Depression and Religiosity remained significant predictors of passive suicidality after all variables were entered.

As can be seen in Table 3, when all significant risk predictors of active suicidality were entered simultaneously, the logistic regression was only marginally significant. None of the significant risk factors uniquely predicted active ideation; the only variable that approached unique prediction was history of psychiatric treatment. The second step, which entered protective factors, was significant. Among these protective factors, Life Satisfaction and Religiosity remained significant predictors of active suicidality.

DISCUSSION

Knowledge of the risk and protective factors of suicidality should guide efforts in prevention and the development of effective and appropriately targeted services. Since the non-Caucasian portion of the older-adult population in the United States is expected to virtually double[35] and comprise approximately 11.8% of the population,[36] the finding that 3.2% of these African-American elders reported current suicidal ideation indicates that more needs to be known about what factors might be amenable to intervention.

The 3.2% of residents with any ideation reported here is lower than that reported by Lish et al.,[15] but higher than the Callahan et al. study.[13] These differences may be due to the high proportion of women in this sample or differences in the wording of suicidal ideation items. Previous research on ideation among older African Americans has been based primarily on men[15] or

TABLE 1. Univariate characteristics of suicidal ideation

Characteristics	No Ideation ($n = 808$)	Passive Ideation ($n = 15$)	Active Ideation ($n = 12$)	Statistics
Demographics				
Age, years	73.0 (8.2)[a]	78.5 (6.7)[b]	72.7 (8.4)	$F_{[2, 832]} = 3.21$*
Employment (% disabled)	25.0%	40.0%	41.7%	$\chi^2_{[2]} = 3.42$
Years of education	8.3 (3.3)[a]	6.3 (4.3)[b]	9.3 (2.5)[a]	$F_{[2, 832]} = 3.09$*
Marital status (% widowed)	51.7%	46.7%	58.3%	$\chi^2_{[2]} = 0.36$
Sex (% female)	76.7%	80.0%	83.3%	$\chi^2_{[2]} = 0.37$
Monthly income (% over $583)	38.3%	46.7%	16.7%	$\chi^2_{[2]} = 2.82$
Risk Factors				
Mental Health				
GHQ Depression# (% elevated)	9.5%[a]	73.3%[b]	25.0%[a]	$\chi^2_{[2]} = 64.14$***
GHQ Anxiety (% elevated)	25.2%[a]	100.0%[b]	58.3%[c]	$\chi^2_{[2]} = 47.87$***
GHQ Social Dysfunction (% elevated)	48.0%[a]	86.7%[b]	75.0%	$\chi^2_{[2]} = 12.11$**
GHQ Somatic Symptoms (% elevated)	34.4%[a]	100.0%[b]	66.7%[b]	$\chi^2_{[2]} = 32.37$***
CAGE Total current (% elevated)	24.8%	26.7%	45.5%	$\chi^2_{[2]} = 2.49$
CAGE Total lifetime (% elevated)	29.6%	33.3%	18.2%	$\chi^2_{[2]} = 0.78$
Cognitive Status				
MMSE score	23.5 (4.4)[a]	20.3 (5.0)[b]	25.18 (4.1)[a]	$F_{[2, 829]} = 4.88$**
Health System Use				
Number of recent healthcare visits	8.2 (18.4)	10.1 (24.2)	6.8 (4.8)	$F_{[2, 829]} = 0.12$
Discussed emotions (%)	17.7%[a]	42.9%[b]	25.0%	$\chi^2_{[1]} = 6.22$*
Ever had mental health care (%)	14.2%[a]	20.0%	41.7%[b]	$\chi^2_{[1]} = 7.42$*
Protective Factors				
Life Satisfaction	27.3 (6.9)[a]	19.3 (7.3)[b]	16.0 (5.8)[b]	$F_{[2, 822]} = 25.50$***
Social Support of Confidant	91.1%[a]	73.3%[b]	66.7%[b]	$\chi^2_{[1]} = 13.29$**
Instrumental Social Support	80.3%[a]	86.7%	50.0%[b]	$\chi^2_{[1]} = 7.22$*
Religiosity	91.2%[a]	66.7%[b]	66.7%[b]	$\chi^2_{[1]} = 18.10$***

Note: Values are mean (standard deviation) unless otherwise specified.
GHQ: General Health Questionnaire; CAGE: Ewing & Rouse's four-question alcoholism screening test; MMSE: Mini-Mental State Exam.
Within rows, means with differing superscripts are different according to least-significant-differences post-hoc tests.
Does not include suicidality items.
* $p<0.05$; ** $p<0.01$; *** $p<0.001$.

TABLE 2. Multivariate logistic-regression analysis of predictors of passive suicidal ideation

Variable	β	Standard Error β	Wald χ^2
Step 1			
Constant	–4.08	4.00	1.04
Age	0.05	0.04	1.83
Education	–0.04	0.09	0.19
GHQ Depression#	–1.42	0.63	4.93*
GHQ Anxiety	–9.62	42.47	0.05
GHQ Social Dysfunction	–0.15	0.84	0.03
GHQ Somatic Symptoms	–9.06	44.04	0.04
MMSE score	–0.05	0.07	0.33
Discussed emotions	–0.34	0.60	1.04
Step 2			
Constant	–3.20	4.67	0.47
Age	0.05	0.04	1.47
Education	–0.05	0.09	0.31
GHQ Depression#	–1.33	0.67	3.88*
GHQ Anxiety	–9.82	41.39	0.06
GHQ Social Dysfunction	0.34	0.89	0.14
GHQ Somatic Symptoms	–8.90	43.04	0.04
MMSE score	–0.03	0.08	0.14
Discussed emotions	–0.76	0.66	1.34
Life Satisfaction	–0.06	0.04	1.85
Social Support of Confidant	0.04	0.82	0.01
Religiosity	1.65	0.83	3.94*

Note: GHQ: General Health Questionnaire; MMSE: Mini-Mental State Exam.

Within rows, means with differing superscripts are different according to least-significant-differences post-hoc tests. For all measures, df was 1.

Does not include suicidality items.

* $p<0.05$; ** $p<0.01$; *** $p<0.001$.

TABLE 3. Multivariate logistic-regression analysis of predictors of active suicidal ideation

Variable	β	Standard Error β	Wald χ^2
Step 1			
Constant	–1.60	1.11	2.06
GHQ Anxiety	–0.78	0.67	1.36
GHQ Somatic Symptoms	–0.70	0.69	1.02
Ever had mental health care	–1.01	0.64	2.46
Step 2			
Constant	0.50	1.78	0.08
GHQ Anxiety	0.24	0.24	1.00
GHQ Somatic Symptoms	0.35	0.77	0.21
Ever had mental health care	–1.24	0.71	3.08
Life Satisfaction	–0.19	0.05	11.98***
Social Support of Confidant	–0.94	1.00	0.87
Instrumental Social Support	1.09	0.73	2.26
Religiosity	1.84	0.79	5.36*

Note: GHQ: General Health Questionnaire.

For all measures, df was 1.

Step 1: $\chi^2_{[3]}=7.0$, $p=0.07$; Step 2: block $\chi^2_{[4]}=26.4$, $p<0.001$; Step 2 model: $\chi^2_{[7]}=33.4$, $p<0.001$.

* $p<0.05$; *** $p<0.001$.

on samples with nearly equal proportions of men and women.[17] Given the limited information on prevalence and our inability to examine gender differences, we cannot say whether differences in prevalence rates are related to sex differences. Although the specific wording of ideation items also varies across studies, this study population may be at greater risk for suicidality than other community samples. In the Gallo et al. study,[17] about 1 in 10 older African Americans "thought a lot about death—their own, someone else's, or death in general" in the past month. It could be argued that the higher prevalence of these thoughts are not specific to suicidality, but rather could reflect the experience of losing a family member or friend, or worries about failing health. In the current study, passive ideation was focused on one's own death and resulted in a prevalence of 2.5% in the previous 2 weeks. The second "passive" item assessed in the Gallo et al. study that may be more comparable to the present study item, "a period of 2 or more weeks when you felt like you wanted to die" had a prevalence of about 1.4% among African Americans. The "active" ideation item in the Gallo et al. study, "felt so low that I thought of committing suicide," was not endorsed by any African Americans. In contrast, 1.4% of the older African Americans in this EPOCH sample endorsed active suicidality.

Consistent with previous suicide research on elderly subjects conducted primarily on Caucasian samples,[21] the most salient risk factor for passive suicidal ideation found in this sample was depression. Some of this may reflect the fact that suicidal ideation is one symptom of major depression. However, the failure of depression to predict active suicidal ideation is curious. The measure of depression used here is a weak one, with only modest internal consistency. This results, in part, from the necessary removal of the four suicide items from the GHQ Depression subscale. The potential effects of this could be that depression is an even greater indicator of passive ideation than identified here and that, if more fully measured and entered into the regression equation predicting passive ideation, it might cancel out the effects of anxiety. Also, if more fully/accurately assessed, depression might be an indicator for active ideation.

In this study, Life Satisfaction was significantly related to active ideation. Previous research with this sample found that life satisfaction was highly related to social dysfunction and depression.[8] Perhaps the

relationship between active ideation and depression is, in part, masked because of the wording of the GHQ item of rating "how you are feeling in the past few weeks." Furthermore, Life Satisfaction may be picking up on the relationship between active ideation and long-term depressed mood. Thus, the associations between active ideation and Life Satisfaction and Previous Treatment with a mental health professional may reflect long-standing impairment and disability related to more chronic mental illness that could include depression.

Not reported in previous work was the finding that anxiety was also associated with passive suicide ideation.[37] Although much of this association appears to overlap with depression, the association of anxiety with suicidal ideation is worthy of further investigation. With regard to other psychiatric comorbidities in this sample, the rates of alcohol problems were markedly higher than those of the general older-adult population and those of older African Americans living independently in urban settings, in particular.[23,38] However, problems with alcohol use, either current or past, did not predict either passive or active suicidal ideation. This is consistent with the literature, in that the presence of substance abuse in late-life suicide is infrequent.[39]

In uncontrolled analyses, cognitive functioning was related to passive but not active ideation. This may be due, in part, to the role of education. In this sample, passive ideation was also related to lower education. Empirical evidence suggests that individuals with fewer years of education (8th grade and below) could appear more impaired cognitively on the MMSE than they truly are.[40] Thus, the lack of education may be deflating their MMSE scores. Another interpretation of these findings could be that those with more cognitive impairment might still be able to wish themselves dead, but would have fewer executive skills to consider a suicide plan.

Among the variables associated with less suicidality, more Social Support and Religiosity were consistent with earlier theories of racial differences in suicide. In fact, Religiosity remained uniquely negatively associated with both passive and active suicidal ideation in the multivariate analyses. It is also notable that more than 90% of this predominantly older female sample also reported that they obtained a great deal of support and comfort from religion. Baker[3] has suggested that among the protective factors against suicide for African-American elderly persons are the greater number of and varied roles in the family, community, and church, as well as the support of an extended social support network. Social support as a significant protective factor for African-American women has also been noted by Nisbet.[20]

Passive ideation was associated with having recently discussed emotional problems with a healthcare provider, whereas active ideation was associated with a lifetime history of specifically mental health treatment. Passive ideation may reflect more acute or less specifically psychiatric issues, whereas active ideation may reflect more severe or long-standing mental health issues.

The method used to assess suicidality is critical for assessing/modeling risk and protective factors. Among older adult participants in a double blind, placebo-controlled study of maintenance therapies for depression, Szanto et al.[9] found that the distinction between those with active and passive ideation was minimal and challenged the clinical usefulness of making the distinction. The results of the present study, along with those of Gallo and his associates,[17] suggest that active and passive ideation have different correlates and thus may be separate dimensions, at least for community-residing African-American elderly persons. Ethnographic approaches are needed to better understand the meaning and context of thoughts about death and taking one's own life among African-American older adults.

Clinical implications of these findings are limited by the dearth of knowledge about effective interventions to reduce suicidality among minority elders. DeVries and Gallagher-Thompson[41] have elaborated on how cognitive therapy can be applied to older adults with suicidal ideation. Guidelines for the assessment and treatment of suicidality in older adults in the primary care setting have also been described,[42] and would be important to consider, given that a predictor of passive ideation was having recently discussed emotional problems with a healthcare provider. However, until the results of a multi-site trial that includes approximately 25% African Americans, which aims at reducing suicidality and depression using these guidelines, are known,[43] the most effective methods of reducing suicide can only be extrapolated from studies of non-minority groups. It is clear that mentally ill elderly persons, in general, are less likely to receive needed physical and mental health services than are younger persons.[44] In fact, over half of elderly public housing residents in need of psychiatric care go untreated.[45] Black and colleagues[46] suggest that informal mental health care provided by clergy or other significant community work-

ers might be more acceptable and beneficial to these older African Americans.

Among the limitations of this study is its cross-sectional design. This rules out the ability to test causal directions of possible risk and protective factors. Although the use of a community-based sample avoids referral or self-selection biases from clinic-based samples or those recruited through advertisements, it may be limited to providing information only on that particular geographic area. The elderly subjects in this sample lived in large, inner-city, high-rise public housing developments; most lived alone, with limited financial resources. These participants may have been unique in a number of ways, and, thus, the findings may not be generalizable to older African Americans in the community at large (i.e., more highly educated, more financially secure, living with family/friends).

An important limitation of this study is also its necessarily exploratory nature. Given the dearth of information regarding predictors of suicidal ideation in elderly African-American subjects, it was important to explore a large number of possible predictors. Although this approach increases the risk of Type I error, at the exploratory stage, the alternative risk of rejecting a possible predictor of suicidality seemed large; this is especially true, given the potential unreliability of measurement of many of the predictors examined in the study. Future investigations should be designed with this in mind, and more comprehensive assessments of the risk and protective factors noted in this study are in order. In such a rigorous investigation, alpha-correction would be appropriate.

With regard to data collection methods, these data were obtained via structured interviews and thus are based on participants' self-report. The accuracy of the suicidal information may have been dependent, in part, on cognitive abilities, trust, and willingness to reveal sensitive material. One of the most important limitations of this work is the small sample size of elderly subjects with active or passive ideation. The relatively low rates of suicidality can limit the power to find statistically significant predictors. Lastly, for the measures of active and passive ideation, the response "No more than usual" was coded as absent of ideation. There is a possibility of misclassification introduced with this, such that those with chronic suicidal ideation may have been classified as absent of ideation if they chose this response.

In conclusion, this study adds to the limited knowledge-base about current frequency of suicidality among African-American elderly subjects and whether active and passive suicide ideation as separate constructs are useful in this population. Importantly, this study found that, similar to studies examining predominantly Caucasian elderly subjects, depressive symptoms were related to passive ideation. Anxiety symptoms were also found to be associated with passive ideation. This study provided preliminary evidence that the theorized protective factors of social support and religiosity were related to the absence of suicide ideation. However, manipulation of these putative risk and protective factors are needed to determine their actual potency for reducing suicidality. Efforts to increase the proportion of older African Americans in interventions designed to prevent or treat suicidality are sorely needed.

The views presented here are those of the authors and do not necessarily represent those of the National Institute of Mental Health or the U.S. Department of Health and Human Services.

This research was supported by grants MH 42412, MH 48673, and MH P50 43703 from the National Institute of Mental Health, Bethesda, MD.

References

1. Pearson JL, Conwell Y: Suicide in late life: challenges and opportunities for research. Int Psychogeriatr 1995; 7:131–136
2. Centers for Disease Control and Prevention: *http://webapp.cdc.gov/sasweb/ncipc/mortrate.html* (December 27, 2001)
3. Baker FM: Suicide among ethnic elders, in Suicide and Depression in Late Life: Critical Issues in Treatment, Research, and Public Policy. Edited by Kennedy GJ. New York, Wiley, 1996, pp 51–79
4. Group for the Advancement of Psychiatry: Suicide and ethnicity in the United States. (Report #128). New York, Brunner/Mazel, 1989
5. U.S. Department of Health and Human Services: Mental Health: Culture, Race, and Ethnicity. A Supplement to Mental Health: Report of the Surgeon General. Rockville, MD, U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, 2001
6. U.S. Public Health Service: The Surgeon General's Call to Action to Prevent Suicide. Washington, DC, Dept. of Health and Human Services, 1999
7. Robins LN, West PA, Murphy GE: The high rate of suicide in older white men: a study testing ten hypotheses. Soc Psychiatry 1977; 12:1–20

8. Szanto K, Reynolds CF III, Conwell Y, et al: High levels of hopelessness persist in geriatric patients with remitted depression and a history of attempted suicide. J Am Geriatr Soc 1998; 46:1401–1406
9. Szanto K, Reynolds CF III, Frank E, et al: Suicide in elderly depressed patients: is active vs. passive suicidal ideation a clinically valid distinction? Am J Geriatr Psychiatry 1996; 4:197–207
10. Zweig RA, Hinrichsen GA: Factors associated with suicide attempts by depressed older adults: a prospective study. Am J Psychiatry 1993; 150:1687–1692
11. Osgood NJ, Brant BA: Suicidal behavior in long-term care facilities. Suicide Life Threat Behav 1990; 20:113–122
12. Uncapher H, Levy ML, Skoloda T, et al: Suicidal thoughts in male nursing home residents. Annals of Long-Term Care 1998; 6:301–308
13. Callahan CM, Hendrie HC, Nienaber NA, et al: Suicidal ideation among older primary care patients. J Am Geriatr Soc 1996; 44:1205–1209
14. Radloff LS: The CES–D: a self-report depression scale for research in the general population. Applied Psychological Measurement 1977; 1:385–401
15. Lish JD, Zimmerman M, Farber NJ, et al: Suicide screening in a primary care setting at a Veterans Affairs Medical Center. Psychosomatics 1996; 37:413–424
16. Regier DA, Myers JK, Kramer M, et al: The NIMH Epidemiologic Catchment Area (ECA) Program: historical context, major objectives, and study population characteristics. Arch Gen Psychiatry 1984; 41:934–941
17. Gallo JJ, Cooper-Patrick L, Lesikar S: Depressive symptoms of whites and African Americans age 60 years and older. J Gerontol: Psychol Sci Soc Sci 1998; 53:277–286
18. Blazer DG, Landerman LR, Hays JC, et al: Symptoms of depression among community-dwelling elderly African-American and White older adults. Psychol Med 1998; 28:1311–1320
19. Husaini BA: Predictors of depression among the elderly: racial differences over time. Am J Orthopsychiatry 1997; 67:48–58
20. Nisbet PA: Protective factors for suicidal black females. Suicide Life Threat Behav 1996; 26:325–341
21. Conwell Y: Suicide in late life, in Suicide Prevention Now: Linking Research and Practice. Atlanta, GA, Department of Health and Human Services, Center for Disease Control and Prevention, 2001
22. Luoma JB, Pearson JL: Suicide and marital status in the United States, 1991–1996: is widowhood a risk factor? Am J Public Health (in press)
23. Rabins PV, Black B, German P, et al: The prevalence of psychiatric disorder in elderly residents of public housing. J Gerontol: Med Sci 1996; 51A:319–324
24. Roca RP, Storer DJ, Robbins BM, et al: Psychogeriatric assessment and treatment in urban public housing. Hosp Community Psychiatry 1990; 8:916–920
25. Rabins PV, Black BS, Roca R, et al: Effectiveness of a nurse-based outreach program for identifying and treating psychiatric illness in the elderly. JAMA 2000; 283:2802–2809
26. Goldberg DP: The Detection of Psychiatric Illness by Questionnaire. London, UK, Oxford University Press, 1972
27. Goldberg DP, Hillier VF: A scaled version of the General Health Questionnaire. Psychol Med 1979; 9:139–145
28. Cook JM, Black BS, Rabins PV, et al: Life satisfaction and symptoms of mental disorder among older African-American public housing residents. Journal of Clinical Geropsychology 2000; 6: 1–14
29. Ewing JA, Rouse BA: Identifying the hidden alcoholic. Presented at the 29th International Congress on Alcohol and Drug Dependence, Sydney, Australia, 1970
30. Ewing JA: Detecting alcoholism: The CAGE questionnaire. JAMA 1984; 252:1905–1907
31. Mayfield D, McLeod G, Hall P. The CAGE Questionnaire: validation of a new alcoholism screening instrument. Am J Psychiatry 1974; 131:1121–1123
32. Folstein MF, Folstein SE, McHugh PR: Mini-Mental State: a practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res 1975; 12:189–198
33. Neugarten BL, Havinghurst RJ, Tobin SS: The measurement of life satisfaction. J Gerontol 1961; 16:134–143
34. Wood V, Wylie M, Sheafor B: An analysis of a short self-report measure of life satisfaction: correlation with rater judgments. J Gerontol 1969; 24:465–469
35. Angel JL, Hogan DP: The demography of minority aging populations, in Minority Elders: Five Goals Toward Building a Public Policy Base. Edited by Jackson JS. Washington, DC, Gerontological Society of America, 1994, pp 9–21
36. U.S. Census Bureau: Projections of the Total Resident Population by 5-Year Age-Groups, Race, and Hispanic Origin, With Special Age Categories: Middle Series, 2050 to 2070. Washington, DC, U.S. Census Bureau, 2000
37. Jackson JS: The Black American Elderly: Research on Physical and Psychological Health. New York, Springer, 1988
38. Black BS, Rabins PV, McGuire MH: Alcohol use disorder is a risk factor for mortality among older public housing residents. Int Psychogeriatr 1998; 10:309–327
39. Conwell Y, Brent D: Suicide and aging, I: patterns of psychiatric diagnosis. Int Psychogeriatr 1995; 7:149–164
40. Fratiglioni K, Jorm A F, Grut M, et al: Predicting dementia from the Mini-Mental State Exam in an elderly population: the role of education. J Clin Epidemiol 1993; 46:281–286
41. DeVries HM, Gallagher-Thompson D: Managing psychological crises of older adults, in Cognitive-Behavior Strategies in Crisis Intervention. Edited by Dattilio FM, Freeman AM. New York, Guilford, 1994, pp 200–218
42. Brown GK, Bruce ML, Pearson JL, et al: High-risk management guidelines for elderly suicidal patients in primary care settings. Int J Geriatr Psychiatry 2001; 16:593–601
43. Bruce ML, Pearson JL: Designing an Intervention to Prevent Suicide: PROSPECT (Prevention of Suicide in Primary Care Elderly: Collaborative Trial). Dialogues in Clinical Neuroscience 1999; 1:100–112
44. German PS, Shapiro S, Skinner EA: Mental health of the elderly: use of health and mental health service. J Am Geriatr Soc 1985; 33:246–252
45. Black BS, Rabins PV, German P, et al: Need and unmet need for mental health care among elderly public housing residents. Gerontologist 1997; 37:717–728
46. Black BS, Rabins PV, German P, et al: Use of formal and informal sources of mental health care among older African American public housing residents. Psychol Med 1998; 28:519–530