



International Journal of Current Research and Academic Review

ISSN: 2347-3215 Volume 3 Number 8 (August-2015) pp. 397-405

www.ijcrar.com



The Effectiveness of Coping Skills Training on Emergency Medicine Residents' Hardiness on the basis of Gender, Age and Academic Year

Hamidreza Morteza Beygi¹, Sepideh Herizchi², Marziyeh Alivand Wafa² and Mohammad Soltanpour^{1*}

¹Department of Emergency Medicine, Imam Reza Teaching Hospital, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

²Psychiatry Department, Razi Hospital, Faculty of Medicine, Tabriz University of Medical sciences, Tabriz, Iran

*Corresponding author

KEYWORDS

Coping Skills,
Hardiness,
Emergency Medicine,
Kobasa

A B S T R A C T

Stress is an integral part of human life and stressful events can cause physical and mental illnesses and also lead to decrease in work efficiency. Due to the effectiveness of the coping skills training in mental health, this study aimed to achieve the effect of coping skills training in mental health and hardiness of emergency medicine assistant with an emphasis on gender, age and educational year. In this study as a before and after training, 52 emergency medicine assistants in the three educational years (the first, second and third year of residency) were examined in terms of hardiness and impact of coping skills training on this situation. The proposed questionnaire contains demographic information and Kobasa hardiness questionnaire that was completed by each participant. Assistants after completing the questionnaire underwent a coping skills training and after that the Kobasa hardiness questionnaire was presented to each participant for the second time and the results were compared. In all residents before and after training the mean commitment score was 0.23 ± 0.01 and 0.24 ± 0.01 ($P = 0.64$), the challenge score was 0.52 ± 0.016 and 0.52 ± 0.014 ($P = 0.81$), control score was 0.29 ± 0.01 0.31 ± 0.02 ($P = 0.38$) and total score was 35.42 ± 1.29 and 36.18 ± 1.4 ($P = 0.79$), respectively. In the first year residents before and after the training period, the mean commitment score was 0.19 ± 0.01 and 0.29 ± 0.04 ($P = 0.03$) and total score was of 31.48 ± 1.68 and 39.005 ± 3.4 ($P = 0.04$), respectively. In single residents before and after the training period, he mean commitment score was 0.3 ± 0.05 and 0.48 ± 1.03 ($P = 0.02$) and total score was 36.38 ± 5.43 and 48.02 ± 4.71 ($P = 0.013$), respectively. Participants were evaluated in terms of age and gender impact on the training course that showed no significant difference in terms of listed variables and ($P > 0.05$). According to the results, coping skills training in the second and third year residents had a low impact on their hardiness, but early holding the course in the first year of residency, lead to increasing their hardiness, greater commitment to life and work and ready to accept changes in life and work as an exciting challenge. Also married residents were less efficient in training courses than single residents.

Introduction

Stress is an integral part of human life such that some experts consider any demand for adaptation stressful to the person (1). Several studies in the past years indicated that stressful events can lead to the development of physical and psychological diseases as well as a reduction in working efficiency. The field of medicine and medical educations are among the fields associated with specially intense and unique stresses. Internship is an exhausting phase in most medical specialties because facing problems such as plentitude of shifts, the high risks associated with the profession, necessity of constant responsiveness, inadequate presence in the family, and low income cause stress in the Resident. If such a person fails to prepare effectively for problems and challenges and considers life a battle field, he/she will surrender to desperation, frustration, depression, anxiety, anger, burnout, and severe psychological disorders. In such cases, not only the mental health of the physician is damaged, but also consequence such as aggression, anxiety, failure to communicate properly with the working and living environments, increased sensitivity in interpersonal relationships, irritability, burnout, and damage to others (including the patients and the society as a whole) are also observed.

On the other hand, if the person manages to cope with this challenge properly, his/her physical and mental health, life satisfaction, job satisfaction and working efficiency improve (2). In the studies on the relationship between stress and its outcomes, a very wide range of correlations is reported which reflects the presence of personal and interpersonal moderator variables. Kobasa was among the first researchers to study character traits among the moderator variables. He found that people who

experience high levels of stress without physical and mental conditions have a personality structure different from those who develop diseases in stressful circumstances (3). The review of studies on the hardiness of physicians and the important of this trait to the mental health of this vulnerable group reflected the fewness of studies in this regard. Accordingly, the present research was aimed to measure the levels of hardiness in the emergency medicine Resident (based on age, gender and academic year) in dealing with stress and managing to reduce personal, social and professional outcomes of the stress.

Materials and Methods

In this cross-sectional research (which was carried out for the period before and after the study period), in accordance with the number of Resident and their willingness to participate in the study, 52 Resident operating in the emergency medicine field were included in the study. The participants were examined for two periods before and after a skills training course using a researcher-made questionnaire. The questionnaire consisted of a demographic questionnaire and Kobasa's hardiness scale. The respondents were asked to complete the questionnaire. After completing the questionnaire, the Resident received a training course on hardship management and their hardiness was once again assessed using Kobasa's scale after the aforementioned training course. The training was provided under the supervision of the professors working in the department of psychiatry. The training courses were provided for the non-working and free times of the Resident and had no effect on the treatment of patients hospitalized in the emergency ward in the course of the training.

Hardiness Inventory

Kobasa's personal views questionnaire was developed by Kobasa (1976). It consists of 50 items and the respondent shall determine the accuracy or falsehood of the answers using a 4-point (0 to 3) scale. The goal of this test is to assess the hardiness of people in demonstrating better performances. This test can be conducted either personally or as a group. The examiner is asked to explain to the respondents to answer all of the statements as they feel. The test does not have any time limitation but it is recommended to encourage the respondents pay attention to their first reaction to the items and do not answer with obsession.

In a study by Medi (1994) the internal consistency of each of the subscales of the test was obtained as follows using the Cronbach's alpha method: challenge: $\alpha=0.71$; control: $\alpha=0.84$; commitment: $\alpha=0.75$; and total hardiness: $\alpha=0.88$. Jamhari's research (2001) indicated that hardiness components, namely commitment, control, and challenge, have reliability coefficients of 0.70, 0.52 and 0.52, respectively. The total reliability coefficient for the hardiness trait was also calculated to be 0.75.

An increase in the person's score shows the person's better performance in this regard. Kobasa (4) and other behavior control theorists such as Lefcourt (1966), Antonosky (1979), and Lazarus and Madi (1990) suggested that bold individuals have the following three traits:

1. They believe they can control or influence the events they experience.
2. They can feel deeply committed to the activities in their own lives.

3. They predict changes as exciting challenges that can lead to development and progress (4).

Result and Discussion

In this study, which was carried out before the training and in the first training phase, a total of 58 emergency medicine Resident completed the research questionnaire. Of the aforementioned 58 Resident, 23 participants (39.65%) were first-year Resident, 18 (31.03%) second-year Resident, and 17 (29.31%) were third-year Resident. In the second course (after teaching coping skills) a total of 52 Resident completed the prepared form. Of the 52 Resident, 19 cases (36.53%) were first-year Resident, 17 (32.69%) were second-year Resident, and 16 (30.76%) were third-year Resident. Participants who completed the questionnaire only in one of the courses or participants who had evident defects in their forms were excluded from the study. Hence, at the end the information about 52 emergency medicine Resident were examined before and after a training course on coping skills using Kobasa's hardiness test. Table (1) shows the demographic information about the participants in this study.

Kobasa's hardiness questionnaire was used to examine the three components of the coping skills of participants (i.e. commitment, challenge and control) before and after the training course. Results of these examinations are presented in tables (2) to (7).

According to the 2001 report by the World Health Organization, mental health is a fundamental need and is vital to the improvement of human life's quality (5). Mental health is associated with innate enabling features or internal sources of

power. Possession of these internal sources increases the person's ability for adaptive growth and for protecting his/her mental health under the effect of unpleasant conditions and negative consequences.

The objective of the present study was to examine the effect of teaching coping skills on the hardiness of emergency medicine Resident with an emphasis on gender, age and academic year. In this research, a total of 52 emergency medicine Resident studying at three academic levels were examined for their hardiness and for the effect of teaching coping skills on their hardiness.

In the examination of all participants for all of the hardiness components (including commitment, challenge, and control) a slight increase was observed following the training course as compared to the measurements before the course and the difference was not statistically significant ($P=0.64$, $P=0.81$ and $P=0.38$ for commitment, challenge and control). Even the differences between the total scores obtained from the test by all of the participants before and after the training course were 35.42 ± 1.29 and 36.18 ± 1.4 , which did not reflect a significant difference ($P=0.69$).

This finding contradicts the results of the study by Khanghahi who showed that mental health training can improve awareness, create a positive attitude, change life skills, and improve the mental health of people (6).

However, in examining these results it is necessary to consider influencing factors such as age, gender, duration of training courses, timing of training courses, mental issues and preoccupations during the training courses. In this study, comparisons were also made between the performances

of participants regarding these factors to the possible extent.

For example, the effects of coping skills training were studied on the participants based on their age and gender. A significant statistical difference was observed in none of the study variables and it was found that the age and gender of Resident had no role in the contribution of training courses to the hardiness of the participants.

However, the participants were classified based on their academic level in the emergency medicine discipline and test results for the participants were examined based on this classification. Interestingly, in examining the participants based on these subcategories a significant relationship was observed in the first-year Resident group, but no significant difference was observed in the sophomore and third-year Resident groups. Moreover, the increase in the test score in each of the subcategories and the total score of first-year Resident were higher than those of the sophomore and third-year Resident.

In the group of first-year Resident, the commitment score and total hardiness score obtained by participants following the training course were significantly higher than the scores before the training. That is to say, the commitment scores before and after training were 0.19 ± 0.01 and 0.29 ± 0.04 ($P=0.03$), respectively. The total scores of hardiness before and after the training were also 31.48 ± 1.68 and 39.005 ± 3.4 ($P=0.04$), respectively. However, concerning the challenge and control components it shall be said that in spite of the considerable increase in the post-training scores, no statistically significant difference was observed. Therefore, it can be concluded that the coping skills training course increases the hardiness of first-year Resident in general.

Table.1 Demographics finding of Emergency Medicine Residents

		Total	First year	Second year	Third year	P
Samples		52	19	17	16	-
Age		37.04±0.79	35.53±1.39	35±1.18	39.81±1.35	0.04*
Sex	Male	29(55.8%)	9(47.4%)	11(64.7%)	7(43.8%)	0.57
	Female	23(44.2%)	10(52.6%)	6(35.3%)	7(43.8%)	
Marriage	Single	4(7.7%)	3(15.8%)	0(0%)	1(6.3%)	0.2
	Married	48(92.3%)	16(84.2%)	17(100%)	15(93.7%)	

Table.2 Results of Kobasa Hardiness test in first year Emergency Medicine Residents at before and after Coping Skills Training

	Coping Skills Training		P
	Before	After	
Commitment	0.19 ± 0.01	0.29 ± 0.04	0.03 *
Challenge	0.49 ± 0.02	0.53 ± 0.03	0.51
Control	0.25 ± 0.01	0.34 ± 0.05	0.08
Total Score	31.48 ± 1.68	39.005 ± 3.4	0.04 *

Table.3 Results of Kobasa Hardiness test in Second year Emergency Medicine Residents at before and after Coping Skills Training

	Coping Skills Training		P
	Before	After	
Commitment	0.23 ± 0.02	0.2 ± 0.02	0.36
Challenge	0.54 ± 0.021	0.52 ± 0.02	0.75
Control	0.27 ± 0.028	0.27 ± 0.024	0.92
Total Score	35.14 ± 2.29	33.57 ± 1.68	0.58

Table.4 Results of Kobasa Hardiness test in Third year Emergency Medicine Residents at before and after Coping Skills Training

	Coping Skills Training		P
	Before	After	
Commitment	0.29 ± 0.03	0.24 ± 0.03	0.54
Challenge	0.56 ± 0.02	0.51 ± 0.01	0.28
Control	0.35 ± 0.02	0.34 ± 0.03	0.7
Total Score	40.4 ± 2.36	36.5 ± 2.12	0.23

Table.5 Results of Kobasa Hardiness test in Emergency Medicine Residents at before and after Coping Skills Training based on marital status

	Coping Skills Training		P
	Before	After	
Single			
Commitment	0.3 ± 0.05	0.48 ± 1.03	0.02 *
Challenge	0.47 ± 0.06	0.54 ± 0.07	0.08
Control	0.3 ± 0.04	0.31 ± 1.1	0.41
Total Score	36.38 ± 5.43	48.02 ± 4.71	0.013 *
Married			
Commitment	0.23 ± 0.01	0.24 ± 0.01	0.68
Challenge	0.53 ± 0.01	0.52 ± 0.01	0.68
Control	0.29 ± 0.01	0.31 ± 0.02	0.37
Total Score	35.34 ± 1.34	36.18 ± 1.4	0.66

Table.6 Results of Kobasa Hardiness test in Emergency Medicine Residents at before and after Coping Skills Training based on gender

	Coping Skills Training		P
	Before	After	
Male			
Commitment	0.23 ± 0.02	0.27 ± 0.02	0.2
Challenge	0.5 ± 0.01	0.51 ± 0.02	0.52
Control	0.29 ± 0.02	0.33 ± 0.03	0.34
Total Score	34.63 ± 1.83	37.47 ± 2.07	0.3
Female			
Commitment	0.24 ± 0.02	0.2 ± 0.01	0.22
Challenge	0.56 ± 0.02	0.53 ± 0.01	0.28
Control	0.28 ± 0.01	0.29 ± 0.02	0.95
Total Score	36.41 ± 1.8	34.34 ± 1.69	0.41

Table.7 Results of Kobasa Hardiness test in Emergency Medicine Residents at before and after Coping Skills Training

	Coping Skills Training		P
	Before	After	
Commitment	0.23 ± 0.01	0.24 ± 0.01	0.64
Challenge	0.52 ± 0.016	0.52 ± 0.014	0.81
Control	0.29 ± 0.01	0.31 ± 0.02	0.38
Total Score	35.42 ± 1.29	36.18 ± 1.4	0.69

It also improves their control or influence over their surrounding events and increases their commitment to their life and profession and enhances their readiness for accepting changes in their lives and jobs as an exciting challenge that can lead to development and growth.

A similar result was obtained by examining the participants based on their marital status. In this examination, single participants scored higher following the training than before the training, and the difference was statistically significant similar to the results obtained for the commitment ($P=0.02$) and total scores ($P=0.013$) of first-year Resident. In addition, a review of studies by other researchers showed that results of the present study comply with the findings of the following studies regarding the effect of coping skills training courses. Corrigan and Basit showed that teaching coping skills improves the performance and life quality of patients suffering from severe mental diseases (7).

Phuphaibul et al. indicated that after teaching the coping skills, the experimental group demonstrated better coping behavior than the control group and showed higher levels of mental health (8). Mishara stated that university students report lower levels of academic mental pressure after receiving training on coping skills (9).

To explain this finding it can be stated that people who suffer from poor mental health and experience mental disorders (such as anxiety and depression) lack awareness about these disorders and methods for coping with them. As we know, in coping skills training courses the following skills are taught to the participants: problem solving skills; expressing emotions; goal setting; decision making; planning; identifying and recording negative thoughts

and replacing them with positive thoughts; mental relaxation; positive visualization; utilization of support systems; not being avoiding; being control-oriented; and other different skills. Hence, people who learn methods for dealing with life challenges are exposed to mental disorders less than others. For instance, people suffering from anxiety are always in fear and panic of dementia. But after teaching control skills, explaining anxiety symptoms to anxious individuals and clarifying the point that anxiety does not lead to dementia, and teaching the above coping skills to the individuals they gradual recover their health.

Considering the positive effect of this training course considerably contributes to the productivity of Resident. Internship is exhausting in most medical specialties and makes Resident face many various stress factors. Coping with such factors calls for flexibility, adaptability and stress-coping skills (). Emergency medicine is among the first disciplines with such problems as long working shifts, the subsequent physical exhaustion, and coping with damaged patients and impatient companions highlight the necessity of ensuring the mental health and provision of timely trainings for coping with stresses.

Keefe et al. showed that teaching coping skills leads to a reduction in pain and pain-related behavior (10). In a study, Emery et al. showed that teaching short-term coping skills leads to a significant increase in the pain threshold and degrees of pain (11).

In our study, the coping skills training course had a significant outstanding effect on the hardiness of first-year Resident. The same applies to single Resident. This can be explained by the increase in the stress and tensions and the decrease in the concentration of individuals with an increase

in their academic level and with entering into marriage. The same peripheral stresses can reduce the concentration of people in the training courses and decrease the effect of these courses. Therefore, the training on coping skills seems more suitable for Resident in their early years of internship as they have higher levels of concentration and acceptance. Moreover, considering the role of stresses and additional anxieties in married people it seems useful to hold special training courses for these individuals to contribute to the simultaneous improvement of their family and professional lives. Similar studies on the reduction in these anxieties confirm this finding. Hong studied the effectiveness of coping skills to reduce anxiety (12). Kennedy and Doepke concluded that multidimensional treatments consisting of relaxation, desensitization, and cognitive-behavioral interventions leave considerable effects on anxiety reduction (13).

Weitlauf et al. carried out a study in which they indicated that teaching coping skills leads to an increase in self-efficiency and boldness. Moreover, a significant reduction was observed in aggression and interpersonal hostility (14). Sukhodolsky et al. carried out a study in which they showed that teaching coping skills improves interpersonal relationships and reduces aggression and behavioral problems in the trained individuals (15).

Conclusion

Among all of the participants a slight increase was observed by comparing the statuses of the hardiness components (including commitment, challenge or control) in patients before and after the training courses. The difference was also statistically insignificant. Even the difference in the total scores of the test did

not show a significant difference between the results of tests before and after the training course. The age and gender of Resident did not play a role in the effect of training on their hardiness.

The assessment of participants based on the academic levels in the emergency medicine discipline revealed significant relationships for the first-year Resident, but the difference was not significant for the second- and third-year Resident. The increase in the test score for each subcategory and the increase in the total score were higher for the first-year Resident group than the second- and third-year Resident groups. Among the first-year Resident, the score of commitment subcategory and the total hardiness scores obtained after the training course were significantly higher than the scores before the course. However, concerning the challenge and control subcategories, in spite of the considerable increase in the post-training score the difference was not statistically significant. A similar result was observed in examining the individuals based on their marital status. That is to say, a higher score was obtained by single participants following the training course compared to the pre-training examinations. The difference was statistically significant similar to the commitment scores and total test scores obtained by first-year Resident.

References

1. Jenkins V, Fallowfield L. Can communication skills training alter physicians' beliefs and behavior in clinics? *J Clin Oncol* 2002 Feb 1;20(3):765-9.
2. McCalister KT, Dolbier CL, Webster JA, Mallon MW, Steinhardt MA. Hardiness and support at work as predictors of work stress and job

- satisfaction. *Am J Health Promot* 2006 Jan;20(3):183-91.
3. Mehrparvar A, Mazaheri M. A Comparative Study of Psychological Hardiness in Athlete and Non-Athlete Students. *European Journal of Experimental Biology* 2012;2(5):1514-6.
 4. Kobasa SC. Stressful life events, personality, and health: an inquiry into hardiness. *J Pers Soc Psychol* 1979 Jan;37(1):1-11.
 5. World Health Organization. *The World Health Report 2001: Mental health: new understanding, new hope*. World Health Organization; 2001.
 6. Erfani Khanghahi M, Shafiei F, Tavakoli R. The Effect of Mental Health Education On Pre University High School Girls Concerning Their Attitude; Beliefs, and The Knowledge Towards The Subject. *Journal of Health Administration* 2004;7(17):57-63.
 7. Corrigan PW, Basit A. Generalization of social skills training for persons with severe mental illness. *Cognitive and Behavioral Practice* 1997;4(1):191-206.
 8. Phuphaibul R, Thanooruk R, Leucha Y, Sirapo-ngam Y, Kanobdee C. The impacts of the immune of life for teens module application on the coping behaviors and mental health of early adolescents. *Journal of pediatric nursing* 2005;20(6):461-8.
 9. Mishara BL, Ystgaard M. Effectiveness of a mental health promotion program to improve coping skills in young children: Zippy's Friends. *Early Childhood Research Quarterly* 2006;21(1):110-23.
 10. Keefe FJ, Caldwell DS, Baucom D, Salley A, Robinson E, Timmons K, et al. Spouse-assisted coping skills training in the management of osteoarthritic knee pain. *Arthritis & Rheumatism* 1996;9(4):279-91.
 11. Emery CF, Keefe FJ, France CR, Affleck G, Waters S, Fondow MD, et al. Effects of a brief coping skills training intervention on nociceptive flexion reflex threshold in patients having osteoarthritic knee pain: a preliminary laboratory study of sex differences. *Journal of pain and symptom management* 2006;31(3):262-9.
 12. Hong E. Differential stability of individual differences in state and trait test anxiety. *Learning and individual differences* 1998;10(1):51-69.
 13. Kannedy D, Doepke K. Stress Inoculation Bibliotherapy in the treatment of test Anxiety. *Education and treatment of children* 1999;22(3):203-17.
 14. Weitlauf JC, Smith RE, Cervone D. Generalization effects of coping-skills training: influence of self-defense training on women's efficacy beliefs, assertiveness, and aggression. *Journal of Applied Psychology* 2000;85(4):625.
 15. Sukhodolsky DG, Golub A, Stone EC, Orban L. Dismantling anger control training for children: A randomized pilot study of social problem-solving versus social skills training components. *Behavior Therapy* 2006;36(1):15-23.