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Suicide and Death Ideation in Older Adults Obtaining Aging Services

Alisa A. O'Riley, PhD¹, Kimberly A. Van Orden, PhD², Hua He, PhD³, Thomas M. Richardson, PhD, MBA², Carol Podgorski, PhD², and Yeates Conwell, MD²

¹University of Rochester School of Medicine and Dentistry (URSMD), Department of Psychiatry

²URSMD, Department of Biostatistics and Computational Biology

Abstract

Objectives—To assess the frequency and correlates of death and suicide ideation in older adults accessing aging services

Design—Cross-sectional

Setting—Data for this study were collected via in-home interviews.

Participants—ASN care management clients aged 60 years and older (N = 377) were recruited for this study.

Measurement—The PHQ-9 and the Paykel Suicide Scale were used to assess death and suicide ideation. Correlates of death and suicide ideation were also examined.

Results—Fourteen percent of subjects endorsed current death or suicide ideation, 27.9% of subjects endorsed death ideation in the past year, and 9.3% of subjects endorsed suicide ideation in the last year. Current death and suicide ideation were associated with greater depressive symptoms. As compared with individuals without ideation, individuals with death ideation demonstrated higher levels of depressive symptoms, more medical conditions, and lower social support. Individuals with suicide ideation demonstrated higher depressive and anxiety symptoms and less perceived social support. Finally, as compared with individuals with death ideation, individuals with suicide ideation demonstrated higher depressive and anxiety symptoms and more alcohol misuse.

Conclusions—Death and suicide ideation are common among ASN clients. There were both differences and similarities between correlates of death and suicide ideation. ASN providers are uniquely situated to address many of the correlates of suicide ideation identified in this study; however, in order to effectively manage suicide ideation in an ASN setting, links to primary and mental health care providers are necessary.

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Corresponding Author: Alisa A. O'Riley, PhD, University of Rochester Medical Center, 300 Crittenden Blvd, Box Psych, Rochester, NY 14607, Phone: (585) 393-7887, alisa.o'riley@va.gov.

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Keywords

suicide ideation; death ideation; aging services

Introduction

Suicide in late life is a major public health concern (1, 2); however, late life suicide prevention programs are impeded by the fact that few older adults seek out formal mental health care (1). Thus, late life suicide prevention programs need to center on alternative venues for care. One potential venue for instituting interventions to decrease late life suicide is organizations that provide services through the Aging Services Network (ASN). The ASN was initially developed as part of the Older Americans Act to help ensure that adults aged 60 and older have the supportive services necessary to maintain independent living (3). Specifically, ASN organizations are charged with providing older adults access to services for nutrition, long-term care and supports, disease prevention, health promotion, and vulnerable elder rights protection (3).

The ASN may be a useful venue for suicide prevention for several reasons. First, its provider agencies and organizations come into contact with a wide range of older adults, including healthy, community-dwelling older adults, older adults with functional impairment and high levels of disease burden, and older adults currently residing in long-term care (3). Given the breadth of the ASN's reach, it seems likely that many older adults who are at increased risk for suicide may come into contact with ASN organizations. Second, research has demonstrated that older adults at risk for suicide often face problems that ASN organizations are particularly well positioned to address. For example, research has shown that older adults at risk for suicide are more likely to have experienced threats to independence (i.e. physical illness and functional decline) (4) and social isolation (5,6,7). Finally, recent research examining distress in older adults accessing aging services has demonstrated high levels of depression and anxiety in this population (8,9). Both depressive and anxiety symptoms are prominent risk factors for suicide in late life (1).

Despite these indications that ASN organizations may be ideal settings for interventions designed to prevent suicide in late life, at the current time, little is known about levels of suicide risk among older adults who access aging services. Numerous studies have examined death and suicide ideation in community dwelling older adults and in older adult patients in primary care clinics (10-16). These studies have demonstrated a wide range of frequencies for both death (3.4%-27.5%) and suicide ideation (0.6%-6.3%) (10-16). Because evidence suggests that older adults who access ASN organizations are particularly frail and vulnerable (8), it is not clear if the results of these previous studies accurately reflect the prevalence of death and suicide ideation in older adults who utilize ASN services. Sirey and colleagues have examined this issue among older adults receiving home-delivered meals (17), a service typically offered by ASN agencies. They reported that 13% of subjects endorsed thoughts that they would be better off dead or of hurting themselves in the preceding two weeks. However, more research is necessary to determine if this high level of suicide ideation reflects the general population of older adults accessing aging services. Furthermore, it

would be helpful to examine death and suicide ideation separately in this population as some evidence suggests that they may be distinct constructs (18).

ASN organizations may be a unique venue for preventing suicidal behaviors in older adults who are particularly vulnerable; however, at the current time, not enough is known about suicide risk in this population. More information about suicide risk among older adults who access ASN services is needed in order to help us clarify the utility of using ASN organizations as a venue for programs designed to prevent suicide in older adults. As such, the current study had the following objectives:

1. To assess the frequency of death (i.e. thinking about or wishing for death) and suicide ideation (i.e. thinking of ways to end one's life or seriously considering taking one's life) in older adults accessing aging services.
2. To examine correlates of death and suicide ideation in older adults accessing aging services. Correlates were chosen in this study based on known risk factors for suicidal behavior in late life (1).

Method

Participants

Community-dwelling older adults (n=377) who sought social services through one Monroe County ASN agency (Eldersource; <http://www.eldersource.org/>) between September 2005 and August 2007 were enrolled in the present study. Of 509 older adults who received a home visit from a care manager, 74.3% were enrolled. As reported elsewhere, the study subjects did not differ from the larger population of social services clients in terms of demographics (9). Descriptive statistics for the sample are presented in Table 1.

Procedures

Clients entering Eldersource who received an initial home assessment from social service care managers were recruited into this study. The clients had to be aged 60 years or older and English speaking to participate in an in-person research interview. Care managers briefly introduced the study to their clients during the initial in-home care management assessment, and clients who verbally consented were referred to study personnel. Research interviews were conducted by trained research personnel. The University of Rochester's Research Subjects Review Board approved the study, and written informed consent was obtained in person prior to the research interview. Data from these participants are part of a larger study and have been previously published (8,9); however, the aims and analyses below are novel and do not appear in prior publications.

Measures

Suicide and Death Ideation. The Patient Health Questionnaire (PHQ-9) (19) is a nine-item scale that measures depression symptoms in the prior two weeks and was used as a measure of depressive symptomatology, as well as current death or suicidal ideation. Items are scored from 0 (*not at all*) to 3 (*nearly everyday*), with total scores ranging from 0 to 27. In the current study, we created a PHQ total score by summing the first eight items of the PHQ-9

in order to avoid confounding our variable of interest (suicide ideation), which is assessed in the ninth item of the PHQ-9. Thus, our analyses of depressive symptoms used summary scores from an eight-item depression scale, with scores ranging from 0 to 24. In addition to the total score, we examined the PHQ-9 item regarding *thoughts of being better off dead and of hurting oneself* as a separate indicator of current death or suicide ideation (item 9).

The Paykel Scale (20) consists of five, yes/no items that evaluate the presence of suicide ideation and behaviors during the past year. These items were used to assess how severe death and suicide ideation became at its worst point in the past year.

Correlates of Suicide and Death Ideation. Symptoms of anxiety were assessed with the *Goldberg Anxiety Scale* (GAS) (21), a nine-item, yes/no instrument. Number of medical conditions was assessed using a checklist adapted from the Minimum Data Set – Version 2.0. (22) Pain was assessed using a single-item (“During the past four weeks, how much did pain interfere with your normal work; including both work outside the home and housework?”) from the *Short-Form Health Questionnaire* (SF-12) (23). Cognitive impairment was assessed with the *Mini-Cog*(24), a 6-item screening device. The total number of *Activities of Daily Living* (ADL) impairments was assessed with the *Index of ADL*(25). The total number of *Instrumental Activities of Daily Living* (IADL) impairments was assessed with a checklist of IADL impairments (26). Perceived social support (i.e. subjects' perceptions of how much social support they are currently receiving) was measured with the *Multidimensional Scale of Perceived Social Support* (MSPSS) (27), and structural social support (i.e. a descriptive analysis of the subjects' social network and the quantity of support the subject receives) was measured with the *Lubben Social Network Scale*(28). Alcohol misuse was assessed with the *Alcohol Use Disorders Identification Test* (AUDIT-C) (29). Stressful life events were measured with the Louisville Older Persons Stress Scale (LOPES) (30). Finally, demographic information was collected concerning age, sex, race, marital status, income, and education.

Data Analysis

All data analyses were conducted with SAS statistical software version 9.2 (SAS Institute, Inc. Cary, NC). In order to estimate the frequency of current death or suicide ideation, death ideation in the past year, and suicide ideation in the past year, we conducted simple descriptive analyses examining item 9 on the PHQ-9 and items from the Paykel Suicide Scale. In order to examine correlates of current death or suicide ideation, death ideation in the past year, and suicide ideation in the past year, we conducted a series of multivariate analyses.

First, we conducted a logistic regression to compare individuals who did not endorse current death or suicide ideation (PHQ item 9 = 0) to individuals who endorsed current death or suicide ideation (item 9 = 1) in terms of independent variables that have been associated with suicide risk in late life in other studies (1): depressive symptoms (using the first eight items from the PHQ-9), anxiety symptoms, number of medical conditions, pain, age, gender, ethnicity, cognitive impairment, total number of impairments in activities of daily living, impairment in instrumental activities of daily living, perceived social support, structural social support, alcohol misuse, and negative life events. We also compared individuals on

correlates of suicide risk based on the frequency of current death or suicide ideation; specifically, we conducted a cumulative logistic regression comparing the following three groups: no current death or suicide ideation [PHQ item 9 = 0 (*not at all*)], infrequent death or suicide ideation [PHQ item 9 = 1 (*several days*)] and frequent death or suicide ideation [PHQ item 9 = 2 (*more than half the days*) or 3 (*nearly every day*)]. For these analyses we combined the last two response options (*more than half the days* and *nearly every day*) because very few participants endorsed the *more than half the days* option.

Next, we conducted a multinomial logistic regression with correlates of suicide risk to examine past year death and suicide ideation; specifically, we compared the following three, independent groups: individuals who did not endorse any items on the Paykel Suicide Scale, individuals who endorsed *only* death ideation on the Paykel Suicide Scale, and individuals who endorsed suicide ideation (the majority of these individuals also endorsed death ideation) on the Paykel Suicide Scale. For all models, model definition was good.

Results

Previous suicide attempts were reported by 5.6% of the sample (n=21). Fifty-four subjects (14.3% of the sample) endorsed item 9 on the PHQ-9, indicating that they had experienced thoughts of death or of harming themselves in the two weeks prior to our study. In terms of the Paykel Suicide Scale, 19.4% of the sample (n=73) reported that they had either felt that their lives were not worth living or that they wished they were dead in the year prior to our study. Thirty-five subjects (9.3% of the sample) reported that they had either thought of taking their own lives or seriously considered taking their own lives in the year prior to our study. Five individuals endorsed current death or suicide ideation, but denied experiencing death or suicide ideation in the past year.

In a logistic regression model with the correlates mentioned above, individuals without current death or suicide ideation only differed from individuals who endorsed current death or suicide ideation in terms of severity of depressive symptoms ($b = 0.20$, $SE = 0.05$, Wald Chi-Square = 19.88, $df = 1$, $p < 0.01$). Specifically, each additional point on the first eight items of the PHQ-9 increased the odds of endorsing either death or suicide ideation by 22% (OR = 1.22, 95% CI = 1.12, 1.34).

In a cumulative logistic regression comparing groups of no current ideation, infrequent current ideation, and frequent current ideation, those with infrequent and frequent ideation differed from those with no ideation by having greater depressive symptom severity (LR chi-sq (6) = 99.55, $p < .001$). Specifically, with each additional point on the first eight items of the PHQ-9, the odds of endorsing infrequent death or suicide ideation increased 20% (RRR = 1.20, $z = 5.95$, $p < .001$, 95% CI = 1.13 – 1.30) and the odds of endorsing frequent death or suicide ideation increased 35% (RRR = 1.35, $z = 5.45$, $p < .001$, 95% CI = 1.21 – 1.51). Individuals with frequent ideation also reported lower structural social support than those with no ideation and infrequent ideation. Specifically, with each additional point on the Lubben Social Network Scale, the odds of endorsing frequent death or suicide ideation decreased by 15% (RRR = 0.85, $z = -2.68$, $p < 0.01$, 95% CI 0.75 – 0.96).

Table 2 presents results of the multinomial logistic regression predicting group membership [i.e., no ideation, death ideation (without suicide ideation), suicide ideation (with or without death ideation)] at some point in the past year. The left-most column compares individuals without death or suicide ideation to individuals who endorsed death ideation (without suicide ideation). When individual correlates were examined, individuals with only death ideation had significantly higher depressive symptoms, more medical conditions, and less perceived social support than individuals without death or suicide ideation in that time frame.

The middle column in Table 2 compares individuals without death or suicide ideation to individuals who endorsed suicide ideation (with or without death ideation) in the past year. In this model, individuals with suicide ideation had significantly higher depressive symptoms, higher anxiety symptoms, and less perceived social support than individuals without death or suicide ideation. Individuals with suicide ideation were also significantly more likely to be white than individuals without death or suicide ideation.

Finally, the right-most column in Table 2 compares individuals with death ideation (without suicide ideation) to individuals with suicide ideation (with or without death ideation). In this model, individuals with suicide ideation had higher depressive symptoms, higher anxiety symptoms, and more alcohol misuse than individuals who endorsed only death ideation.

Discussion

The results of the current study demonstrate that death ideation and suicide ideation are frequently endorsed by older adults accessing aging services. Over 14% of our sample reported death or suicide ideation in the past two weeks (i.e. item 9 of the PHQ-9). These findings are consistent with Sirey and colleagues' earlier study of older adults receiving home-delivered meals, which found that 13% had elevated scores on the same measure (17). This finding is particularly relevant to our study in that our sample was also home-bound and in need of ASN services (such as meal delivery). Over 19% of our sample reported experiencing death ideation in the year prior to our study. As was mentioned previously, research examining community-dwelling older adults and older adults seeking treatment in primary care clinics has reported rates of death ideation ranging from 3.4%-27.5% (12-14). Finally, 9.3% of our sample reported experiencing suicide ideation in the preceding year. In research examining community-dwelling older adults and older adults seeking treatment in primary care, rates of suicide ideation ranged from 0.6%-6.3% (12,15). The wide range of frequency of death and suicide ideation found in previous studies, and the relatively large frequency of both types of ideation found in the current study warrant further investigation. It is possible that the relatively high prevalence of suicide and death ideation in this study reflects the fact that older adults accessing ASN organizations are particularly vulnerable to suicide and death ideation and, therefore, that ASN organizations may be useful venues for late life suicide prevention efforts.

In addition to examining the frequency of death and suicide ideation, we also examined correlates of death and suicide ideation. Only depressive symptoms and structural social support were associated with frequency of current death or suicide ideation.

While most research examining correlates of death and suicide ideation have demonstrated an association with depressive symptoms and structural social support, other correlates have been identified as well. For example, other studies have demonstrated an association between current death or suicide ideation and poor perceived social support (6,7,16,31,32), age (12,33,34), being white (12), having greater cognitive impairment (10,11,35), poorer health status (10,36,37), anxiety symptoms (38), and gender (39). In explaining our relative lack of findings regarding correlates of death and suicide ideation, two factors should be considered. First, it may be that depressive symptoms carry the most weight with regards to death and suicide ideation among social service seeking older adults. It is also possible that, as a group, older adults who access ASN organizations are more homogenous in terms of health status and cognitive impairment than community samples. This possibility suggests that ASN organizations may provide a unique venue for suicide prevention because a large percentage of older adults who access ASN services have known risk factors for suicide.

We also examined correlates of death and suicide during the past year. Examining this expanded time point may be important given the transient nature of suicide ideation and prior research indicating that measurement of ideation at its the worst point may be a potent indicator of future risk (40). Our results showed that different correlates were associated with death and suicide ideation over the past year in our sample.

When compared to individuals without ideation, individuals with only death ideation had higher depressive symptoms, more medical conditions, and less perceived social support, and individuals with suicide ideation (with or without death ideation) had higher depressive symptoms, higher anxiety symptoms, less perceived social support, and a higher likelihood of being white. Finally, compared to individuals with only death ideation, individuals with suicide ideation demonstrated higher depressive symptoms, higher anxiety symptoms, and more alcohol misuse.

Although very few studies have compared older adults without ideation to older adults with only death ideation and older adults with suicide ideation over the past year, in one study using the Paykel Suicide Scale items over that same time frame, Bartels and colleagues found that individuals with death ideation had higher levels of depressive and anxiety symptoms than individuals without ideation, but lower levels than individuals with suicide ideation (12). Death ideation was also associated with poor social support, more medical comorbidities, and being female. Suicide ideation was associated with depressive and anxiety symptoms (worse than groups with either death or no ideation), being a man, poor social support, and worse physical health.

Interestingly, in our study, neither death nor suicide ideation was associated with functional impairment or pain. This finding may be related to unique characteristics of older adults who seek assistance from aging service organizations. Rates of functional impairment and pain are high among older adult ASN clients (3); thus, our lack of findings could be attributed to the fact that most of the older adults in our study reported pain and functional impairment. Again, this suggests that ASN organizations are well situated to access older adults particularly vulnerable to death by suicide.

In interpreting the results of this study, some limitations must be noted. First, there may be concerns with our measure of current death or suicide ideation. In the current study, we only utilized one item from a depression screener to measure current ideation. It is possible that a measure specifically designed to assess current death and suicide ideation may have resulted in different findings. In addition, the item used to assess death or suicide ideation in the current study is framed as a two-pronged question (i.e. "Over the past two weeks how often have you been bothered by thoughts that you would be better off dead, or of hurting yourself?"). This approach is problematic as it does not allow us to differentiate between individuals with current death ideation and individuals with current suicide ideation, and some evidence suggests that individuals with death ideation and individuals with suicide ideation represent different populations (14,18). Finally, because the sample used in the current study represented older adults who accessed aging services in one organization in one county in Western New York, these results may not generalize to other samples or populations.

Despite the above limitations, our findings have important clinical implications. The ultimate goal of this line of research is to examine whether ASN organizations may be useful settings in which to implement late life suicide prevention programs. The first step in this line of research is to determine whether older adults who are particularly vulnerable to suicide risk are, in fact, accessing ASN services. Our results indicate that, indeed, many older adults who seek help from ASN organizations are experiencing thoughts of death and suicide. This finding has important implications, because evidence suggests that older adults at risk for suicide are not likely to seek out help from traditional venues that provide mental health care (1), and ASN organizations are mandated to address some of the most prominent risk factors for suicide in late life (e.g., lack of social support). For these reasons, ASN organizations may be well positioned to support efforts to prevent suicide in late life. However, currently, most ASN organizations are not equipped to manage mental health problems independently (8).

In order to provide needed services to older adults at risk for suicide, ASN organizations need to engage in collaborative care models that also incorporate the expertise of primary care and mental healthcare providers. In fact, in many ways, ASN organizations may be ideal partners in such collaborative care interventions, because, just as ASN organizations are not currently equipped to manage mental health problems, evidence suggests the medical sector is poorly equipped to manage many of the social factors that put older adults at risk for suicide. In a recent survey of 1,000 physicians, the great majority (85%) endorsed the belief that unmet social service needs are contributing to worse health in their patients, and the same proportion (85%) did not feel competent to meet the kinds of social needs that ASN organizations are designed to address (41). An intervention combining the expertise of ASN organizations and clinicians might provide an ideal means of addressing the needs of older adults at risk for suicide.

Before we are ready to design and implement collaborative care interventions addressing the needs of older adults at risk for suicide in ASN organizations, however, more research is needed in several areas. First, the results of this study suggest that older adults with death ideation may differ significantly from older adults with suicide ideation. Research in this

area has been impeded up to this point by the lack of precise methods for assessing either suicide or death ideation in later life (18,42). Furthermore, at the current time, it is unclear whether individuals who endorse death ideation or suicide ideation represent distinct groups (18, 42). Future research must address these measurement limitations and further examine the differences between individuals with death ideation and individuals with suicide ideation in order to allow more targeted and effective interventions.

In addition to further examining differences between older adults who experience death ideation and older adults who experience suicide ideation, more research is needed examining more severe forms of suicidal behavior (e.g. suicide attempts) in the population of older adults accessing ASN organizations. Unfortunately, the current study did not have adequate power to address this research question; however, future research may examine correlates of more severe suicidal behavior by oversampling older adults who endorse such behaviors.

Third, more information is needed about the effect of aging services on suicide risk in older adults. Although the types of interventions typically implemented by ASN organizations are designed to address some of the problems most commonly associated with suicide risk, little is currently known about the effectiveness of these interventions in general and no research has examined whether these interventions have an effect on reducing suicide risk. Finally, implementation research needs to be conducted examining the feasibility of training employees in ASN organizations in detecting and addressing psychological distress, and in partnering with health care providers to deliver coordinated care. Ultimately, this line of research will serve to inform suicide prevention programs for older adults.

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Table 1

Descriptive Statistics

	Total Sample N = 377	No Current Ideation (PHQ Item 9) N = 323	Current Ideation (PHQ Item 9) N = 54	No Ideation Last Year (Paykel) N = 263	Death Ideation Last Year (Paykel) N = 105	Suicide Ideation Last Year (Paykel) N = 35
Age M(SD)	77.0(9.1)	76.9(8.9)	77.7(10.5)	77.1(8.9)	77.2(9.7)	75.6(9.7)
Gender % (N)						
Female	68.3(258)	70.6(228)	54.5(30)	68.1(179)	67.0(71)	60.0(21)
Male	31.7(120)	29.4(95)	45.5(25)	31.9(84)	33.0(35)	40.0(14)
Ethnicity % (N)						
White	84.4(319)	83.0(268)	92.7(51)	81.7(215)	90.6(96)	94.3(33)
Black	14.6(55)	15.8(51)	7.3(4)	17.1(45)	8.5(9)	5.7(2)
Asian	0.3(1)	0.3(1)		0.4(1)		
Other	0.5(2)	0.6(1)		0.4(1)	0.9(1)	
Marital Status % (N)						
Married	35.4(134)	34.1(110)	43.6(24)	35.7(94)	34.0(36)	37.1(13)
Single	6.3(24)	6.8(22)	3.6(2)	8.0(21)	2.8(3)	
Divorced	16.4(62)	16.1(52)	18.2(10)	15.6(41)	17.9(19)	14.3(5)
Widowed	34.9(132)	35.6(115)	30.9(17)	33.1(87)	39.6(42)	40.0(14)
Education % (N)						
Less than High School	29.9(113)	28.2(91)	40.0(22)	28.5(75)	34.9(37)	40.0(14)
High School	28.9(108)	28.2(91)	30.9(17)	29.3(77)	28.3(30)	31.4(11)
Higher Ed	41.5(157)	43.7(141)	29.1(16)	42.2(111)	36.8(39)	28.6(10)
Monthly Income % (N)						
<2,000	70.9(268)	70.9(229)	70.9(39)	70.7(186)	73.5(78)	82.9(29)
>2,000	28.0(106)	28.2(91)	27.3(15)	28.5(75)	24.5(26)	17.1(6)
Lives Alone % (N)	45.0(170)	46.4(150)	36.4(20)	44.5(117)	46.2(49)	42.9(15)
Cognitive Impairment % (N)	13.5(51)	12.7(41)	18.2(10)	13.3(35)	15.1(16)	17.1(6)

	Total Sample <i>N</i> = 377	No Current Ideation (PHQ Item 9) <i>N</i> = 323	Current Ideation (PHQ Item 9) <i>N</i> = 54	No Ideation Last Year (Paykel) <i>N</i> = 263	Death Ideation Last Year (Paykel) <i>N</i> = 105	Suicide Ideation Last Year (Paykel) <i>N</i> = 35
Depression <i>M</i> (<i>SD</i>)	7.6(5.4)	6.7(4.7)	13.0(5.9)	6.3(4.5)	10.8(6.0)	13.4(6.6)
Anxiety <i>M</i> (<i>SD</i>)	3.3(2.9)	3.0(2.8)	4.8(2.8)	2.9(2.8)	4.2(2.9)	4.7(2.9)
ADLs <i>M</i> (<i>SD</i>)	1.6(1.9)	1.6(1.9)	1.9(1.7)	1.5(1.9)	1.8(1.8)	1.9(1.9)
IADLs <i>M</i> (<i>SD</i>)	2.7(2.7)	2.5(2.7)	3.6(2.7)	2.4(2.6)	3.4(2.8)	3.3(2.8)
Perceived Social Support <i>M</i> (<i>SD</i>)	4.9(1.19)	4.9(1.2)	5.1(1.1)	4.9(1.2)	5.0(1.2)	5.2(1.1)
Structural Social Support <i>M</i> (<i>SD</i>)	27.1(9.7)	26.6(9.5)	29.9(10.4)	26.7(9.4)	27.8(10.4)	27.9(10.8)
Alcohol Misuse <i>M</i> (<i>SD</i>)	1.1(1.7)	1.0(1.7)	1.2(1.6)	1.1(1.7)	1.1(1.8)	1.7(2.4)
Life Stressors <i>M</i> (<i>SD</i>)	5.6(3.1)	5.6(3.0)	5.9(3.4)	5.6(3.0)	5.6(3.3)	5.3(3.8)
Pain <i>M</i> (<i>SD</i>)	1.5(1.4)	1.5(1.4)	1.5(1.5)	1.5(1.4)	1.5(1.5)	1.4(1.4)
# of Medical Conditions <i>M</i> (<i>SD</i>)	5.0(2.4)	5.1(2.4)	4.5(2.4)	5.2(2.5)	4.7(2.3)	4.5(2.0)

Table 2
Multinomial Logistic Regression Predicting Death and Suicide Ideation (N = 366)[†]

	Death Ideation vs. No Ideation (N = 366)			Suicide Ideation vs. No Ideation (N = 366)			Death Ideation vs. Suicide Ideation (N = 365)		
	Wald Chi-Square	OR	95% CI	Wald Chi-Square	OR	95% CI	Wald Chi-Square	OR	95% CI
Depressive Symptoms [*]	5.14	1.09	1.01–1.18	22.98	1.34	1.19–1.51	10.14	0.82	0.72–0.92
Anxiety [*]	0.09	1.03	0.87–1.20	7.68	0.67	0.51–0.89	7.77	1.53	1.13–2.05
# of Medical Conditions [*]	6.11	1.18	1.04–1.34	2.90	1.18	0.98–1.43	0.0001	1.00	0.82–1.22
Pain	0.06	0.98	0.76–1.24	0.34	0.90	0.63–1.29	0.15	1.08	0.73–1.59
Age	0.39	1.01	0.98–1.05	0.97	0.97	0.92–1.03	1.63	1.04	0.98–1.11
Gender [‡]	0.31	1.21	0.62–2.38	0.10	1.17	0.44–3.09	0.004	1.21	0.62–2.38
Ethnicity ^{‡*}	1.29	0.59	0.24–1.47	6.32	0.11	0.02–1.61	3.37	1.13	0.89–35.30
Cognitive Impairment	0.63	1.11	0.86–1.43	1.09	1.27	0.81–2.00	0.30	0.87	0.54–1.41
ADL Impairment	2.09	0.85	0.67–1.06	0.003	1.01	0.72–1.41	0.92	0.84	0.58–1.21
IADL Impairment	3.66	1.17	1.00–1.39	0.01	1.02	0.78–1.32	1.04	1.16	0.88–1.53
Lack of Perceived Social Support [*]	4.49	0.97	0.94–1.00	9.03	0.94	0.90–0.98	2.23	1.04	0.99–1.08
Lack of Structural Social Support	0.0001	1.00	0.96–1.04	0.32	0.98	0.92–1.05	3.35	1.02	0.95–1.09
Alcohol Misuse	1.28	0.88	0.71–1.10	3.35	1.25	0.98–1.58	5.70	0.71	0.53–0.94
Life Stressors	0.07	0.98	0.84–1.15	2.98	1.22	0.97–1.52	3.01	0.81	0.63–1.03

^{*} $p < 0.05$.

^{**} $p < 0.01$.

[‡] female is reference group.

[‡] Caucasian is reference group.

Table 2 presents the results of multinomial logistic regression analyses predicting group membership (i.e., no ideation, death ideation, suicide ideation) at some point in the past year ($df = 1$).