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Death Ideation and Suicidal Ideation in a Community Sample Who Do Not Meet Criteria for Major Depression

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Abstract

Background—Suicide is strongly associated with depression, but many without depression have thoughts of death.

Aims—To characterize persons who did not meet criteria for depressive illness but endorsed death ideation or suicidal ideation over the course of a 10-year follow-up.

Method—Subjects included 753 participants of the Baltimore sample of the Epidemiologic Catchment Area Program, a population-based 10-year follow-up survey, who neither met criteria for major depressive disorder nor reported death or suicidal ideation in 1994.

Results—Persons with death ideation or suicidal ideation in 2004 were generally distressed as measured by the General Health Questionnaire. At baseline, both groups endorsed difficulty with concentration, feeling unhappy, and taking things hard. Functional problems such as social withdrawal were endorsed by both groups. Those with suicidal ideation had a longer lifetime history of social phobia. Persons with death ideation did not use more health services but sought help from persons in their social network.

Conclusion—Thoughts of death are associated with distress even in persons who do not have depressive illness. This group of persons may have subclinical depressive symptoms that will not be detected by depression screening. Detection of these persons will require broadening our concept of persons at risk.

Keywords

suicidal ideation; death ideation; major depressive disorder

Suicidal ideation is not always associated with depression. From a public health perspective, a sizable proportion of patients exhibiting suicidal ideation in primary care will not meet criteria for a depressive disorder. An Epidemiologic Catchment Area study of suicidal ideation among general medical patients showed that only 34% of patients with suicidal

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ideation met criteria for major depression (Cooper-Patrick, Crum, & Ford, 1994). In another study of adult primary care participants, 7% of older adults without depression endorsed wish to die (Raue, Brown, Meyers, Schulberg, & Bruce, 2006). Risk of suicide is usually addressed by depression screening; however, since not all persons who die by suicide are clinically depressed, the predictive value of a depression diagnosis alone is limited (Conwell, 2014).

The purpose of our study was to characterize and compare persons without depressive illness who endorsed death ideation or suicidal ideation in terms of demographic factors, social support, health service use, cognition, function, and distress in a longitudinal community sample. Death ideation comprises general thoughts of death and suicidal ideation comprises desire to die or suicidal behavior and may be associated with different risk factors.

Method

Study Sample

The Baltimore Epidemiological Catchment Area Study (ECA) was conducted between 1981 and 2004 to measure the prevalence and incidence of psychiatric disorders over the adult life course. In 1981, 175,211 residents of Eastern Baltimore were sampled probabilistically for participation. Of those, 3,481 household residents in East Baltimore completed the interview in 1981 (Wave 1) with follow-ups in 1982 (Wave 2), 1994 (Wave 3), and 2004 (Wave 4). Of the original sample, 2,768 were retained at Wave 2, 1,920 at Wave 3, and 1,071 at Wave 4. At each wave, participants completed multiple cognitive and psychosocial measures. Psychopathology was assessed using the NIMH Diagnostic Interview Scale (DIS). Participants were included in the present study if they completed questionnaires on thoughts of death at both Waves 3 and 4 (n = 1,019). We excluded 266 persons who either met criteria for major depressive disorder or reported any thoughts of death at any time before Wave 3, yielding a total sample of 753 participants. The protocol was approved by the Johns Hopkins University Institutional Review Board.

Study Variables

Demographic Information—Age, gender, race, level of educational attainment, marital status, household income, and religion were assessed by self-report in 1994.

Suicidal or Death Ideation—Participants were identified as having death ideation if they ever had a period of 2 weeks or more when they thought a lot about death, including thoughts about themselves, someone else, or death in general. Participants were identified as having suicidal ideation if (a) they had a period of 2 weeks or more when they felt like they wanted to die, or (b) they have ever felt so low they thought about suicide, or (c) they ever attempted suicide. Death ideation and suicidal ideation were not mutually exclusive categories.

General Distress—The 20-item General Health Questionnaire was administered to measure general distress associated with depression (Samuels, Nestadt, Anthony, &

Romanoski, 1994). Consistent with prior work, we defined a score of 3 or more as indicating emotional distress (Bogner et al., 2004; Cooper-Patrick et al., 1994).

Psychiatric Disorders—The Diagnostic Interview Schedule (Robins, Helzer, Ratcliff, & Seyfried, 1982) was used to assess lifetime psychiatric disorders such as major depressive disorder, anxiety disorders, and substance use in 1994.

Medical Comorbidity and Function—The number of medical conditions was acquired by self-report. Overall health perception was rated on a 4-point scale from poor to excellent and was analyzed as a dichotomous variable (*poor* = 0, *all other categories* = 1). Functional status was assessed using standard survey items on activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Consistent with previous ECA reports using ADLs and IADLs (Bogner et al., 2002; Gallo, Rabins, Lyketsos, Tien, & Anthony, 1997), individuals were characterized as having ADL or IADL impairment if they reported being unable to perform at least one activity without help.

Cognition, Social Support, and Services—The Mini-Mental State Exam was used to assess cognition (Folstein, Folstein, & McHugh, 1975). To assess social support, participants were asked if there were any persons with whom they could discuss a personal or serious problem. Use of medical and mental health services within 6 months preceding the 1994 interview was assessed. Participants indicating receipt of treatment from an office, clinic, or emergency room were classified as using general medical care. Those who reported using a mental health specialist, mental health center, psychiatric outpatient clinic, drug or alcohol clinic for problems with mental health, drugs, or alcohol were classified as using specialty mental health services.

Analytic Strategy

The sample was categorized into three groups of thoughts of death: (a) neither death ideation nor suicidal ideation; (b) death ideation only; (c) suicidal ideation only. Using the group with no death and suicidal ideation as a comparison group, we then carried out *t* tests and Fisher's exact tests in order to identify patient characteristics associated with death ideation, and, separately, with suicidal ideation, over the course of the 10-year follow-up interval. All statistical analyses were conducted using SAS version 9.4 (SAS Institute Inc., Cary, NC) with a significance level of $\alpha = 0.05$.

Results

Study Sample

A total of 753 participants met study criteria for inclusion. The mean age of the total sample was 48 years (*SD* = 12.4), 60.2% were women, 59.9% were white, and 32.7% reported incomes under US $25,000. Average time of education was 12 years (*SD* = 2.7; see Table 1).

Death Ideation and Suicidal Ideation

Sixty-six persons (9%) without depression reported new death ideation in 2004. Twenty-seven persons (4%) without depression reported new suicidal ideation in 2004. Demographic

characteristics, medical comorbidity, substance use, and function did not distinguish between groups with death ideation or suicidal ideation.

General Distress

In all, 28.8% of persons with death ideation and 29.6% of persons with suicidal ideation had a General Health Questionnaire score greater than 3. Persons with suicidal ideation or death ideation endorsed general distress, including feeling unhappy (suicide ideation: 25.9%; death ideation: 22.7%), less able to concentrate (suicide ideation: 22.2%; death ideation: 24.2%), taking things hard (suicide ideation: 29.6%; death ideation: 21.2%), and felt that they were doing things less well (suicide ideation: 18.5%; death ideation: 18.2%). Persons with suicidal ideation, relative to persons with no thoughts of death, felt less likely that they could overcome their difficulties (14.8% vs. 4%; see Table 2).

Social Networks and Health Service Use

Persons with death ideation more often discussed personal problems with a friend (89.4%); whereas persons with suicidal ideation (81.5%) were no different from persons with no thoughts of death (82.4%). Use of health services was not significantly different for those with death ideation and suicidal ideation compared with those without thoughts of death.

Psychiatric Disorders

Persons with suicidal ideation had a longer lifetime history of social phobia (37%) than persons with death ideation (31.8%) or no thoughts of death (20%). They also showed more loss of interest in social interaction (19%) than both groups as measured by DIS.

Discussion

Our results suggest that persons who do not have depressive disorder but who have death ideation or suicidal ideation are distressed and may experience symptoms such as trouble with concentration, social withdrawal, and depressed feelings. In a cohort psychological autopsy study, 27% of those who completed suicide had subclinical depression that did not meet criteria even for minor depression (Preville, Hebert, Boyer, Bravo, & Seguin, 2005). Despite presence of risk, persons with death ideation may not use more health services but may seek help from persons in their social network.

Subclinical depression has a 1-year prevalence in the general population of 8.4% (Judd, Rapaport, Paulus, & Brown, 1994) and is defined as two or more symptoms of depression, present for most or all of the time, at least 2 weeks in duration, associated with evidence of social dysfunction, occurring in individuals who do not meet criteria for diagnoses of minor or major depression and/or dysthymia. The most common subclinical depressive symptoms include recurrent thoughts of death, trouble concentrating, slowed thinking, and social dysfunction. For example, social withdrawal may be a functional indicator of distress indicating need for help, which professionals, family, and community members can use in persons who are not depressed. Persons with social withdrawal will be difficult to detect; however, persons with changing social activity may be noticeable and education may be useful in bringing these persons to our attention.

There are limitations in interpreting our findings. Suicidal ideation and death ideation were not mutually exclusive categories; however, despite potential overlap, our categories were meaningful as evidenced by the different number of persons in each category and differential results of comparisons with the group of persons without any death ideation. Participants' recent experiences with death, for example, bereavement, were not measured and therefore whether the participants' thoughts of death were normal could not be determined.

Depression screening will not capture a significant number of persons who do not have depression but have death ideation or suicidal ideation. Detection of these persons will require broadening our concept of persons at risk.

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Table 1

Participant characteristics associated with reporting death/suicidal ideation in 2004 among participants who neither met criteria for major depressive disorder nor reported death/suicidal ideation in 1994

	Neither death ideation nor suicidal ideation between 1994 and 2004 (*N* = 670)	Death ideation between 1994 and 2004 (*N* = 66)	Suicidal ideation between 1994 and 2004 (*N* = 27)	Total (*N* = 753)
Sociodemographic characteristics				
Mean (*SD*), age, years	48.3 (12.4)	46.6 (12.4)	44.5 (14.5)	48.0 (12.4)
Women	396 (59.1)	47 (71.2)	18 (66.7)	453 (60.2)
Mean (*SD*), education, years	12.3 (2.7)	12.5 (2.4)	12.3 (3.2)	12.3 (2.7)
White	401 (59.9)	36 (54.5)	19 (70.4)	451 (59.9)
Married	380 (56.7)	31 (47.0)	16 (59.3)	422 (56.0)
Household income < US $25,000	217 (32.4)	24 (36.4)	12 (44.4)	246 (32.7)
Substance use				
Alcohol abuse or dependence	94 (14.0)	9 (13.6)	5 (18.5)	105 (13.9)
Drug abuse or dependence	48 (7.2)	2 (3.0)	0 (0.0)	50 (6.6)
Anxiety				
Distress (GHQ dichotomous > 3) (within a few weeks)	86 (12.8)	19 (28.8)**	8 (29.6)*	112 (14.9)
Generalized anxiety disorder (lifetime)	4 (0.6)	2 (3.0)	0 (0.0)	6 (0.8)
Panic disorder (lifetime)	9 (1.3)	1 (1.5)	0 (0.0)	10 (1.3)
Obsessive compulsive disorder (lifetime)	10 (1.5)	3 (4.5)	1 (3.7)	13 (1.7)
Social phobia or agoraphobia (lifetime)	134 (20.0)	21 (31.8)*	10 (37.0)*	161 (21.4)
Religion				
Protestant	360 (53.7)	39 (59.1)	12 (44.4)	405 (53.8)
Roman Catholic	232 (34.6)	21 (31.8)	9 (33.3)	260 (34.5)
Medical condition				
Fair/poor self-reported health	115 (17.2)	11 (16.7)	7 (25.9)	131 (17.4)
Diabetes (lifetime)	56 (8.4)	5 (7.6)	1 (3.7)	62 (8.2)
Chest pain (lifetime)	238 (35.5)	30 (45.5)	13 (48.1)	278 (36.9)
Heart trouble (lifetime)	66 (9.9)	9 (13.6)	3 (11.1)	78 (10.4)
High blood pressure (lifetime)	191 (28.5)	12 (18.2)	6 (22.2)	207 (27.5)
Arthritis or rheumatism (lifetime)	179 (26.7)	14 (21.2)	5 (18.5)	198 (26.3)
Stroke (lifetime)	10 (1.5)	3 (4.5)	1 (3.7)	13 (1.7)
Cancer (lifetime)	32 (4.8)	3 (4.5)	3 (11.1)	37 (4.9)
Functional and cognitive status				
ADL any disability	13 (1.9)	1 (1.5)	0 (0.0)	14 (1.9)
IADL any disability	25 (3.7)	2 (3.0)	0 (0.0)	27 (3.6)
MMSE score, mean (*SD*)	28.5 (1.9)	28.7 (1.8)	28.7 (1.6)	28.5 (1.9)
Social networks				
Discuss a personal/serious problem with any people	641 (95.7)	63 (95.5)	26 (96.3)	720 (95.6)

	Neither death ideation nor suicidal ideation between 1994 and 2004 (*N* = 670)	Death ideation between 1994 and 2004 (*N* = 66)	Suicidal ideation between 1994 and 2004 (*N* = 27)	Total (*N* = 753)
Discuss a personal/serious problem with a family/ relative	583 (87.0)	59 (89.4)	24 (88.9)	657 (87.3)
Discuss a personal/serious problem with a friend	552 (82.4)	59 (89.4)*	22 (81.5)	624 (82.9)
Health services within 6 months				
General medical services	456 (68.1)	50 (75.7)	14 (51.9)	512 (68.0)
Specialty mental health services	32 (4.8)	2 (3.0)	0 (0.0)	34 (4.5)

Note. Data from Baltimore Epidemiological Catchment Area Study at Wave 3 and Wave 4 (*n* = 753). GHQ = General Health Questionnaire. ADL = activities of daily living. IADL = instrumental activities of daily living. MMSE = Mini-Mental State Exam.

Table 2

Type of distress associated with death or suicidal ideation in 2004 among participants who neither met criteria for major depressive disorder nor reported death/suicidal ideation in 1994

General Health Questionnaire	Neither death ideation nor suicidal ideation between 1994 and 2004 (*N* = 670)	Death ideation between 1994 and 2004 (*N* = 66)	Suicidal ideation between 1994 and 2004 (*N* = 27)	Total (*N* = 753)
Able to concentrate (≤ less than usual)	56 (8.4)	16 (24.2) ***	6 (22.2)	78 (10.4)
Feeling reasonably happy (≤ less than usual)	62 (9.3)	13 (19.7) *	5 (18.5)	80 (10.6)
Full of energy (≤ less than usual)	107 (16.0)	16 (24.2)	4 (14.8)	126 (16.7)
Managing to keep yourself busy and occupied (≤ less than usual)	22 (3.3)	3 (4.5)	1 (3.7)	26 (3.5)
Getting out of the house (≤ less than usual)	97 (14.5)	11 (16.7)	5 (18.5)	111 (14.7)
Felt that you were doing things well (≤ less well)	28 (4.2)	12 (18.2) ***	5 (18.5) **	44 (5.8)
Felt that you are playing a useful part in things (≤ less so than usual)	23 (3.4)	4 (6.1)	2 (7.4)	29 (3.9)
Felt capable of making decisions about things (≤ less so than usual)	11 (1.6)	2 (3.0)	1 (3.7)	14 (1.9)
Felt constantly under strain (≥ more than usual)	116 (17.3)	17 (25.8)	8 (29.6)	139 (18.5)
Felt you couldn't overcome your difficulties (≥ more than usual)	27 (4.0)	5 (7.6)	4 (14.8) *	35 (4.6)
Enjoy normal day-to-day activities (≤ less than usual)	82 (12.2)	10 (15.2)	7 (25.9)	98 (13.0)
Taking things hard (≥ more than usual)	64 (9.6)	14 (21.2) *	8 (29.6) **	84 (11.2)
Able to face up to your problems (≤ less than usual)	7 (1.0)	0 (0.0)	0 (0.0)	7 (0.9)
Found everything getting too much (≥ more than usual)	46 (6.9)	7 (10.6)	4 (14.8)	57 (7.6)
Feeling unhappy and depressed (≥ more than usual)	61 (9.1)	15 (22.7) **	7 (25.9) *	83 (11.0)
Losing confidence in yourself (≥ more than usual)	20 (3.0)	2 (3.0)	3 (11.1)	25 (3.3)
Thought of yourself as a worthless person (≥ more than usual)	3 (0.4)	2 (3.0)	1 (3.7)	5 (0.7)
Life is entirely hopeless (≥ more than usual)	7 (1.0)	0 (0.0)	1 (3.7)	8 (1.1)
Losing sleep because of worry (≥ more than usual)	39 (5.8)	7 (10.6)	3 (11.1)	49 (6.5)
Feeling nervous and strung-up (≥ more than usual)	40 (6.0)	5 (7.6)	3 (11.1)	48 (6.4)

Note. Data from Baltimore Epidemiological Catchment Area Study (ECA) at Wave 3 and Wave 4 ($n = 753$).

Values are numbers (percentages) unless stated otherwise. Fifty-two persons (out of 1,071) did not report death ideation or suicidal ideation in either 1994 or 2004. Eighty-five persons (out of 1,019) met the criteria for major depressive disorder based on 1994 data. All the predictor variables were from ECA Wave 3 (1994).

* $p < .05$.

** $p < .01$.

*** $p < .001$ for comparison between participants with death or suicidal ideation and participants without both ideations (reference), all other comparisons were not significant ($p > .05$).