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Relationship between Mindfulness Components and Metacognitive Abilities with Depression in Adolescents

Mona Movahedi Shakib[1*], Nasrin Fatemi Aghda[2], Hamid Reza Afkhami Aghda[3], Somayeh Shahani[4]

1. M.A of School Counseling, Allameh Tabatabai University, Iran.
2. M.A of Educational Management, Al-Zahra University of Tehran, Iran.
3. M.A of Communication Sciences, Tehran University of Research Sciences, Iran.
4. M. A of General Psychology, Islamic Azad University, Central Tehran Branch, Iran.

A B S T R A C T

The aim of this study was to investigate the relationship between components of mindfulness and metacognitive abilities with depression in adolescents. This research was descriptive and correlational. The statistical population of this study was all adolescents referring to counseling centers in District 4 of Tehran, from which 50 people with depression were selected by convenience sampling. Research instruments included Beck Depression Inventory, Bauer et al.'s Components of Mindfulness Questionnaire, and the Wells Metacognitive Beliefs Questionnaire. Stepwise regression was used to analyze the data. Findings showed that components of mind-awareness and metacognitive abilities have a significant relationship with depression (P ‹0.01). The results also showed that the components of mindfulness predict 0.46, cognitive self-awareness 0.21 and metacognitive abilities predict 0.31 of depression.

Keywords: Depression, Metacognitive abilities, Mindfulness components, Adolescents.

INTRODUCTION

Depression affects various aspects of life and its symptoms disrupt the functioning of individuals in various areas of motivation, emotional, cognitive, behavioral and biological(Gilbert, 2007). According to the Diagnostic and Statistical Manual of Mental Disorders, major depressive disorder is characterized by marked changes in emotion, cognition, and bio-neuronal functions that occur over a two-week period(American Psychiatric Association, 2013). This disorder has the highest prevalence among psychiatric disorders(Sadock & Sadock, 2011). People with depressive disorders have cognitive biases and dysfunctional attitudes that such attitudes and thoughts play an important role in the persistence of these disorders(Clark, 2005). People with depression are different from others in the components of mindfulness and metacognitive level, and in other words, it can be said that mindfulness and metacognitive beliefs are associated with depression in people(Clark, 2005; Noroian, 2006).

Mindfulness is one of the most important concepts that has recently attracted a lot of attention and seems to play an important role in these disorders. Mindfulness means paying

* . Corresponding Author: Mn.movahedishakib@gmail.com

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attention in a certain way: being present, purposeful and free from judgment. Mindfulness means that one turns one's awareness of the past and future to the present(Kabat-Zinn & Hanh, 2009). Baer, Smith, Hopkins, Krietemeyer, and Toney (2006), identified five components for mindfulness. These components are: observation (paying close attention to internal and external phenomena and stimuli), description (description of phenomena that fall within the realm of consciousness), and action with awareness (full attention to the ongoing activity Instead of acting automatically), not judging (not judging current experiences) and not reacting (not reacting to emotions that are happening). Research in the field of mindfulness has shown that this trait has a negative relationship with depression(Wong et al., 2011).

Studies on the relationship between mindfulness and depression have also confirmed this. Such studies have shown that mindfulness-based therapies are effective in improving the physical and mental symptoms of depressive disorders(Esmaeilzadeh Akhoundi & Mohammadalizadeh Namini, 2017). Components of mindfulness emphasize mental reality rather than emotional avoidance and judgmental acceptance, emphasizing confrontation and increasing tolerance for negative emotional states. Higher levels of mindfulness are associated with lower levels of rumination, avoidance, and perfectionism(Deng, Li, & Tang, 2014; Williams, 2008).

Another variable examined in this study is metacognitive beliefs. Using cognitive methods to solve problems, professionals can help families with children with disabilities cope with stress, depression, incompatibility and loneliness, especially when these feelings weaken the parents' ability to help and care for the child(Birrer, Griesemer, & Cataletto, 2002). Research has shown that high levels of mindfulness and metacognitive beliefs lead to increased positive emotions and decreased depression(Davidson et al., 2003; Kohls, Sauer, & Walach, 2009; Smith, 2004). Metacognitive skills are also associated with depression. Using mindfulness skills that activate an area of the brain that is associated with positive emotions and immunization and reduce patterns of rumination and recurrence of depression by increasing metacognitive skills in the individual(Solem et al., 2017). Therefore, considering that the concept of mindfulness and metacognition have an important relationship with depressive symptoms, knowing which of the components of this concept is effective in the formation of these disorders will help in the prevention and treatment of these disorders. Therefore, the present study seeks to answer the question: "Is there a relationship between mindfulness and metacognitive abilities with depression in adolescents?".

METHODOLOGY

The research method of the present study is descriptive and correlational. The statistical population of this study included adolescents who referred to counseling centers in District 4 of Tehran, from which 50 adolescents were selected by convenience sampling. Criteria for entering the study are: not suffering from psychosis, depression, and consent to participate in the study and being single. The criterion for leaving the research was dissatisfaction to continue cooperation in the research.

Beck Depression Inventory was developed to measure the severity of depression and includes 21 4-choice questions, each of which has a score of zero to 3. Beck Depression Inventory is a self-assessment test that is completed in five to ten minutes and its materials in areas such as sadness, pessimism, feelings of helplessness and failure, guilt, sleep disturbance, loss of appetite, self-loathing and Etc. are. Thus, 2 items of Beck Depression Inventory were dedicated to emotion, 11 items to cognition, 2 items to overt behaviors, 5 items to physical symptoms and 1 item to interpersonal semiotics. Thus, this scale determines different degrees of depression from mild to very severe and its score range is from a minimum of zero to a maximum of 63. Cronbach's alpha coefficient of the questionnaire is reported to be 0.96 (Stefan-Dabson, Mohammadkhani, & Massah-Choulabi, 2007).

5-component Mindfulness Questionnaire: This questionnaire was developed by Baer et al. (2006), and has 39 items. And components of observation (items 1-6-11-15-20-26-31-36), describing (items 7-12-16-22-27-32-37), activity with awareness (8 -13-18-23-28-34-38), lack of judgment (3-14-10-17-25-30-35-39), lack of reaction (items 4-9-19-21-24-29 -33-). The 5-point Likert scale is used to answer the questions. The internal consistency of this questionnaire is high and its value is 0.75 to 0.90.

Metacognitive Beliefs Questionnaire: This questionnaire is a 30-item scale that measures positive beliefs about worry, negative beliefs about worry, poor cognitive confidence, the need to control thoughts, and cognitive self-awareness. The questions are answered in a Likert scale, from disagree (score 1) to strongly agree (4). Cronbach's alpha coefficient of the questionnaire ranged from 0.72 to 0.93 (Wells & Cartwright-Hatton, 2004).

RESULTS

Mean and standard deviation of depression variables, components of mindfulness (observation, description, conscious activity, non-judgment and non-reaction), metacognitive beliefs (positive beliefs about worry, negative beliefs about worry, poor cognitive confidence, necessity Control thoughts and Cognitive self-awareness) is presented in Table 1.

Table 1. Mean and standard deviation of research variables

variable	Mean	SD
View	12.05	10.89
describe	33.66	18.35
Awareness activity	18.40	6.13
Lack of judgment	15.54	4.74
No reaction	18.59	3.63
Components of mindfulness	75.28	11.39
Positive beliefs about worry	17.46	5.40
Negative beliefs about worry	17.88	6.84
Poor cognitive confidence	15.46	2.48
The need to control thoughts	11.36	2.96
Cognitive self-awareness	12.07	10.88
Metacognitive abilities	46.64	16.37
Depression	13.84	11.20

Table 2. Results from Pearson correlation analysis

	Self-harming behaviors	
	Pearson coefficient	P
View	-0.717	0.001
describe	-0.614	0.001
Awareness activity	-0.815	0.001
Lack of judgment	-0.814	0.001
No reaction	0.740	0.001
Components of mindfulness	-0.857	0.001
Positive beliefs about worry	-0.812	0.001
Negative beliefs about worry	0.750	0.001
Poor cognitive confidence	0.643	0.001
The need to control thoughts	-0.642	0.001
Cognitive self-awareness	-0.7	0.001
Metacognitive abilities	-0.513	0.001

Table 2 presents the results of Pearson correlation analysis for the relationship between depression and the components of mindfulness and metacognitive abilities. According to the results of Table 2, there is a significant relationship between depression and the components of mindfulness and metacognitive abilities and their components (P <0.01). There is a negative and significant relationship between depression with observation, describing, conscious activity, non-judgment, components of mindfulness, and positive beliefs about worry, the need to control thoughts, cognitive self-awareness and metacognitive abilities. Negative beliefs about worry and poor cognitive confidence there is a positive and significant relationship.

Stepwise regression test was used to test the research hypotheses that it predicts the components of mindfulness and metacognitive abilities of depression. Before performing the test, Kolmogorov-Smirnov test was used to measure normality for parametric statistics. The significance level obtained from Kolmogorov-Smirnov test for depression, components of mindfulness and metacognitive abilities is greater than 0.05, so the distribution of data related to these variables is normal and can be analyzed. Inferential data used parametric test. The results of stepwise regression are presented in Table 3.

Table 3. Predicting self-harm behaviors based on empirical avoidance, lack of emotional awareness and rejection of emotional responses

sample		SS	R	R^2	df	MS	F	p
step one Components of mindfulness	Regression	21726.463	0.857	0.735	1	21726.46	688.605	0.000
	Rest	7824.753			48	31.551		
	Total	29551.216			49			
Step two mindfulness, cognitive self-awareness	Regression	22533.203	0.873	0.763	2	11266.602	396.530	0.000
	Rest	7018.013			47	28.413		
	Total	29551.216			49			
Step three mindfulness, self-awareness of cognition, metacognitive abilities	Regression	23279.170	0.888	0.788	3	7759.723	304.34	0.000
	Rest	6272.046			46	25.496	9	
	Total	29551.216			49			

Considering that the statistic value of Watson camera in this test is equal to 1.268; Therefore, this value is in the range of 1.5 to 2.5 and the independence of the residues can be concluded; Therefore, it is possible to use the regression method. According to the findings of Table 2, the components of mindfulness have a high and significant correlation with depression and with the observed F level of 688/605 enters the model in the first stage and alone can be 0.73 of the variance of depression. Predict on teens. Also, in the second stage, cognitive self-awareness enters the equation with the observed F value of 396.530 and the amount of predictive power increased to 0.76%. In the third stage, metacognitive abilities entered the equation with the observed F value of 304.349 and the prediction power increased to 0.78%. This means that predictor variables, ie components of mindfulness, self-awareness and metacognitive abilities in three stages and together can predict 0.78% of the variance of the criterion variable, ie depression in adolescents.

Table 4. Model summary

	R	R^2	$R^2\Delta$	SE
Step 1: Predictive variable (constants), components of mindfulness	0.735	0.735	0.734	5.61
Step 2: Predictive variable (fixed), mindfulness, cognitive self-awareness	0.873	0.763	0.761	5.33
Step 3: Predictive (fixed) variable, mindfulness, cognitive self-awareness, metacognitive abilities	0.888	0.788	0.785	5.04

According to Table 4, in the first model, the components of mindfulness have the greatest predictive power in adolescents. The correlation coefficient of this variable with depression was 0.735 and this variable was able to predict 0.73 of depression. In the second model, after the components of mind-awareness, emotional self-awareness is included in the equation. The correlation coefficient of these two variables with depression was 0.873 and these two variables were able to predict 0.76 of depression. In the third model, with the introduction of metacognitive abilities, the correlation coefficient of these three variables with depression has been 0.888 and these three variables have been able to predict about 0.788 of depression ($P < 0.05$). Stepwise regression coefficient was used to investigate which of the components of mindfulness, self-awareness and metacognitive abilities are stronger predictors of depression prediction. The results are shown in Table 5. Presented.

Table 5. Results of regression analysis to predict self-harming behaviors through empirical avoidance, lack of emotional awareness and rejection of emotional responses

step	Predictive variables	B	BETA	T	Sig
1	Constant	5.077	-	6.830	0.000
	Components of mindfulness	0.509	0.857	26.241	0.000
2	Constant	4.60	-	2.361	0.019
	Components of mindfulness	0.436	0.231	2.9	0.000
	Cognitive self-awareness	0.414	0.20	5.329	0.000
3	Constant	0.351	-	0.175	0.010
	Components of mindfulness	0.274	0.461	7.380	0.000
	Cognitive self-awareness	0.439	0.21	5.948	0.000
	Metacognitive abilities	0.552	0.311	5.409	0.004

According to Table 5, the beta coefficient has been used to determine the discriminant contribution of each of the predictor variables, ie the components of mindfulness, cognitive self-

awareness and metacognitive abilities in predicting the dispersion of the depression criterion variable. The results indicate that components of depression with a beta coefficient of 0.46, cognitive self-awareness with a beta coefficient of 0.21 and metacognitive abilities with a beta coefficient of 0.31 are able to predict depression.

CONCLUSION

The first hypothesis of the study is that "there is a relationship between the components of mindfulness and depression in adolescents." The results of this study are consistent with the results of the research of Esmaeilzadeh Akhoundi and Mohammadalizadeh Namini (2017), de Bruin, Topper, Muskens, Bögels, and Kamphuis (2012), and Kohls et al. (2009), that the components of mindfulness are associated with depression. These studies have shown that people with low levels of mindfulness score higher on depression. Therefore, it can be said that they have a lot of mental preoccupation with their inner world, and this practice causes normal people to be more aware than depressed people and to act better than depressed people; Because normal people most of the time are aware of their environment and communicate with it. It should be noted that among the clinical symptoms of depression are decreased ability to concentrate and attention. Finally, according to the findings of this study, it can be concluded that it is necessary to consider the components of mindfulness as important factors in depressed patients. Clinical implication of the results of this study is that depressed patients compared to normal people. They have poor performance in the components of mindfulness and mindfulness-based therapies can facilitate the treatment process by emphasizing these components and also improve the symptoms of such patients.

The second hypothesis of the study is based on the fact that "there is a relationship between metacognitive abilities and depression in adolescents." The results of this study with the researches of Pournamdarian, Birashk, and Farid (2012), Yılmaz, Gençöz, and Wells (2011), that metacognition under negative subscales increases depression in individuals and metacognition below positive subscales with increasing Its level reduces the symptoms of depression in people. In explaining these findings, it can be said that metacognition is the things that we pay attention to and also determine the factors that enter our consciousness. Also, metacognition shapes our evaluations. It affects the variety of strategies we use to regulate our thoughts and feelings. In other words, people's problems are the result of inflexible and repetitive thinking style in response to negative thoughts, feelings and beliefs. The content of beliefs and thoughts determine the type of disorder experienced. For example, thoughts about losing and devaluing yourself lead to feelings of sadness. Emotional disorder is a metacognitive consequence that leads to the formation of certain thinking styles and engages a person in long-term, recurrent situations of negative information processing.

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