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Research article

The Influences of Anxiety, Depression, and Coping Strategies On Older Adults' Suicidal Ideation

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Abstract

Background: Adults' Suicide is a major public health issue among older adults, who have a high rate of completing suicide. In 2014, the highest suicide rate was among people 85 years or older.

Purpose: The aim of this study was to examine the influence of anxiety, depression, and coping strategies on suicidal ideation in older adults in the U.S.

Methods: This study used a cross-sectional, descriptive research design. Data were collected using structured questionnaires. The sample consisted of 51 community-dwelling older adults. The software SPSS 23 was used for data analysis. Descriptive data analysis techniques, including Pearson Correlation, Stepwise Multiple Regression, and ANOVA, were used to answer the research questions.

Results: The mean age was 73.16 (SD = 7.41), range (64-91); 54.9% were male and 45.1% were female. The following variables were significantly related to older adults' suicidal ideation: anxiety (r = 0.546, p = 0.000), depression (r = 0.678, p = 0.000), problem focused disengagement coping (r = -0.486, p = 0.000), emotional focused engagement coping (r = 0.472, p = 0.000), and emotional focused disengagement coping (r = 0.350, p = 0.012). The results of Multiple Regression indicated that depression (β = 0.583, $p \leq 0.001$) and emotional focused engagement coping strategies (β = 0.229, $p \leq 0.05$) were significant predictors of older adults' suicidal ideation. There were significant differences of anxiety, depression, and coping strategies between high suicidal ideation (scores = 4-7) group 3 and low suicidal ideation (scores = 0-2) group 1. Group 3 had higher level of anxiety and depression than Group 1. Group 1 had higher scores on using problem-focused disengagement coping strategies and lower scores on using emotion-focused engagement coping strategies than Group 3.

Conclusions: The findings indicate that older adults with higher levels of anxiety and depression, or using emotional focused coping strategies had higher scores on suicidal ideation. Older adults who used problem focused coping strategies had lower scores on suicidal ideation.

Keywords: Anxiety; Depression; Coping Strategy; Older Adult; Suicidal Ideation

Introduction

Suicide is a major public health issue for older adults as they have a high rate of completing suicide [1]. In 2014 the CDC reported that 5367 older adults (aged 65 and older) used firearms to commit suicide [1]. The highest suicide rate was among people 85 years or older [2]. In 2014, the highest suicide rate (19.3 per 100,000 individuals) was among people 85 years or older [1]. The second highest rate (19.2 per 100,000 individuals) occurred in those between 45 and 64 years of age [1]. The annual age-adjusted suicide rate is 12.93 per 100,000 individuals [1]. Surprisingly, despite the highest rate of suicide being in older adults, most individuals in this age group have never considered suicide. The reasons for suicidal ideation in older individuals are complex. Whereas much research exists regarding the risk factors for suicide in older adults, there is relatively little research on the coping strategies [3]. Some coping strategies have been shown to serve as protective factors against suicide. Active coping, planning, positive reinterpretation and turning to religion were inversely related to suicidal ideation [3]. Likewise, problem-focused coping strategies have also shown promise in preventing a person from suicidal ideation [4]. In contrast, behavioral and mental disengagement coping strategies are likely to increase suicidal ideation in older adults [3].The theory of the stress, coping, and adaptation model proposed by Lazarus & Folkman (1984) indicated that "coping as efforts to manage individual and environmental demands that are believed to challenge or surpass an individual's resources" [5]. Coping serves multiple functions: problem-focused coping is aimed at managing or altering the circumstance that is causing distress, whereas emotion-focused coping is aimed at regulating the affective response to distress [5]. Coping refers to things people do to deal with stressful events or situations and is widely recognized as a mediating factor [5]. Anxiety, depressive symptoms, stroke and chronic physical illness are recognized as risk factors for suicidal ideation [6, 7, 8, 9]. Older adults who have higher levels of anxiety and depression have higher risk of suicidal ideation and suicidal attempt [7, 9]. When the scores on anxiety and depression decrease, the scores of psychological well-being increase and the scores of suicidal ideation decrease [10]. In France, the high risk population with suicidal ideation included widowed elderly women suffering from depression, loneliness, and social isolation [11]. Older adults who had physical disability, physical or psychological illnesses, and memory problems were also at high risk for suicidal ideation [11]. Aging, chronic illness, behavior disengagement had a positive correlation with depression and suicidal ideation [9]. Sirey et al. (2008) investigated 403 homebound older adults in the USA. In their study, 12.2% of older adults reported clinically significant depression and 13.4% reported suicidal thoughts [12]. One-third of these participants with significant depressive symptoms were taking an antidepressant [12]. About 30% of older adults who had not been diagnosed with depressive symptoms had suicidal ideation [12]. Chronic pain and greater depression severity were significant predictors of suicidal ideation for male older adults [12].

Yeh (2015) examined 7 countries' study related to coping strategies to decrease anxiety. The results indicated that, in general, the positive, active, cognitive, and problem-focused coping strategies had positive effects to decrease anxiety, depression, improve quality of life and increase psychological well-being [13]. The emotional coping and avoidant coping strategies increased anxiety, depression, and suicidal ideation [13]. Behavioral disengagement and self-blame coping strategies were positively related to higher levels of depression [14]. Higher scores on spiritual well-being and using Problem Focused coping strategies decreased the level of Anxiety and Depression [4]. Lower scores on emotional coping strategies were associated with decreased level of Anxiety and Depression [4, 14]. The above reviewed studies were from Taiwan [6], Mongolia [15], South Korea [7], and Australia [10]. Most of participants were children, adolescents, or college students. Although the studies of Yeh and Chiao (2013) [16] and Carter et al. (2008) [8] were in the U.S., their participants were also composed of college students, children, and adolescents, not older adults. Even though the Shin et al. (2013) study focused on older adults, their participants were South Korean. Therefore, few existing studies have examined older adults who lived in the community in the U.S. The results of this study are very important to show the relationships among older adults' anxiety, depression, coping strategies, and their suicidal ideation in the U.S. community. The results of this study emphasize that health care professionals should stay aware of community-dwelling older adults' anxiety, depression, suicidal ideation and coping strategies in order to increasing their psychological well-being.

The Development of Personality and Psychological Well-Being Model, developed by Yeh & Chiao (2013) was used as the framework for this study. This framework indicates that a person's personality is developed by biological temperament, family interaction, and cognitive learning. People with different personalities use different coping strategies and this will cause them have a good psychological well-being or suicidal ideation. During this process, stressors, anxiety, depression, and spiritual well-being will influence the outcome variables [16].

Research Questions:

1. What were the relationships between older adult's Anxiety, Depression, Coping strategies, and Suicidal Ideation?

2. How much of older adult's suicidal ideation was predicted by their anxiety, depression, and coping strategies?

3. What were the differences of anxiety, depression, and coping strategies among 3 different levels of suicidal ideation?

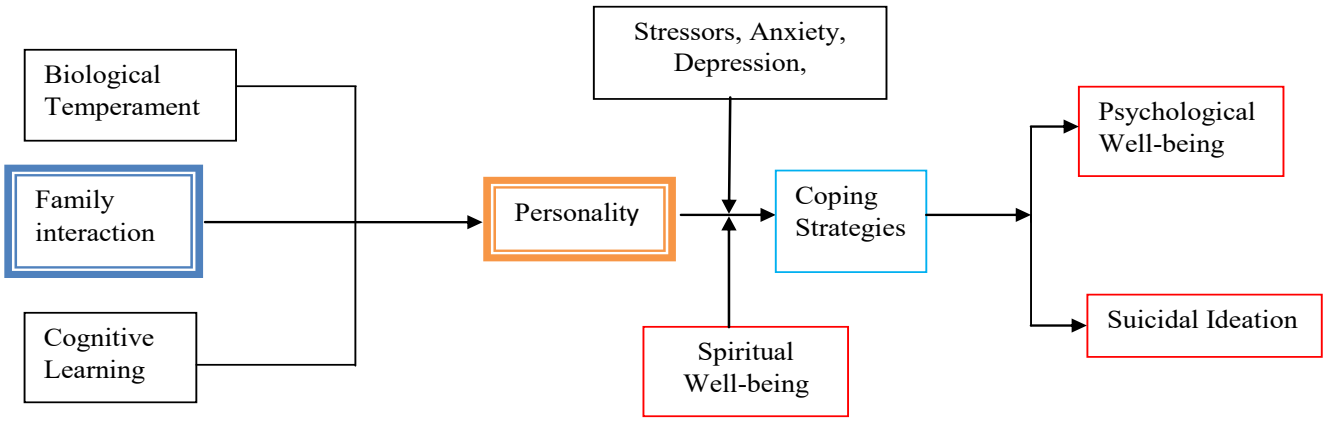

Figure 1. Theoretical framework.

Methods

Design

A descriptive correlational cross-sectional research design was used to examine the influence of older adults' anxiety, depression, and coping strategies on their suicidal ideation. Data were collected using structured questionnaires.

Data Collection

After IRB approval, a sample size of 51 older adults was recruited from the community in the USA. If the older adult consented to participating in this study, he/she was asked to fill out the questionnaires. The participant was told that completing the questionnaires was voluntary. It took 30 minutes on average to complete this questionnaire. After the participant returned the completed questionnaire, he/she received a pack of chocolates (worth about $2) to express the researcher's appreciation for their time.

Instruments

Data were collected using four instruments to measure older adults' anxiety, depression, coping strategies, and suicidal ideation. All instruments were selected for their reliability and validity.

Anxiety was measured by the Hamilton Anxiety Scale [17], which involved answering forty-two questions. The responses were scored on a five point Likert-type scale ranging from (0) Not present, (1) mild, (2) Moderate, (3) Severe, and (4) Very severe. Higher scores indicate higher levels of anxiety. The maximum was 168 points, and the minimum was 0 points. The Cronbach's alpha was 0.948 in this study.

Depression was measured by the Zung Depression Scale [18]. There were twenty questions. The responses were scored on a four point Likert-type scale ranging from (1) None or A Little of the time, (2) Some of the time, (3) A Good Part of the time, and (4) Most or All the time. Higher scores indicate feeling more depressed. The maximum was 80 points, and the minimum was 20 points. The Cronbach's alpha was 0.758 study.

Coping Strategies Coping Strategies Inventory Short-Form (CSI-SF) [19] was used to measure older adults' coping strategies. The inventory included four subscales: Problem-Focused Engagement, Problem-Focused Disengagement, Emotion-Focused Engagement, and Emotion-Focused Disengagement subscales. There were a total of 16 items. The responses were scored on a five point Likert-type scale ranging from (1) never to (5) almost always. Example responses for the Problem-Focused Engagement subscale include: "I ask a close friend for help." and "I try to let my emotions out." An example response for the Problem-Focused Disengagement subscale is "I make a plan and follow it." An example response for the Emotion-Focused Engagement subscale is "I hope for a miracle." An example response for the Emotion-Focused Disengagement subscale is "I tend to criticize myself." Higher scores of the subscale indicate that the coping strategies have been used more frequently. Cronbach's alpha in this study: Problem-Focused Engagement: 0.76, Problem-Focused Disengagement: 0.714, Emotion-Focused Engagement: 0.528, and Emotion-Focused Disengagement: 0.423.

Suicidal Ideation The Brief Screen for Adolescent Depression, developed by the Signs of Suicide Project in 2009 [20], was used to measure participants' suicidal ideation. It comprises of seven yes-no questions, where a "yes" response was scored as one point, and a "no" was scored as zero points. Thus, the maximum thus was 7 points, and the minimum was 0 points. Scores from 0 to 2 indicated that a low likelihood for depression; a score of 3 indicated medium likelihood of depression; and scores from 4 to 7 indicated that the person likely has depres-

sion and should talk to a mental health professional. Questions 4 and 5 are about suicidal thoughts and behaviors. If a person answered "Yes" to either question 4 or 5, this person should see a mental health professional immediately- regardless of the total BSAD score. Cronbach's alpha was 0.793 in this study.

Data Analysis

The analyses were conducted using the Statistic Package for the Social Sciences (SPSS) PC + Version 23.0. Descriptive statistics (mean, SD, range, frequency, and percent) were obtained. Pearson Product Moment Correlation, Stepwise Multiple Regression and ANOVA analyses were used to answer research questions.

Results

There were 51 older adults recruited from the community. The mean age of older adults was 73.16 (*SD* = 7.41), range (64-91); 54.9% were male and 45.1% female. Most of them were married (*n* = 30, 58.8%), Christians (*n* = 50, 98%), and had low level of anxiety (*M* = 2.61, *SD* = 2.08) and depression (*M* = 2.06, *SD* =1.74) (Table 1).

Table 1. Demographic Data Description of Older Adults' (*N* = 51).

Variable	*n*	%	*M*	*SD*
Gender				
Male	**28**	**54.9**		
Female	**23**	**45.1**		
Age (64-91 years)			**73.16**	**7.41**
Mental Illness Diagnosis				
0	**27**	**52.9**		
1	**13**	**25.5**		
2	**6**	**11.8**		
3	**4**	**7.8**		
4	**1**	**2.0**		
Anxiety	**16**	**31.4**		
Depression	**8**	**15.7**		
Substance Abuse	**2**	**3.9**		
Mood Disorder	**4**	**7.8**		
Impulse Control	**6**	**11.8**		
Eating Disorder	**5**	**9.8**		
Eating Disorder	**5**	**9.8**		
Schizophrenia	**1**	**2.0**		
Anxiety (0-8)			**2.61**	**2.08**
Depression(0-9)			**2.06**	**1.74**
High School	**27**	**52.9**		
Race: White	**50**	**98**		
Marriage				
Married	**30**	**58.8**		
Widowed	**9**	**17.6**		
Divorced	**11**	**21.6**		
Religion				
Believe in Jesus Christ	**50**	**98**		
Income per month				
Below $1000	**8**	**15.7**		
$1000-1999	**12**	**23.5**		
$2000-2999	**12**	**23.5**		
$3000-3999	**7**	**13.7**		
$5000-5999	**5**	**9.8**		
Above $7000	**3**	**5.9**		

In this study, most of the older adults had low levels of anxiety (*M* = 36.95, *SD* = 20.99), medium high levels of depression (*M* = 38.69, *SD* = 6.88), and low levels of suicidal ideation (*M* = 1.55, *SD* = 1.56). The participants used a variety of coping strategies, particularly problem focus disengagement (*M* = 15.04, *SD* =2.64) and emotional focus disengagement (*M* = 12.64, *SD* = 2.12).

As noted in table 3, the following variables had significant relationships with older adults' suicidal ideation: anxiety (*r* = 0.546, *p* = 0.000), depression (*r* = 0.678, *p* = 0.000), problem-focused disengagement coping (*r* = -0.486, *p* = 0.000), emotion-focused engagement coping (*r* = 0.472, *p* = 0.000), and emotion-focused disengagement coping (*r* = 0.350, *p* = 0.012) (Table 3).

Table 2. The description of the main variables.

	Min	*Max*	*M*	*SD*
Anxiety	1.00	91.00	36.95	20.99
Depression	25.00	51.00	38.69	6.88
Coping Strategies				
Problem-Focused Engagement	7.00	18.00	12.25	3.06
Problem-Focused Disengagement	8.00	20.00	15.04	2.64
Emotion-Focused Engagement	4.00	18.00	11.00	2.67
Emotion-Focused Disengagement	6.00	17.00	12.64	2.12
Suicidal Ideation	0.00	5.00	1.55	1.56

Older adults who had higher scores on anxiety or higher scores on depression had higher scores on suicidal ideation. People who used problem focused coping strategies had lower scores on suicidal ideation, but people who used emotional focused coping strategies had higher scores of suicidal ideation (Table 3).

Table 3. Pearson's Correlation: The relationships between older adults' Anxiety, Depression, Coping strategies, and Suicidal Ideation (N = 51)

Variables	**Suicidal Ideation (*r*)**	***P***
Anxiety	**0.546*** **	**0.000**
Depression	**0.678*** **	**0.000**
Coping Strategies:		
Problem Focused Engagement	**0.258**	**0.068**
Problem Focused Disengagement	**-0.486*** **	**0.000**
Emotion Focused Engagement	**0.472*** **	**0.000**
Emotion Focused Disengagement	**0.350***	**0.012**

r value in the box, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 4. Multiple Regression: Predictors of Older Adults' Suicidal Ideation (N = 51)

Variables	***ß***	***t***
Depression	**0.583**	**5.203*** **
Emotion-Focused Engagement	**0.229**	**2.042***
R^2 =	**0.503**	
F(df =2, 48) =	**24.276*** **	

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

As shown in Table 4, the model variables accounted for 50.3% of the variance in suicidal ideation. Depression ($ß$=0.583, p <0.001) and emotion-focused engagement coping strategies ($ß$=0.229, p <0.05) were the significant predictors of older adults' suicidal ideation (Table 4). Higher scores on depression and using emotion-focused engagement coping strategies were found to predict older adults' suicidal ideation (Table 4).

Regarding the scores on suicidal ideation, scores from 0 to 2 indicate normal values; a score of 3 indicate possibility of depression; and scores from 4 to 7 indicate that the person likely has depression and should talk to a mental health professional. The older adults were divided into these three groups according to their scores on suicidal ideation: group 1 (score = 0-2), group 2 (score = 3), and group 3 (score = 4-7). The ANOVA and Post Hoc Tests were used to compare these three groups' anxiety, depression, and coping strategies. There were significant differences between group 1 and group 3 in the anxiety, depression, problem-focused disengagement coping strategy, and emotion-focused engagement coping strategy. Compared with group 1, group 3 had higher level of anxiety (M = 59.96, SD = 22.26; $F\ (df\ =2.48)$= 10.30, p = 0.00), higher level of depression (M = 46.50, SD = 3.41; $F\ (df\ =2.48)$= 12.63, p = 0.00), lower scores of using problem-focused disengagement coping strategy (M = 12.51, SD = 2.33; $F\ (df\ =2.48)$ = 7.75, p = 0.001), and higher scores of using emotion-focused engagement coping strategy (M = 12.90, SD = 2.77; $F\ (df\ =2.48)$ = 4.66, p = 0.014) (Table 5).

Table 5. ANOVA and Post Hoc Test compare the differences of three levels of suicidal ideation in their anxiety, depression, and coping strategies (N = 51)

Table 5-1. ANOVA and variable descriptions.

Dependent Variables	**Suicidal Ideation**	***n***	***M***	***SD***	***F (df =2.48)***	***p***
Anxiety	0-2	39	31.15	16.75	10.304	0.000
	3	2	35.00	16.97		
	4-7	10	59.96	22.26		
	Total	51	36.95	20.99		
Depression	0-2	39	36.51	6.17	12.626	0.000
	3	2	42.00	0.00		
	4-7	10	46.50	3.41		
	Total	51	38.69	6.88		
Problem Focus Engagement Coping	0-2	39	12.05	2.99	0.463	0.632
	3	2	12.00	5.66		
	4-7	10	13.10	3.14		
	Total	51	12.25	3.06		
Problem Focus Dis-engagement Coping	0-2	39	15.74	2.37	7.750	0.001
	3	2	14.00	1.41		
	4-7	10	12.51	2.33		
	Total	51	15.04	2.64		
Emotional Focus Engagement Coping	0-2	39	10.41	2.44	4.656	0.014
	3	2	13.00	1.41		
	4-7	10	12.90	2.77		
	Total	51	11.00	2.67		
Emotional Focus Dis-engagement Coping	0-2	39	12.41	2.11	1.277	0.288
	3	2	12.50	0.71		
	4-7	10	13.60	2.22		
	Total	51	12.64	2.12		

Table 5-2. Post Hoc Tests:
Turkey HSD

Dependent Variables	**Suicidal Ideation** **(I)**	**(J)**	**Mean Difference** **(I)-(J)**	**Std. Error**	***p***
Anxiety	4-7	0-2	28.81	6.35	0.000
Depression	4-7	0-2	9.99	2.02	0.000
Problem Focus Engagement Coping	4-7	0-2	1.05	1.10	0.609
Problem Focus Disengagement Coping	4-7	0-2	-3.23	0.83	0.001
Emotional Focus Engagement Coping	4-7	0-2	2.49	0.88	0.019
Emotional Focus Disengagement Coping	4-7	0-2	1.19	0.75	0.258

Discussion

Anxiety and Suicidal Ideation

According to the results of this study, anxiety had a significant relationship with older adults' suicidal ideation. Older adults who had higher anxiety scores had higher scores on suicidal ideation. The result is similar to the findings of other studies reported in the literature [6, 7, 8, 10 15, 16], but these previous studies' participants were outpatients or teenagers or other countries. Few studies have reported the results of older adults (living in community homes) in the U.S. In Hung et al. (2010), study participants were outpatients with obsessive compulsive symptom in Taiwan [6], but the participants in this study were older adults living in the community in the USA. Altangerel, Liou, and Yeh (2014) examined the prevalence and predictors of suicidal behavior among Mongolian high school students [15], and their results indicated that females were more likely to have suicidal behavior than males [15]. No close friends, feelings of loneliness, insomnia, self-perception of underweight or overweight, and carrying a weapon were significant predictors of students' suicidal behavior [15]. Missing school without permission, being bullied, and going hungry were also important risk factors of suicidal ideation [15]. Yeh and Chiao (2013) examined the influences of parents' child-rearing attitudes, personalities, and coping strategies on U.S. college students' psychological well-being and suicidal ideation [16]. Their results indicated that consistent discipline, communication, and positive personalities were significant predictors of psychological well-being [16]. Negative parent rearing attitude and low emotional stability were significant predictors of suicidal ideation [16]. Problem-Focused Engagement, Problem-Focused Disengagement, and Emotion-Focused Disengagement were significant predictors for both psychological well-being and suicidal ideation [16]. Shin et al. (2013) examined the relationship between physical health,

mental health, social environmental conditions, and suicidal behavior among older adults in South Korea [7]. Their results indicated that the five stroke warning signs, number of physical illnesses, depression, and anxiety were associated with suicide ideation [7]. According to their multivariate analysis, only depression was associated with suicidal ideation and only depression and the five stroke warning signs were associated with suicide attempts among older adults in South Korea [7]. Carter et al. (2008) examined 252 children and adolescents diagnosed with anxiety disorder and their results indicated that anxiety and depression had significant direct effect on suicidal ideation [8]. Yeh et al. (2016) examined the influences of Australian nursing students' anxiety, depression, personality and family interaction on their psychological well-being and suicidal Ideation [10]. Their results indicated that anxiety, depression, and harsh discipline were significant predictors of suicidal ideation [10]. In this study, most of the participants lived independently in the community. According to Table 2, they had low levels of anxiety. Most of them were married (n = 30, 58.8%), so they had a support system present. The positive, active, cognitive, and problem-focused coping strategies had positive effects to decrease anxiety, depression, improve quality of life and increase psychological well-being [13]. The emotional coping and avoidant coping strategies increased anxiety, depression, and suicidal ideation [13]. Therefore, in future nursing interventions, nurses can provide problem-focused coping strategies to older adults in order to decreasing their anxiety. For example, the Community Mental Health Team and Psychogeriatric Assessment can be used in comprehensive interventions to alleviate anxiety and depression in older adults [21].

Depression and Suicidal Ideation

According to the results of this study, depression had significant relationships with older adult's suicidal ideation. Older adults who had higher scores for depression tended to have higher scores for suicidal ideation. This finding is consistent with studies conducted in many other countries [7, 8, 9, 11, 12]. Loneliness, social isolation [11], aging, chronic illness, behavior disengagement are positively correlated with depression and suicidal ideation [9]. Keskin and Engin (2011) evaluated the relation between depression, suicidal ideation and coping strategies in hemodialysis patients with renal failure [9]. Much like older adults living in the community, patients with renal failure have levels of depression with a significantly positive relationship with their suicidal ideation.

Coping Strategies and Suicidal Ideation

According to our results, problem-focused disengagement coping strategies, emotion-focused engagement coping strategies, and emotion-focused disengagement coping strategy had significant relationships with older adults' suicidal ideation. We found that older adults who use problem-focused coping strategies had lower scores for suicidal ideation, but people who using emotion-focused coping strategies had higher scores of suicidal ideation. These results are similar to the results from Yeh's study in 2013. Yeh and Chiao (2013) indicated that higher scores for problem-focused engagement, problem-focused disengagement and lower scores for emotion-focused disengagement were found to predict significantly higher scores for psychological well-being [16].

Predictors of Older Adults' Suicidal Ideation

In Table 4, we apply study data to answer whether suicidal ideation is predicted by anxiety, depression, and/or coping strategies. Our approach found that depression (β=0.583, p <0.001) and emotion-focused engagement coping strategies (β=0.229, p <0.05) were the two primary predictors of older adults' suicidal ideation. Higher scores on depression and using emotion-focused engagement coping strategies were found to predict older adults' suicidal ideation. Although many variables were correlated to suicidal ideation, depression and using emotion-focused engagement coping strategies were the strongest predictors of older adults' suicidal ideation in this study. American Association for Marriage and Family Therapy (2016) also indicated that major depression is very often associated with suicide in later life [2]. The good news is that the majority of older adults are not depressed. Some estimates of major depression in older people living in the community range from less than 1% to about 5% but rise to 13.5% in those who require home healthcare and to 11.5% in older hospital patients [22]. In this study, 15.7% of older adults were diagnosed with depression. The risk factors for older adults' depression are female gender, chronic medical illness, disability, sleeping poorly, and loneliness/socially isolated [23]. About 80% of older adults have at least one chronic health condition, and 60-65 % of older adults have two or more conditions [24]. Negative coping strategies may contribute to poor nutrition, inactivity, smoking and alcohol misuse, leading to chronic diseases and decreasing psychological well-being [25]. This is consistent with the results in this study that using emotion-focused engagement coping strategies predicted older adults' suicidal ideation Sleeping poorly is a major risk factor for older adults' depression. About 30-60% of older adults have one or more sleep complaints such as difficulty falling and staying asleep, early morning awakenings, excessive daytime sleepiness, and daytime fatigue [26]. Some effective non-pharmacological treatments for insomnia have been developed, including cognitive-behavioral techniques and sleep hygiene instruction [27]. Physical activity, biofeedback, nutrition and stress reduction techniques have been developed to improve older adults' chronic medical problems [28] in order to decrease older adults' depression. Older adults' depression symptoms are often overlooked and untreated because they maybe coincide with other late life issues [28]. These depression symptoms are treatable and should not be ignored [29].

The Comparisons among Three Levels of Suicidal Ideation

The third research question was examined by ANOVA and Post

Hoc Tests. The results of ANOVA and Post Hoc Tests were consistent with Stepwise Multiple Regression results that higher scores on depression and using emotion-focused engagement coping strategies were found to predict older adult's suicidal ideation. In ANOVA and Post Hoc Tests, there were significant differences between group 1 and group 3 in the anxiety, depression, problem-focused disengagement coping strategy, and emotion-focused engagement coping strategy. Compared with group 1(score of suicidal ideation = 0-2), group 3 (score of suicidal ideation = 4-7) had higher level of anxiety, higher level of depression, lower scores of using problem-focused disengagement coping strategy, and higher scores of using emotion-focused engagement coping strategy. Nurses should assess not only older people's activity of daily living dependency, but also their anxiety, depression, coping strategies, and suicidal ideation. In future research, these factors could be considered in the sampling criteria. The development of interventional nursing research can be used to improve the older people's psychological well-being and develop positive problem-focused coping strategies in the future. Future studies might increase the sample size and target a more ethnically diverse population. A larger sample size randomly drawn from communities and hospitals might comprise a sample representative of the population and increase the generalizability of the study findings. A longitudinal design would also allow for assessing both immediate and long terms responses.

Limitations

This study has three limitations that are important to consider in relation to the findings and implications for future research. First, the cross-sectional design does not provide insights on the differences of the older adults' anxiety, depression, and coping strategies between the population who live in the hospital and community. Second, the sample was recruited from community in the U.S., so the generalizability of this study is limited. Third, the participants in this study were voluntary, thus the results of this study are only usable among patients who are willing to share their experiences.

Conclusion

Based on the findings of this study, there were 24 (47%) older people diagnosed with at least one mental illness although they live in the community. According to Pearson Correlation, anxiety, depression, problem-focused disengagement coping, emotion-focused engagement coping, and emotion-focused disengagement coping had significant relationships with older people's suicidal ideation. According to stepwise Multiple Regressions, depression and emotion-focused engagement coping strategies were the significant predictors of older people's suicidal ideation. Higher scores of depression and using emotion-focused engagement coping strategies were found to predict older people's suicidal ideation. According to ANOVA, compared with group 1 (score of suicidal ideation = 0-2), group 3 (score of suicidal ideation = 4-7) had higher level of anxiety, higher level of depression, lower scores of using problem-focused disengagement coping strategy, and higher scores of using emotion-focused engagement coping strategy.

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