



Suicidality in the elderly: Role of adult attachment

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ABSTRACT

Attachment styles reflect interpersonal relationship patterns in many ways. Although there is increasing evidence regarding the relationship between attachment styles and suicidality in adults, few studies have been conducted among the elderly population. Present study aims to investigate the link between attachment style and risk of suicidality in elderly people. A secondary analysis of cross-sectional data among geriatric outpatients at psychiatric clinics in Thailand with respect to whether patients had depressive disorders according to DSM-IV by using Mini-Neuropsychiatric Interviews (MINI). MINI-Module C was used to assess suicidality. Other measures included the experience of close relationship questionnaire and a brief cognitive assessment, Mental Status Examination T10. One-hundred and ninety-one elderly people were included, 50.8% females and 119 (62.3%) had depressive disorder. Anxiety attachment predicted suicidality, determined with questions related to the following areas; “want to hurt myself”, “suicidal ideation”, “suicidal planning”, and “suicidal attempted in lifetime”. Anxiety attachment style was significantly increased the level of suicide risk. We concluded that high anxious attachment, such as preoccupied attachment style, was associated with suicidality in elderly people. Further investigation focusing on variables associated with attachment and suicidality, particularly depression or anxiety, is warranted.

1. Introduction

Suicidal-related behavior is one of the most serious problems in older persons, who have a higher suicide rate compared to the younger population globally (Lindsay Lee and Esteban Ortiz-Ospina, 2018). A recent study among new cases in tertiary care settings in Thailand (n = 803) also found the prevalence rate of current suicide risk at approximately one-fifth; among these, 23.7% had depressive disorders and 6.4% had anxiety disorders (Wongpakaran et al., 2018). Moreover, there is growing evidence that explores the risk factors of suicidal behavior, self-harm or self-injuries in order to plan for effective prevention of suicidal behavior in older people. Recent literature suggests considerable risk factors related to suicidality (e.g. mental and neurocognitive disorders, social exclusion, loneliness and bereavement, physical pain psychological pain and physical illness (Conejero et al., 2018)). Moreover, self-esteem, loneliness, and social support were also risk factors for suicidality, and they were associated with depression in elderly people (Conejero et al., 2018; Liu et al., 2016; Tian, 2016).

Elderly people express their suicidality in different ways, such as

passive/active suicidal ideation, non-suicidal self-injury, suicidal planning, and suicide attempts (Sheehan et al., 1998). Characteristics of suicidal-related behavior in elderly people challenge its prevention. In contrast to adults, elderly people are less likely to express their emotional problems or report their suicidal ideations. Physical frailty, lonely living, and immediately lethal means of suicide used in the elderly makes rescue and prevention more difficult (Conwell and Thompson, 2008; Gallo et al., 1994). Additionally, passive suicidal ideation, previous suicidal attempts, and non-suicidal self-injury were found to be associated with subsequent suicide and death (Bryan et al., 2015) (Barry et al., 2016; Van Orden et al., 2015).

One of the factors underpinning predisposition to suicidal tendency and interrelating to loneliness, depression, and suicidal behavior is attachment (Bowlby, 1969) — the fundamental mental development forming later personality and other clinical disorders. There are four kinds of attachment styles traditionally described; avoidant or dismissing, anxious or preoccupied, disorganized or fearful, and secured attachments (Ainsworth et al., 2015). Attachment styles reflect patterns of interpersonal relationship in many ways, as shown among general

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and sexual minority adolescents, whose mental health has been found to be associated with both peer and parental attachment, while mental health mediated the relationship between peer attachment and main partner relationship quality (Starks et al., 2015).

Attachment styles were distinctly found associated with suicidal-related behavior, suicidal ideation, suicide attempt, and mental disorders in adults. According to related reports, insecure attachment style, mostly anxious, was associated with an increased suicide risk (Miniati et al., 2017) and post-discharge suicidal behavior (Li et al., 2017a). Falgares et al. (2017) found the result similar to that in psychiatric inpatients who had insecure attachment — anxious and avoidant styles were associated with suicidal-related behavior, with self-criticism as a mediator. Insecure attachment including preoccupied, anxious, and avoidant attachment but not dismissing attachments were found associated with non-suicidal self-injury behavior (Martin et al., 2017) through behavioral problems but not emotional problems (Cassels et al., 2018). Furthermore, a study suggested that repeated suicide attempters had higher neuroticism and anxious attachment than first-attempters (Pennel et al., 2018). In addition, insecure attachment style, mostly anxious, and unresolved traumas are associated with an increased suicide risk (Levi-Belz and Lev-Ari, 2018; Li et al., 2017b; Palitsky et al., 2013).

In addition to attachment, other mediators explained how attachment had an impact on suicidality such as self-compassion, entrapment, self-efficacy, perceived stress, and perceived social support. In addition, attachment styles were shown to be linked with suicidal-related behavior and mood disorders such as depression, bipolar, cyclothymia, dysthymia (Harnic et al., 2014), hopelessness and a lower level of spirituality (Smith et al., 2015), and loneliness (Klug et al., 2014).

To date, the association between suicidal behavior and depression is well established. However, studies focusing on attachment and suicide in the elderly are very limited and under investigated, despite the considerable evidence from studies in adults. It may not be legitimate to assume the relationship holds for the elderly as it does for adults because there are distinctive changes both biologically and psychosocially in the elderly population. In addition, how and what attachment is carried from childhood to old age is still unknown. Hence, this study aimed to investigate the link between attachment style and risk of suicidality in elderly people.

2. Methods

2.1. Study design and participants

This research was conducted on the combined data of baseline information from two existing naturalistic and observational studies regarding elderly outpatients who were 60 years of age and older, and were newly assessed for depressive disorders in psychiatric clinics of tertiary hospitals in Thailand (Wongpakaran et al., 2019, 2014).

The authors selected elderly participants who had completed an interview for clinical diagnosis of depressive disorders and suicidality according to the Mini-International Neuropsychiatric Interview for DSM-IV (MINI) (M.I.N.I., 5.0.0), attachment styles according to the Thai version of the 18-item revised Experience of Close Relationships Questionnaire (ECR-R-18), and other psychosocial measurements including cognitive function. Although the data regarding treatment and their follow-up were collected for one year, only baseline data were used in the present analysis. Patients with a history of any type of dementia were excluded.

The independent research ethics committee approved the two original studies. Informed consents were obtained. All information provided was kept confidential at each center, and the authors were authorized to use the data.

2.2. Measurements

2.2.1 Mini-International Neuropsychiatric Interview (M.I.N.I., 5.0.0) (Sheehan et al., 1998) is a semi-structured interview that is employed for diagnosing psychiatric disorders according to the DSM-IV. Depressive disorders (i.e. major depressive disorder (MDD) and dysthymia) were in Modules A and B. Module C comprises suicidality, providing information from past months including C1 “Do you think that you would be better off dead or wish you were dead?” (one mark), C2 “Do you want to harm yourself?” (two marks), C3 “Do you think about suicide/suicidal ideation?” (six marks), C4 “Do you have a suicide plan?” (ten marks), C5 “Have you attempted suicide?” (ten marks), and C6 “Have you had a lifetime experience to attempt suicide?” (four marks). Any “yes” on each item is considered to be a suicide risk (current). The degree of suicide risk is divided into three levels: low (1–5 marks), moderate (6–9 marks), and high (ten marks and higher). The Thai version has been validated and is widely used (Kittirattanapaiboon and Khamwongpin, 2005).

2.2.2 18-item revised Experience of Close Relationships Questionnaire (ECR-R-18) — a self-rating measurement that categorizes people into two types: anxiety and avoidance. The original version has 36 items (Brennan et al., 1998). The short version has 18 items in 7-Likert ratings (Wongpakaran and Wongpakaran, 2012).

2.2.3 Mental status examination T10 (MSET10) — a clinician-rating cognitive assessment which was modified from the MMSE-Thai 2002 (Thai Cognitive Test Development Committee 1999, 2002) Thai Cognitive Test Development Committee 1999, 2002), and was introduced in Thai as a brief cognitive screening test (Boongird, 2018). The interpretation of cognitive impairment (or dementia) depends on the patient’s level of education. The total score is 29; the cut-off score for cognitive impairment or dementia for the elderly who completed elementary schooling is 22, and for those who did not is 17. For participants who are illiterate, the cut-off score is 14 out of a total score of 23.

2.3. Statistical analysis

Descriptive statistics (e.g. frequency, percentage, mean, standard deviation) were used for demographic data (e.g., age, gender, years of education) and measurement scores. Chi-square tests were analyzed to compare differences between groups with and without depressive disorders. The authors applied the standard procedure of multiple logistic regression analysis to determine the significant predictors for each outcome of suicidality. Pseudo R^2 was used to evaluate the ratio of the sum of squares explained by a regression model. The authors used the Kruskal Wallis Test for multiple comparison among four attachment styles. The likelihood of increasing the suicide risk level was analyzed by ordinal regression.

In addition, according to Fraley’s suggestion, dimensional attachment is able to convert to Bartholomew’s four categorical attachment prototypes attachment by considering patterns of regression coefficients (beta weight). For example, + beta for anxious, + beta for avoidant indicates fearful attachment, 0 beta for anxious, + beta for avoidant indicates dismissing, + beta for anxious, 0 beta for avoidant indicates preoccupied attachment, 0 beta for anxious, and 0 beta for avoidant indicates secure attachment (Fraley, 2010).

The statistical significance was set at < 0.05 . All analyses were performed using IBM SPSS, Version. 22.

3. Results

In total, 191 participants completed the ECR-R-18 and the M.I.N.I. module C. Depressive disorders were found in 119 participants (62.3%). The average MSET10 score was 22.31. Data related to demographic characteristics, and the scores of ECR-r and suicidality, are shown in Table 1.

Table 1
Characteristic of sociodemographic and clinical variables of participants (N = 191).

Characteristic	All N (%) or Mean (SD)	Depressive disorders N (%)	Non-depressive disorders N (%)	Chi-square	p-value
Age	70.26 (7.44), 60-89	69.57 (7.13), 60-88	70.40 (7.84), 60-89	1.66 (df = 189)	0.098
Female	97 (50.80)	50 (42.0)	47 (65.3)	9.711	0.002
Years of education		5.43 (3.88), 0-18	5.87 (3.95), 0-17	.606 (df = 117)	0.546
Marital status					
Alone	80 (41.90)	57 (47.9)	23 (31.9)	4.69	0.03
Living together	111 (58.10)	62 (52.1)	49 (68.1)		
Income per year (USD)					
≤ 1836	80 (66.7)	35 (71.4)	45 (63.4)	1.05	0.592
1837-4007	18 (15.0)	7 (14.3)	11 (15.5)		
≥ 4008	22 (62.8)	7 (14.3)	15 (21.1)		
MSET10	22.31 (4.7), 7-30	22.54 (4.64)	21.93 (4.87)	0.86 (df = 189)	0.391
ECR-R (anxiety)	2.52 (1.42) 1-6.33	2.80(1.54)	2.05(1.07)	3.92 (df = 184.6)	< .0001
ECR-R (avoidance)	3.93 (1.27) 1-6.56	3.93 (1.23)	3.90 (1.33)	.068 (df=188)	0.946
Suicidal risk items (M.I.N.I. Module C) in the past one month					
C1 Better off dead or wish to die					
No	124 (64.90)	57 (30.0)	67 (35.3)	39.5	< .0001
Yes	66 (34.60)	61 (32.1)	5 (2.6)		
C2 Want to harm oneself					
No	168 (88.00)	96 (50.5)	72 (37.9)	15.18	< .0001
Yes	22 (11.50)	22 (11.6)	0 (0)		
C3 Suicidal ideation					
No	161 (84.30)	89 (46.8)	72 (37.9)	20.88	< .0001
Yes	29 (15.20)	29 (15.3)	0 (0)		
C4 Suicidal plan					
No	172 (90.10)	100 (52.6)	72 (37.9)	12.132	< .0001
Yes	18 (9.40)	18 (9.5)	0 (0)		
C5 Suicidal attempt					
No	180 (94.20)	108 (56.8)	72 (37.9)	6.44	0.014
Yes	10 (5.20)	10 (5.3)	0 (0)		
C6 Suicidal attempt (lifetime)					
No	171 (89.50)	101 (53.2)	70 (36.8)	6.72	0.011
Yes	19 (9.90)	17 (8.9)	2 (1.1)		
Current suicidal risk					
No	92 (48.20)	27 (22.9)	65 (90.3)	83.73 (df = 3)	< .0001
Mild	46 (24.10)	39 (33.1)	7 (9.7)		
Moderate	34 (17.80)	34 (28.8)	0		
Severe	18 (9.40)	18 (15.3)	0		

Note: ECRR-18: The revised Experience of Close Relationships Questionnaire, MINI: Mini International Neuropsychiatric Interview version 5.0.0, MSET10 = Mental Status Examination Thai 10.

Table 2
Predictors of attachment subscales for suicidality* (N = 191).

Suicidality	Attachment Subscale	Depressive disorders (n = 119)			Non-depressive disorders (n = 72)		
		B	S.E.	p-value	B	S.E.	p-value
C1 Better off dead or wish to die	Anxiety	-.066	.125	.598	-.521	.646	.420
	Avoidance	-.006	.153	.967	-.216	.365	.554
C2 Want to harm myself	Anxiety	.337	.158	.033	-	-	-
	Avoidance	-.121	.203	.549	-	-	-
C3 Suicidal ideation	Anxiety	.291	.145	.045	-	-	-
	Avoidance	.082	.184	.656	-	-	-
C4 Suicidal plan	Anxiety	.366	.169	.030	-	-	-
	Avoidance	-.030	.218	.889	-	-	-
C5 Suicidal attempt	Anxiety	.348	.214	.104	-	-	-
	Avoidance	-.180	.276	.516	-	-	-
C6 Suicidal attempt (lifetime)	Anxiety	.353	.178	.047	1.099	.633	.082
	Avoidance	.162	.235	.490	-.073	1.082	.946

Note: *corrected by age, gender, and marital status, B = unstandardized coefficient, S.E. = standard error, C1-C5 = in the past one month.

Table 2 illustrates that in the elderly group with depressive disorders, anxiety attachment significantly predicted C2, C3, C4, and C6, namely “want to harm myself”, “suicidal ideation”, “suicidal plan, and “suicidal attempt (lifetime)”. According to Fraley’s suggestion in

transforming to categorical attachment style, this finding indicated that preoccupied attachment was more related to suicidality rather than fearful attachment.

In examining the association between attachment and levels of

suicidal risk, ordinal regression was used. The model was shown to reject the null hypothesis of goodness of fit ($p = .098$), indicating the model fitted well with the data. Pseudo r square (Cox and Snell) was .163, denoting that 16.3% of the dependent variable was explained by independent variables. Test of parallel line was $p > .05$, a result which indicated no violation of assumption. In terms of predictors, only attachment anxiety was likely to increase the level of risk with the odds ratio of 1.352 (95%CI 1.081, 1.691), $p = .001$, while odds ratios were 0.960, $p = .046$ for age; $OR = .497$, $p = .016$ for sex; and $OR = 1.954$, $p = .032$ for marital status.

4. Discussion

This study is, to the best of our knowledge, one of the first to investigate adult attachment related to suicidality in elderly people. In contrast to adolescents and adults, a high level of anxiety attachment was associated with some types of suicidality, and increased level of suicide risk in the elderly. The significant regression coefficients of attachment anxiety but not attachment avoidance indicated preoccupied attachment style based on Bartholomew's criteria (high anxiety, not high avoidance).

Our findings are supported by related studies (albeit conducted in adults) demonstrating that insecure attachment, mostly anxiety, was correlated with suicidality and self-injurious behavior (Aaltonen et al., 2016; Fung, 2006; Kharsati and Bhola, 2016; Miniati et al., 2017; Wrath and Adams, 2018), although the strength of correlation varied due to different study designs. Furthermore, high anxiety attachment, in romantic relationships, was correlated with self-harm in women, but not in men, and was a significant predictor of self-harm behavior. (Levesque et al., 2010). This result may suggest that attachment style plays an important role in suicide across life span.

In a study on relationship of attachment style and suicidal ideation and behavior among patients with major depression, it was found that anxious attachment predicted suicidal ideation and behavior. These two parts of suicidality seemed to be related to each other (Mundt et al., 2013), as found in our results. This relation was explained in terms of a high level of anxiety attachment, which allowed anticipating the difficulty under stress of self-reliance and emotional reactions towards others (Fortuna and Roisman, 2008). No previous report regarding suicidal plan and attachment has been published previously, except with respect to suicide attempt. Our results are endorsed by a related study that anxious attachment predicted both recent suicidal attempt in the past one month and lifetime suicidal attempt (Aaltonen et al., 2016; Pennell et al., 2018).

It is important to note that suicidality was associated with depressive disorder. No significant relationship was observed among the group without depressive disorder. This result is, however, not a surprise because this is relatively well-established data in the elderly (Alexopoulos et al., 2009; Ciulla et al., 2014; Dong et al., 2015; Keskin Gokcellil et al., 2017; Turvey et al., 2002). It is likely that there may be some link between attachment, depression, and suicidality. A hypothesis termed the social neuroscience model mentioned social skills and attachment style as moderators of heightened perceptions of loneliness (Wong et al., 2018), which are increasingly mentioned as being risk factors of suicide; another cross-sectional study conducted in Hungary reported that anxious attachment styles not only related to anxious temperaments but also to depression and cyclothymia (Lang et al., 2016). According to a previous study on behavior and coping styles of high anxiety attachment, which is characterized by the experience of worrying about being rejected or abandoned by partners, people with this attachment style were found to have poorer overall physical and mental health. Moreover, in biological aspects, a study in healthy young females demonstrated that insecure anxious attachment style had greater cortisol reactivity than participants with secure attachment style response to group psychosocial stress (Smyth et al., 2015). Hence, this vulnerability may robustly explain the relationship of anxious

attachment and suicidality. These analyses have demonstrated the vulnerable characteristics of anxious attachment that may cause this attachment to attempt suicide in adolescence and adults, but there is still limited evidence to conclude that this explanation can be applied to the elderly.

Besides attachment, the finding was consistent with a previous study that reported that female gender was a significant predictor of likelihood or reporting self-harm behavior compared to males (Levesque et al., 2010). Advancing age tended to be a protective factor for suicidality as well as secure marital status, a result which was consistent with previous reports (Conwell et al., 2011; Erlangsen et al., 2003). Intuitively, this result makes sense. These factors may be related to attachment and depression. In addition, attachment is a predisposing factor to maladaptive personality trait, poor coping style, perceived stress, and perceived social support, which is related to depression and suicidality (Garcia Herrero et al., 2018; Glazebrook et al., 2016; Nielsen et al., 2017; Stanton and Campbell, 2014). The association between these related variables including intervening variables (e.g. mediators) should be further explored. Moreover, it should be noted that socio-cultural factors also play role among these association. Evidences show that different sociocultural factors has influence on attachment style, patterns of depression and suicidality (Lavy et al., 2012; Snowdon, 2018).

This work is one of few studies to date analyzing attachment styles and suicidality in older people. Moreover, we explored a significant number of variables previously reported in related studies, with valid and reliable measurements, covering bio-psycho-social factors. Because the sample size was relatively small, some data (particularly in the non-depressive group) were insufficient for analysis. Larger samples are warranted for further investigation.

5. Conclusion

High anxiety attachment is associated with suicidality and predicts the severity of suicidal risk level in elderly people. Anxiety attachment plays an important role in suicidality among elderly people. Implications of this study include early detection of suicidality in the elderly; awareness of anxious attachment in the elderly may lead to more extensive evaluation and a better support system for suicidal prevention. Further research should be encouraged, particularly with respect to mediating or moderating factors that can be modifiable.

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Declaration of Competing Interest

None.

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