



ORIGINAL ARTICLE

Metacognitive Beliefs and Coping Strategies of Suicide Attempters

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ABSTRACT

Objective: Metacognition is an essential process regarding decision-making and coping with stressful life events. In this present study, we aimed to examine the metacognitive beliefs and coping strategies of suicide attempters with subthreshold depressive symptoms.

Methods: Thirty suicide attempters (mean age of 25.50 ± 7.66 years) with subthreshold depressive symptoms and 30 healthy participants (mean age of 28.27 ± 7.13 years) were compared with regard to Metacognition Questionnaire-30 (MCQ-30) and COPE Questionnaire.

Results: The MANOVA results revealed significant differences between the groups for the subscales of MCQ-30 namely, "negative beliefs about thoughts", "need to control thoughts" and "lack of cognitive confidence". The results also indicated significant difference regarding "positive reinterpretation", "seeking social support for instrumental reasons", "active coping, planning, and problem-focused coping", "behavioral disengagement", "alcohol-drug disengagement" and "dysfunctional coping" subscales of COPE Questionnaire. In addition, moderate correlations were found between the MCQ-30 and the COPE subscales based on the Pearson's correlation coefficients.

Conclusions: This study revealed the effect of particular metacognitive beliefs and type of coping style on suicidal behavior. This study is important for identifying risk factors and explaining how metacognitive beliefs and coping strategies are related to suicidal behavior. Maladaptive metacognitions may lead to overestimation of perceived stress and underestimation of cognitive resources and coping skills which may prevent individuals to produce adaptive coping strategies against stressful life events.

Keywords: Coping strategies, depressive symptoms, metacognition, suicide

INTRODUCTION

Metacognition refers to beliefs and appraisals about one's thinking and abilities to monitor and regulate cognition (1). It influences the types of strategies that used to regulate thoughts and feelings. The metacognitive approach is based on the idea that people become trapped in emotional disturbances because their

metacognitions cause a specific pattern of responding to thoughts that maintains emotion and strengthens negative ideas (2).

Subthreshold depression presents with the symptoms of depression lasting for a minimum of two weeks, but it is also accompanied with social dysfunction and is considered in individuals who do not meet the criteria for the diagnosis of minor depression, major depressive disorder, or dysthymia (3,4). Despite the high prevalence of major depressive disorder in clinical practice and community settings, its subthreshold forms that do not meet current classificatory thresholds have been less studied (5). Findings suggest that individuals with

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subthreshold depression have elevated risks for suicidal behavior and depressive episodes (6).

Having certain types of dysfunctional metacognitions such as "rumination will help to find answers about the causes of depressive feelings" and "depressive thoughts are uncontrollable and damaging" prevent individuals to think clearly and effectively (1). In addition, metacognition seems to be crucial for the individual's evaluation of own resources and thinking on options for coping to stressful situations.

Generally, metacognition is involved in monitoring the strategies to deal with complex problems, unfamiliar situations, and problematic relationships (7). From this viewpoint, metacognition is a fundamental process regarding decision-making and coping with stressful life events. Self-intended death is a complex and multidimensional act. Some individuals seem especially vulnerable to the suicide when exposed to stressful life events (8,9). Furthermore, the impairment of the problem-solving ability is a well-established suicide risk factor. Studies show that suicidal individuals tend to use emotion-focused strategies more frequently than problem-focused strategies to deal with stressful situations (10). Conversely, problem-focused coping is associated with lower suicidality (11).

It is essential to understand how cognition operates and how it generates conscious experiences that we have of ourselves and the world around us. However, how these factors interact with suicide attempt and suicidal behavior is a complex phenomenon and not well-defined. In this present study, we aimed to examine metacognitive beliefs and coping strategies of subthreshold depressive individuals within the context of suicidal behavior. Therefore, we aimed to answer the following questions:

1. Are there differences in metacognition and coping strategies between the suicide attempters with subthreshold depression and individuals without a history of depression and/or suicide?
2. Is there an association between metacognitive beliefs and types of coping strategies among suicide attempters with subthreshold depressive symptoms?

METHODS

Participants

The study was approved by the local Ethics Committee. Written informed consent was obtained from all participants. The participants of the present study were recruited from Gülhane Research and Traing Hospital. After the initial physical examination at the emergency service, the patients were referred to the psychiatry clinic for consultation. For the psychiatric evaluation, the Structured Clinical Interview for the DSM-IV Axis I Disorders (SCID-I) was administered by a psychiatrist.

Of the 108 suicide attempters, five refused to receive psychiatric consultation and 72 were excluded due to a previous or current diagnosis of psychiatric conditions, such as major depressive disorder (65%) or personality disorders (20%). The patients excluded from the study were referred to another ongoing research project. We conducted the study on the suicide attempters (male=18; female=12) who had mild-minor depressive symptoms, less than required for the diagnosis of major depressive disorder according to SCID-I. The control group consisted of healthy young participants (male=17, female=13) having similar characteristics with the study group but without a history of suicide attempt. The healthy participants were selected from hospital personnel, students, and accompanying persons of patients at the hospital. The subjects, both in the control and study groups, did not have any neurologic or major medical conditions and did not take any psychiatric medication.

Assessment Tools

The Metacognitions Questionnaire-30: The MCQ-30 is comprised of five factors. Positive beliefs about worry, measures the extent to which a person believes that perseverative thinking is useful (e.g., worrying helps me cope); negative beliefs about worry concerning uncontrollability of thoughts, which assesses the extent to which a person believes that perseverative thinking is dangerous (e.g., my worrying thoughts are uncontrollable); lack of cognitive confidence (e.g., "I do not trust my memory"); need to control thoughts in general including

themes of superstition, punishment, and responsibility (e.g., I will be punished for not controlling certain thoughts), and cognitive self-consciousness (e.g., I pay close attention to the way my mind works) (12). An exploratory factor analysis showed that the Turkish version of MCQ-30 also had the same five factors and the same structure as the original form (13).

The COPE Questionnaire: The COPE Questionnaire was used to measure participants' coping strategies and activities in stressful life events. COPE is a multidimensional 53-item questionnaire that reveals the ways how individuals cope with different circumstances (14). It comprise of 15 subscales: active coping, planning, suppressing of competing activities, restraint coping and seeking social support for instrumental reasons (problem-focused coping); seeking social support for emotional reasons, positive reinterpretation, growth, acceptance, turning to religion (emotion-focused coping); focus on and venting of emotions, denial, behavioral disengagement, mental disengagement and alcohol-drug disengagement (dysfunctional coping). The scale was adapted into Turkish in 2005 (15).

Beck Depression Inventory (BDI): BDI (1979 version) is a 21-item inventory developed by Beck (16) to measure cognitive, emotional and motivational symptoms of depression. The test scores for each item range from 0 to 3, with higher scores indicating higher levels of the symptoms. The 1979 BDI version was adapted to Turkish in 1989 (17).

The Beck Anxiety Inventory (BAI): The Beck Anxiety Inventory is a 21-item, three-point Likert-type scale (18). The score for each item varies between 0 and 3; thus, the total score range is 0 to 63. A higher score in this inventory indicates a higher level of anxiety symptom severity (19).

The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I): This is a clinician-administered semi-structured interview to assess psychiatric patients or nonpatient community subjects who are under psychopathological evaluation (20). SCID-I was developed to provide broad coverage of psychiatric diagnosis according to DSM-IV (APA, 1994). It was adapted to Turkish in 1999 (21).

Statistical Analysis

Prior to the further statistical analysis assumptions of normality was checked. To explore if there is a group difference among variables regarding to age, BDI and BAI, student's t test was employed. To examine the difference between the two groups concerning metacognitive beliefs and coping strategies, one-way multivariate analysis of variance (MANOVA) was conducted. Although, the subscales of the questionnaires were related to each other, we employed multivariate analysis since they were representing different aspects of the dependent variables. Finally, to determine the relationships between the variables, Pearson's correlation coefficient was performed.

RESULTS

The age of the suicide attempters ranged from 19 to 51 years with a mean (M) of 25.50 (± 7.66), and the mean age of the control group was 28.27 (± 7.13) years ($t = -1.44$, $p > 0.05$). The mean score of the BDI of the suicide attempters ($M = 23.28 \pm 7.82$) was significantly higher than that of the control group ($M = 8.60 \pm 8.62$). Similarly, the suicide attempter group had significantly higher BAI scores ($M = 19.93 \pm 6.85$) than the control group ($M = 7.13 \pm 7.91$).

The sociodemographic statistics indicated that 58% of the suicidal group was unemployed, 10% was regularly consuming alcohol, 30% had a family history of psychiatric disorders, and 14% had a family history of suicide attempt. Furthermore, in 50% of the patients, the primary cause of suicide attempt was family problems, and 34% had a previous history of suicide attempt.

The data of the MCQ-30 were analyzed by using multivariate analysis of variance (MANOVA) which is presented in Table 1 (Wilks' lambda: $F(1,58) = 4.53$, $p = 0.001$). The scores of the subscales "lack of cognitive confidence" ($F = 15.85$, $p < 0.001$), "uncontrollability and danger" ($F = 9.50$, $p < 0.01$), "need to control thoughts" ($F = 6.48$, $p < 0.05$) were significantly higher in the suicide group than control group. However, there was no significant difference between the two groups regarding "positive beliefs about worry" and "cognitive self-consciousness".

Table 1: The MANOVA comparisons of groups in terms of Metacognitions Questionnaire-30

	Suicide attempters (Mean±SD)	Control group (Mean±SD)	F
Positive beliefs	10.79±3.89	12.16±4.35	1.62
Lack of cognitive confidence	15.51±6.03	10.46±3.38	15.85***
Uncontrallability and danger	13.75±4.62	10.40±3.71	9.50**
Cognitive self consciousness	15.06±2.68	14.73±4.02	0.14
Need to control thoughts	16.03±4.70	13.13±4.03	6.48*
Total score	70.55±16.88	60.90±14.42	5.59*

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

Similarly, the difference between the two groups regarding coping strategies was examined by using MANOVA. As shown in Table 2 (Wilks' lambda: F1-58= 3.39, p<0.001), the scores of the suicide attempters group in "positive reinterpretation and growth" (F=19.65,

p<0.001), "seeking social support for instrumental reasons" (F=10.66, p<0.001), "active coping" (F=12.12, p<0.01), and "planning" (F=13.78, p<0.001), and their total score in "problem-focused coping" (F=7.25, p<0.01) were significantly lower than those of the control group. On the other hand, the suicide attempters group scored significantly higher in "behavioral disengagement" (F =12.05, p<0.001) and "alcohol-drug disengagement" (F=13.22, p<0.001), and had a significantly higher total score for "dysfunctional coping" (F=9.74, p<0.01) compared to the control group.

To examine the relationship between MCQ-30 and COPE, Pearson's correlation coefficients were computed. The results of the correlation analysis are presented in Table 3.

DISCUSSION

In the present study, we examined metacognition and coping styles of suicide attempters whose symptoms

Table 2: The MANOVA comparisons of groups in terms of COPE subscale scores

COPE	Suicide attempters (Mean±SD)	Control group (Mean±SD)	F
Positive reinterpretation and growth	10.50±2.94	13.50±2.01	19.65**
Mental disengagement	9.79±2.55	9.66±2.49	0.03
Focus on and venting of emotions	12.33±2.61	11.46±2.62	1.46
Seeking social support for instrumental reasons	9.45±3.43	12.00±2.25	10.66*
Active coping	10.58±3.14	12.96±1.82	12.12**
Denial	7.04±2.78	7.16±2.65	0.02
Turning to religion	13.04±3.38	11.93±3.27	1.48
Humor	7.04±2.49	7.03±2.78	0.01
Behavioural disengagement	8.58±2.94	6.16±2.16	12.05**
Restraint coping	10.25±2.52	9.93±2.09	0.25
Seeking social support for emotional reasons	10.12±3.37	11.60±3.02	2.86
Alcohol-drug disengagement	8.41±4.70	5.00±1.87	13.22**
Acceptance	9.25±2.50	9.66±2.84	0.31
Suppressing of competing activities	10.33±2.77	10.23±2.41	0.02
Planning	10.58±2.70	13.10±2.27	13.78**
Problem focused coping	51.16±11.57	58.30±7.84	7.25*
Emotion focused coping	49.58±6.49	53.73±8.75	3.73
Dysfunctional coping	46.16±9.17	39.46±6.58	9.74*
Total score	146.91±3.93	150.50±3.51	0.46

**p<0.001; *p<0.01.

Table 3: The Pearson’s correlations of MCQ-30 and COPE subscales

	MCQ- total	MCQ- 30 I	MCQ- 30 II	MCQ-30 III	MCQ- 30 IV	MCQ- 30 V	Family history	Previous suicide
Positive reinterpretation and growth	-0.130	0.278**	-0.255	-0.314*	-0.027	-0.176	-0.159	-0.352*
Mental disengagement	0.149	0.284*	0.035	0.186	-0.026	0.146	-0.340*	0.215
Focus on and venting of emotions	0.295*	-0.072	0.249	0.475**	0.279*	0.220	0.152	0.224
Seeking social support instrumental reasons	-0.116	0.139	-0.235	-0.287*	0.065	-0.171	0.-173	-0.272*
Active coping	-0.231	-0.025	-0.223	-0.400**	-0.039	-0.147	0.-224	-0.139
Denial	0.149	0.250	0.128	0.077	-0.039	0.237	0.041	-0.017
Turning to religion	0.206	0.143	0.043	0.116	0.295*	0.253	0.199	0.167
Humor	-0.127	-0.121	-0.032	-0.077	-0.050	-0.146	-0.058	-0.146
Behavioral disengagement	0.417**	0.082	0.473*	0.470**	0.071	0.349**	0.154	0.359**
Restraint coping	0.283*	0.327*	0.155	0.164	0.103	0.227	0.-103	0.217
Seeking social supp. emotional reasons	0.068	139	-0.171	0.182	0.219	-0.048	-0.259	0.023
Alcohol-drug disengagement	0.310*	-0.017	0.556*	0.238	-0.083	0.323*	0.186	0.427**
Acceptance	0.028	0.058	-0.013	-0.018	-0.022	0.078	-0.050	-0.115
Suppressing of competing activities	0.298*	0.275**	0.180	0.102	0.219	.250	0.192	0.242
Planning	0.077	0.336*	-0.173	-0.112	0.237	0.047	-0.205	-0.074
Problem focused coping	0.052	0.264	-0.104	-0.168	0.141	0.025	0.-143	-0.036
Emotion focused coping	0.011	0.203	-0.159	-0.079	0.156	-0.023	0.-120	-0.092
Dysfunctional coping	0.460**	0.161	0.535*	0.440**	0.053	0.447**	0.095	0.438**
Family history of suicide	0.203	0.-0.083	0.327*	0.171	0.018	0.154	1.00	0.052
Previous history of suicide	0.265	0.068	0.351*	0.162	0.156	0.268*	0.052	1.00

**p<0.001; *p<0.01; MCQ-30-I: Positive beliefs about worry; MCQ-30-II: Lack of Cognitive confidence; MCQ-30-III: Uncontrollability and danger; MCQ-30-IV: Cognitive self-consciousness; MCQ-30-V: Need to control thoughts.

were clinically below the diagnostic criteria of major depressive disorder according to the DSM-IV. There were significant differences between the study and control groups according to the total score and the subscales of MCQ-30 namely, need to control thoughts, uncontrollability and danger, and lack of cognitive confidence. The suicide attempters needed to have more control over their thoughts and had more negative beliefs about ideas regarding uncontrollability and danger, and their ratings showed that they did not rely on their own mental capabilities.

Concerning coping strategies, positive reinterpretation and growth, seeking social support for instrumental reasons, active coping, planning, and problem-focused coping ratings were lower among suicidal group. In addition, dysfunctional coping strategies such as behavioral disengagement, turn toward alcohol and drug scores were higher than active coping, planning, and

problem-focused coping scores among suicide attempters. Besides, total MCQ-30 score was positively correlated with the COPE subscales namely, “focus on and venting of emotions”, “behavioral disengagement”, “restraint coping”, “alcohol-drug disengagement”, “suppressing of competing activities” and “dysfunctional coping”.

The relatively high correlation coefficients between the subscales “uncontrollable and danger” and the “focus on and venting of emotions” (positively) and “active coping” (negatively) indicate that individuals who hold beliefs that worrying is uncontrollable and need to be controlled do engage more frequently in dysfunctional coping strategies. Active problem-focused coping strategies are favored in situations appraised to be controllable, while emotion-focused coping strategies are more likely to be used in conditions considered to have low controllability (22,23). In the current study, the study

group believed that they did not have control over their thoughts or their environment. Having such a maladaptive belief will prevent the individual using problem-focused coping strategies effectively. Furthermore, having a previous history of suicide attempt was negatively correlated with "positive reinterpretation and growth" and "seeking social support for instrumental reasons", and positively correlated with "behavioral disengagement", "alcohol-drug disengagement" and "dysfunctional coping". Having a previous suicide attempt and the metacognitive belief "need to control thoughts" were also positively correlated with each other. The extreme effort to control one's own thoughts may originate from the belief that thoughts are dangerous, and thus should be controlled to function properly and to be in safe. Individuals with a history of depression may tend to worry also about relapsing.

In this present study, suicide group's "behavioral disengagement" and "alcohol-drug disengagement" scores were significantly higher than those of non-suicidals, which can be interpreted as a sign of avoidance behavior. It is reported that avoidance is the general coping style of both suicide attempters and people with suicidal tendencies (24). Individuals in both clinical and non-clinical samples with higher score in the measure of suicidality tended to use avoidance as a problem-solving strategy (25).

It is found that suicidal individuals are more rigid in their problem-solving strategies (26) and thinking styles (27). It is suggested that the extreme responses of the metacognition questionnaire might also be a sign of an "all or none" style of thinking (28). Most people with suicide attempts are unable to produce alternative solutions to their problems and feel hopeless. A person's judgment of how stressful and escapable an event is or how much support is available are all affected by their memory and cognitive biases. Difficulties in accessing specific events from the long-term memory are likely to diminish one's problem-solving capacity (29). The cognitive confidence of the study group was found to be lower compared to the control group and it was correlated with the history of suicide attempt and adopting dysfunctional coping strategies, such as alcohol use.

There are two major limitations in this study that could be addressed in future research. First, the information

produced from this study comes from self-report measures which gives us limited amount of information about the concept. Second limitation is the size of the sample. Therefore, longitudinal studies with a larger sample would be necessary to understand the interaction of these factors in the context of suicidal behavior.

According to the findings of the present study, we can propose that there is a relationship between maladaptive metacognitive beliefs and maladaptive coping strategies. Maladaptive metacognitions could lead an overestimation of perceived stress and underestimation of cognitive resources and coping skills, which will also prevent finding alternative solutions to the problems. Within the context of suicidal behavior, it is difficult to draw conclusions concerning the factors behind the suicidal behavior. However, this study revealed the importance and effect of certain cognitive factors, such as metacognitive beliefs and the type of coping style in terms of suicidal behaviors.

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Patient Informed Consent: All the participants provided written informed consents.

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