

The effect of willpower workshop on anxiety, depression, and the excitement components in the students of Shiraz university of medical sciences

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ABSTRACT

Introduction and Aim: The current study aimed at evaluating the effect of willpower workshop on anxiety, depression, and the Granovsky excitement components among the students of Shiraz University of Medical Sciences in the academic year 2016--2017. **Materials and Methods:** Students (140) were selected by the simple random sampling method and allocated into two equal groups of intervention (willing) and control, each of 52 individuals. Data collection instruments were the Garnefski cognitive emotion regulation scale and the Beck depression and anxiety inventories. The data were collected twice, before intervention and after the intervention (9 months after the study completion and holding the workshops). The control subjects received no intervention but were interviewed every 3 months. **Results:** The results of the current study indicated no significant differences in demographic variables and pretest scores between the groups, which indicate the homogeneity of the groups. In other words, there were no significant differences between the groups regarding demographic characteristics before the intervention ($P > 0.05$). In addition, to compare the intervention and control groups, the Mann-Whitney U test was used and the results showed a significant difference in posttest results between the study groups ($P < 0.05$). Also, there was a significant difference between the pretest and posttest results of each group ($P < 0.05$). **Conclusion:** Results of the current study indicated that training the stress, coping and willpower strengthening skills, based on the Granovsky excitement components, could promote psychophysical health and reduce anxiety and stress among the studied students.

Keywords: Anxiety, depression, education, students

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Introduction

Today, health psychology is one of the main topics of dealing with daily stresses and challenges, and their impact on physical, mental, and social status of people; the health psychology is among the best methods to strengthen coping responses and cognitive abilities through the employment of human success strategies.^[1,2] Depression, anxiety, and stress can be considered as unsuccessful responses to the daily life challenges. Stressful lifestyle may exacerbate anxiety and depression. In addition, stress can cause physiological changes in the body, including immune system and endocrines function, which directly affects the energy consumption, metabolism, learning ability, and mood and temperament. Hence, identification and promotion of applicable coping strategies in adolescence and juvenile are the cornerstones of successful compatibility in adulthood.^[3] On the basis of the official statistics, about 30% of students have depression and anxiety. Results of different studies indicated that depression is the most common mental disorder among the students in such an extent that about one-fifth of the students have depression above medium level. Likewise, experts and psychologists believe that maintaining and promotion of mental health in the students is of great importance, since the students can understand their abilities and cope with stresses and daily life challenges while benefitting from good mental health.

The general concept of cognitive emotion regulation relies on the cognitive method of information entering manipulation for the excitement recaller.^[4] In other words, people's perception about a negative experiment or a convenient event is referred to general concept of cognitive emotion regulation.^[5] On the basis of the results of a study by Martin and Dahlen,^[3] people with depression and anxiety usually apply their inapplicable strategies such as rumination and catastrophic appraisal in facing mishaps. In other words, such strategies exacerbate and sustain depression in patients, whereas on the other hand, the positive evaluation is adversely associated with depression.

One of the most significant symptoms of depression and anxiety, and also excessive emotional excitement is the poor quality of sleep. In fact, the quality of sleep is intensively reduced in people with depression and anxiety. The way of applying the strategies of cognitive emotion regulation is a main factor that significantly affects the quality of sleep.^[6] The general concept of emotional regulation refers to all internal and external processes responsible for monitoring, evaluation, and modification of emotional reactions.^[7] In fact, cognitive emotion regulation strategies are the reactions that someone uses in order to accept or cope with the stressful events and mishaps;^[8] since the regulation of emotions in stressful conditions is of great importance, it is considered as the manifestation of greatest deal with stressful events.^[9] Regulation of emotions is perfectly embedded in psychopathological models; likewise, stress, depression, and anxiety disorders are widely observed in the emotion regulation processes while dealing with problems.^[10]

The current study mainly aimed at evaluating the effect of willpower workshop on anxiety, depression, and the Granovsky excitement components in the medical students. The study population consisted of the medical students of Shiraz University of Medical Sciences, Shiraz, Iran. The main question of the study was that: "Does the willpower workshop affect the levels of anxiety, depression, and the Granovsky excitement components in the medical students?"

Materials and Methods

The current applied study, utilized descriptive correlation design, was conducted on the 1st-year medical students of Shiraz University of Medical Sciences during the first semester of the academic year 2016--2017, of which 104 students, including (71.2%) females and (28.8%) males, were randomly selected as the study samples using the Morgan table. The students were participated voluntarily, and after signing the informed consent form and passing the pretest, a total of 104 eligible students were selected. Then, the subjects were equally allocated into two groups of intervention and control using the table of random numbers and computer by the simple random sampling method. The Pearson correlation test was used to evaluate the correlation of religious orientation with psychophysical health, as well as stress management training with increased psychophysical well-being and its components in the study subjects. In addition, the Wilcoxon test was used to compare pretest--posttest differences in the control group, and the Mann--Whitney U test was employed to evaluate the differences between the pretest and posttest results in the intervention group.

Workshops

The general format of workshops, held by a neurologist specialized in sleep disorders, are shown in Table 1.

Instruments

Beck anxiety questionnaire: Aaron Temkin Beck *et al.*, in 1988, introduced the Beck anxiety inventory (BAI), which specifically tests the severity of clinical anxiety symptoms in individuals.^[11] This questionnaire presents a high validity, with an internal consistency coefficient of 0.92 (Steer and Beck, 1997). Beck depression questionnaire: This questionnaire was first designed by Beck *et al.* in 1961, they conducted test--retest reliability, the ultimate coefficient of which turned out to be 0.93 in 1996.^[12]

According to Tashakori and Mahiar, the reliability coefficient of this questionnaire turned out to be 0.78 in 1994. Granefski's cognitive emotional cognitive regulation questionnaire: The cognitive emotion regulation questionnaire was developed by Garnefski *et al.* (2001).^[13,14] Pittsburgh sleep quality qssessment questionnaire: This questionnaire is a measure of sleep, quality of people, and covers seven main domains. Validity and internal consistency coefficients of this questionnaire turned out to be 0.83 and 0.63, in order. Malak *et al.* calculated Cronbach's alpha coefficient of this questionnaire to be 0.78 and 0.83 [Table 2].

Table 1: The curriculum

Behavioral objective	Area of education	Method of education	Evaluation
Introduction and objectives of the workshop in details, Students should name 3 objectives of the intervention	Cognitive-emotional	Lecturing; question-answer	Answering the questions
To actively participate in the research as well as intervention, the students should sign the informed consent and recommendations commitment forms	Psychomotor	Lecturing; question-answer	Completing the forms
Students should name 3 advantages of active participation and commitment to the recommendations, and express the importance of the named items.	Cognitive	Lecturing; question-answer	Answering the questions
Students should explain how to start the recommendations.	Cognitive	Lecturing; question-answer	Answering the questions
Conclusion	Cognitive, emotional, psychomotor	Lecturing; question-answer	Answering the questions

Table 2: Differences in the scores of questionnaires and domains between the groups

	X ²	Df	P
Positive evaluation	0.007	2	0.9997
Anxiety	0.0050	2	0.976
Depression	0.401	2	0.818
Self-blaming	0.966	2	0.608
Blaming others	0.758	2	0.684
Rumination	0.179	2	0.914
Catastrophic appraisal	0.340	2	0.844
Reinforcement acceptance	0.80	2	0.961
Acceptance denial (positive reappraisal)	0.733	2	0.693
Positive refocusing	0.034	2	0.983

Results

According to the scores of questionnaires and domains, there was no significant difference between the study groups; hence, the study groups were homogenous in terms of the mentioned factors. In other words, there was no significant difference between the study groups regarding the demographic variables and questionnaire scores, and the groups were matched by the mentioned variables. Regarding the demographic data (gender, field of study, and place of residence), no significant difference was reported between the groups in pretest assessments. The mean age of the students including both male and female was 18.60 ± 0.793 years. The differences in the scores of questionnaires and domains between the study groups are shown in Table 2. On the basis of the findings, no significant difference was observed in pretest descriptive indices of cognitive emotion regulation components and the scale of depression, anxiety, and stress between the intervention and control groups.

According to Table 3, in the depression, anxiety, and stress scale, the students in the intervention group had higher scores in the anxiety component, compared with the control group. To compare the mean score of components between pretest and posttest, the Wilcoxon and the Mann-Whitney U tests were used to the control and intervention groups [Table 3]. There was a significant difference between the pretest and posttest scores for all components in the intervention group ($P < 0.05$), whereas a significant difference between the pretest and posttest scores of the control group was only observed in

depression, positive refocusing, positive denial, rumination, catastrophic appraisal, reinforcement acceptance, ($P < 0.05$), and the difference in terms of self-blaming, blaming others, and anxiety was insignificant ($P > 0.05$). On the other hand, based on the results shown in Table 3, no significant difference was observed in the pretest scores of the studied components between the intervention and control groups ($P > 0.05$), whereas there were significant differences in self-blaming, blaming others, rumination, reinforcement acceptance, and catastrophic appraisal ($P < 0.05$).

In total, it can be concluded that the two workshops of willpower and sleep awakening dramatically promoted the psychophysical health and reduced stress and anxiety in the intervention group subjects and there was a significant difference between the pretest and posttest scores of the intervention group in terms of the studied variables. Hence, using the coping strategies along with the reinforcement of the Granovsky excitement components improved psychophysical health of the students, although coping strategies did only make significant changes in depression, positive refocusing, positive denial, rumination, catastrophic appraisal, and reinforcement acceptance in the intervention group, compared with the control group in posttest comparisons ($P < 0.05$) and no significant differences were observed in terms of other components ($P > 0.05$).

Discussion and Conclusion

Stress, anxiety, and their coping strategies are of the most important materials in modern psychology, particularly the positive psychology. Stress and anxiety can dramatically reduce the sleep quality and cause loss of concentration and life expectancy in the patients due to their devastating and destructive impacts on immune system and other body organs. Students, particularly medical students, due to tough courses and difficult academic conditions are at the highest risk for stress and anxiety. The ways that medical students use to cope with such destructive factors determine their academic achievements as well as psychophysical health. Coping, in fact, refers to cognitive and behavioral attempts of an individual constantly changing in order to meet internal and external desires estimated beyond available resources and capabilities. Coping is a reflection of a procedure including active involvement in a specific time period and has different strategies.

Table 3: The correlation between the study groups, before and after the intervention

	Before Intervention	After the Intervention	Z	P
Self-blaming				
Control	7.05±4.35	7.13±4.67	-1.44	0.15
Intervention	6.23±3.97	5.3±4.03	-5.14	<0.0001***
P	0.374	0.043**		
Blaming others				
Control	7.13±3.72	7.0±3.53	-.801	0.423
Intervention	6.67±3.76	5.30±3.74	-4.27	<0.0001***
P	0.445	0.010**		
Rumination				
Control	9.82±5.61	10.55±4.47	-3.23	0.001 ***
Intervention	9.15±4.97	7.05±4.56	-5.321	<0.0001***
P	0.689	<0.0001***		
Catastrophic appraisal				
Control	7.25±2.90	7.81±2.64	-5.57	<0.0001***
Intervention	6.90±2.63	5.7±2.53	-4.97	<0.0001***
P	0.557	<0.0001***		
Reinforcement acceptance				
Control	11.40±5.99	12.36±5.80	-3.306	
Intervention	11.75±5.87	10.50±5.73	-5.21	<0.0001***
P	0.851	0.014**		<0.0001***
Acceptance denial				
Control	29.01±10.11	28.15±9.72	-4.62	<0.0001***
Intervention	27.73±10.45	30.47±10.55	-5.16	<0.0001***
P	0.474	0.287		
Positive refocusing				
Control	18.92±7.49	18.52±7.05	-4.46	<0.0001***
Intervention	18.67±7.57	20.85±7.23	-5.16	<0.0001***
P	0.878	0.085*		
Depression				
Control	11.58±9.86	12.97±9.88	-3.45	<0.0001***
Intervention	12.48±9.50	11.15±9.44	-5.24	<0.0001***
P	0.589	0.295		
Anxiety				
Control	14.71±16.02	14.18±15.72	-.99	0.318
Intervention	14.35±15.16	13.57±15.91	-5.18	<0.0001***
P	0.842	0.538	-1.44	

The selected cognitive, emotional, and behavioral strategy can significantly affect mental health status.^[15] Whatever the capacity to cope with stress and life challenges increases, a person can better maintain his mental and social health, and try to solve his problem in a positive, adaptive, and efficient manner.^[16] Since the capability of coping with stresses, personal life challenges, and social dilemmas is not equal among different individuals, or in other words, different people show different reactions in response to similar social conditions, some of them may lose their capability as soon as facing problems and develop depression, anxiety, stress, and antisocial behaviors and even commit suicide, whereas some people easily overcome the complications and solve the problems with no special problem.^[17-19]

The current study mainly aimed at identifying and evaluating the effect of willpower workshops on stress, anxiety, and the Garnefski excitement components on the 1st-year medical students of Shiraz University of Medical Sciences in the first semester of the academic year 2016--2017. The results of the

current study indicated a significant positive correlation between depression, anxiety, and stress with inapplicable components of cognitive emotion regulation such as blaming others, self-blaming, rumination, catastrophic appraisal, and reinforcement acceptance. In addition, results of the study showed a significant positive correlation between the use of willpower techniques and religious orientation with the promotion of mental health in the student, the results confirmed the first and fifth study hypotheses. Also, the obtained results confirmed a significant positive correlation between the participation in sleep awakening and willpower workshops and reduced anxiety and depression in the students; the results confirmed the second and third hypotheses of the study. Generally, the results of the present study indicated a relationship between willpower, depression, and anxiety, which were consistent with other studies.^[19-24]

Baker and Gursuch^[25] showed a significant negative relationship between personal and inner thoughts and anxiety among the students. Forouhari *et al.*,^[26] also highlighted a relationship

between beliefs, depression, and anxiety and reported that stronger exterior (social) aspect of personal beliefs, compared with interior and religious ones, could better increase the capability of coping with anxiety and depression. In a study by Ford *et al.*,^[27] a significant positive relationship was observed between the components of cognitive emotion regulation and quality of sleep; in other words, using negative strategies reduced the quality of sleep in the students. On the basis of the results of the current and previous studies, there is a close relationship between sleep and emotion, and emotions can clearly affect sleep quality.^[6] Intramental conflicts and inability to regulate emotions result in the increased night arousal and insomnia, and use of negative strategies in the regulation of emotions, specifically rumination and catastrophic appraisal, may result in reduced sleep quality.^[28] People involved in annoying thoughts caused by inconvenient events and spent a lot of time ruminating about the event find it catastrophic and horrible, and passively give up, they usually have poor sleep quality and experience more negative emotions and feelings.^[10] Such people when ruminating about a convenient event experienced before, it is exactly like that events is happening at that time; the influx of such thoughts during the night results in increased waking hours and reduced sleep quality.^[6] Ghofrani showed in a study that the catastrophic appraisal affects and reduces the quality of sleep.^[29]

In contrast, there was a significant negative correlation between the positive strategies of cognitive emotion regulation and quality of sleep; in other words, use of positive strategies of emotion regulation can improve the quality of sleep in the students.^[30,31] People who focus on positive activities and experiences after being exposed to problems, emphasize on the productivity of convenient events and try to downgrade the seriousness and importance of such events, usually have more positive emotional adjustments with better sleep quality.^[32] In the current study, a significant relationship was observed between mental health (depression, anxiety, and stress) and willpower and quality of sleep in the medical students ($P < 0.05$). Ford *et al.*,^[27] in a study showed a significant relationship between poor sleep quality and depression. They reported that the ones who suffer from insomnia are at higher risk for depression, compared with the ones with normal sleeping patterns; they also considered depression as the stronger predictor for sleep disorder and poor quality.^[33] On the other hand, poor sleep quality affects sleep regulation and exposes the person to the risk of depression and anxiety, which in turn affects mental health. On the basis of the results of different studies, about 54% of people with depression also complain of their sleep quality.^[34] Lee *et al.*^[35] showed in a study that about 54% of mental disorder cases were associated with depression. In addition, there is a significant relationship between the stress and anxiety in patients with poor sleep quality, and the mere existence of anxiety^[36] and stress,^[37] regardless of depression, can reduce the quality of sleep.

On the other hand, results of the current study, in agreement with those of other studies, confirmed the relationship between

some cognitive emotion regulation strategies and depression; in other words, the significant effect of stress, depression, and anxiety on the Garnefski excitement components was evident. The results of different studies^[17-24,38-40] indicated the role of self-blaming, ruminating, and catastrophic appraisal in the development of anxiety. Several investigations were also conducted in this field in Iran^[9,10,17,18,29,32] and reported similar results. In explaining the effect of cognitive emotional regulation strategies on affection and anxiety, it can be concluded that since cognition, affection, and behavior are in close interaction with each other, the cognitive emotion regulation can change the function of cognitive systems (including memory, attention, and consciousness) by controlling the attention and cognitive outcomes of emotion and then regulate the emotion.^[18] Today, contrary to the earlier theories, the usefulness of emotions in behaviors are emphasized and based on the public view, emotions usually happen before expressing the behaviors and optimize the adaptation of individuals with the requirements of social and physical environment. The emotion establishes the position of individual toward the environment by modifying his mental, biological, and emotional processes,^[19,23] and equips him with relevant, efficient, and specific responses, which in turn results in physical and social survival of the person.^[41]

On the other hand, emotions play an important role in creation, maintenance, and cutting off the interpersonal relationships through adjusting the distance between the people, since emotions bring people together or make them away from each other.^[23] For example, rage and happiness affect social relations. Happiness creates the relationships, and sadness maintains them; rage motivates harmful action to break off the relationships. On the basis of the results of the current and other studies, the strategy may have negative emotional consequences. On the other hand, based on the findings of some aforementioned studies,^[17,18] males use self-blaming and catastrophic appraisal strategies more than females; therefore, it seems that males show more reaction toward convenient events, compared with females.

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Conflicts of interest

There are no conflicts of interest.

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