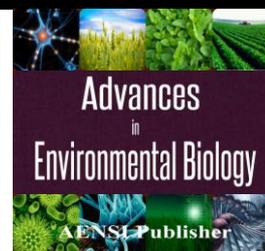




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Investigating the Effect of Training Happiness on Deceasing Hypertension of Patients in the city of Isfahan

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ABSTRACT

Hypertension is one of the common diseases in many countries. If it is not treated, it may result in many serious problems and diseases such as heart, cardiovascular, and cerebral diseases. Hypertension also is considered as one of the main effective factors on cardiovascular diseases. With regard to this fact that stress and other psychological interests are effective on the hypertension, it is necessary to focus on the methods by which stress and other psychological interests can be decreased and eliminated. On the other hand, happiness relation has been studied as one of the positive effective factors on body security system. This is why that the present study was aimed to study the effect of training happiness on decreasing hypertension. This study is a pretest-posttest research with control group in which 30 patients with hypertension were appointed in both control and experiment groups in summer of 2004 randomly. The respondents were participated in the happiness education sessions for five days. In order to analyze the research data and test the hypotheses, Covariance analysis and t-test were employed in the SPSS. The findings of this study revealed that effectiveness of training happiness is significant in decreasing hypertension. The results of posttest in the experiment group referred to the sustainable effect of training in decreasing hypertension. Based on the findings of this study, it can be said that training and providing happiness can be considered as an effective effort in controlling and decreasing hypertension among patients with such a disease. Also it is should be noted that implementation of training happiness in workshops can result in more happiness and less hypertension in the patients.

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INTRODUCTION

Nowadays, hypertension is considered as one of the main problems and interests in the medicine society which may is the most important disease in developed countries [1]. Indeed, hypertension is a serious dangerous factor in cardiovascular disease [2], [3] that increases probability of other diseases such as heart and cerebral diseases [2], [4]. Based on the related reports, 25% of mature peoples suffering from hypertension across the world [5]. Emergence of this disease is so much that about 50 million citizens in the USA suffering that disease [2], [3], [4], [6]. Also one billion peoples suffering from hypertension across the world [2]. A meta-analysis study has been done among 420,000 patients with stroke and cardiovascular disease for 6-25 years. The results of this study revealed that 599 patients and 4,260 patients of this statistical population were died because of stroke and cardiovascular disease relatively [7]. Also there is a significant relationship between outbreak of hypertension and demographic characteristics such as age, gender, and ethic. Indeed, outbreak of this disease is increased during life time in both males and females seriously. Although outbreak of hypertension in young male is more observable than young females, but this difference is decreased in adults. In other words, females over 50 years old suffer hypertension more than males over 50 years old [4]. Based on the seventh report of joint national committee (2003), the newest categorization of hypertension is presented in table 1.

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Table 1: categorization of hypertension in patients over 18 years old

Categorization of hypertension	Systolic hypertension	Diastolic hypertension	Life style change
Normal	Less than 120	Less than 80	Encouragement
Pre- hypertension step	120-139	80-89	Yes
First step of high hypertension	140-159	90-99	Yes
Second step of high hypertension	More than 160	More than 100	Yes

Generally, hypertension has been defined as systolic hypertension with 140 MmHg and over, diastolic hypertension with 90 MmHg and over, and using anti-hypertension drugs [4]. If hypertension is not treated, it may result in %50 coronary artery disease and heart failure and 33% in stroke [5]. Indeed, systolic hypertension is effective in increasing risk of coronary artery disease, stroke, heart failure, kidney disease and overall morbidity more than diastolic hypertension [1], [5]. Clinical experiments about poor and moderate hypertension showed that drop in hypertension decreases stroke about 35-40% [2], [8]. Also drop in diastolic hypertension decreases probability of stroke and coronary heart disease [5]. The use of anti-hypertension drugs is one of the main treatment methods in this area. On the other hand, researchers have studied mental and social effective factors on outbreak of hypertension during past two decades. They found that there is a significant relationship between life style factors and growth of hypertension and it is the main issue in behavioral disorders [9]. So drugs are not the singular solution of hypertension and also behavioral treatments can be effective in this area [3]. Indeed, primary behavioral approaches have included hypertension treatment through sporting, diet, controlling stress, and bio-feedback [4], [5]. Elimination of emotional and environmental stresses is one of the main effective factors in improving hypertension [1]. The results of modern studies revealed that almost any disease and illness, from cold to cancer and heart disease, is influenced by stress, uncertain events, life style, and social relations [10]. Personality Type A influences cardiovascular system and increase heartbeat and regularity of heartbeat considerably. It also increases probability of heart attack [11]. Indeed, the relationship between stress and cardiovascular diseases is so much that Cardiac Society of America indicated that a person is died in every second across the world [12].

On the other hand, happiness is one of the main areas of life style. Based on the results of different studies, there is a significant relationship between happiness and improvement of immune System. For example, the results of a study indicated that there is a significant relationship between happiness and immune system [13]. The results of other study revealed that the correlation between happiness and health is 0.32 [14]. The results of other studies revealed that even happy people have immune in front of cold and Influenza more than others [15]. Indeed, blood flow is increased in times of happiness and is decreased in times of sadness and worry [16]. In addition, happiness is considered as a shield in front of stress [17]. Some authors believe that happiness has three main elements including positive emotions, lack of negative emotions (such as anxiety, depression, and so on), and life satisfaction. Also having positive relations with others, growth of personality, and loving others are the main parts of happiness [17]. Although many definitions have been presented for happiness, but the best definition refers to happiness as the maximum level of positive emotion and the minimum level of negative emotions simultaneously [18]. Happiness and positive moods have a considerable effect on people. For example, it results in better social interactions, more qualified communications, friendly relations, helping others, thinking and acting in better manner [19].

Lack of happiness may make people more sensitive in front of physical diseases in both short-term and long-term periods. Conscious sad emotional moods may influence physiologic systems of the body and result in disorders in the immune system seriously [18]. With respect to the importance of controlling and treating hypertension, importance of happiness, and its relationship with improvement of immune system, it is necessary to study the effects of happiness in decreasing hypertension. The results of a study revealed that positive life events decrease hypertension considerably and thereby the probability of hypertension is decreased in teenagers [20]. As a result, happiness is one of the main necessities of life which should be increased through different methods and solutions. Providing positive emotions, positive life events, cognitive methods, behavioral cognitive methods, and social skills are the main solutions which can be used for this purpose [19]. Indeed, behavioral cognitive method of Fordyce is one of the best methods in increasing happiness. It includes 14 behavioral cognitive techniques which are educated in sessions. Behavioral cognitive method of Fordyce was used in this study. For this purpose, 12 techniques were used. The purpose of this technique is to educate participants for increasing their happiness. Such methods have covered two parts of happiness including formation of positive emotion and life satisfaction [15]. These techniques were presented in the following section.

- Expressing emotions
- Increasing positive thought
- Increasing physical activities
- Increasing social relations
- Increasing sincerity

- Increasing creativity
- Decreasing expectations
- Being yourself
- Planning and organizing
- Living in the present
- Avoiding bad thoughts
- Prioritizing happiness

Based on the results of a study, which was done among students of Isfahan University of Medical Sciences through Fordyce method, revealed that it does not only increase happiness, but also decrease anxiety and depression in the students [21]. Also implementation of such happiness plans increase happiness and decrease job depression in the consultants in the city of Isfahan [22]. With respect to the importance of controlling and treating hypertension and its effects, it is necessary to increase positive emotions and decrease negative emotions.

Research methodology:

This study is a pretest-posttest research with control group. The statistical population of this study includes all of the patients with hypertension who have referred to Shariati Hospital in the city of Isfahan. A sample of 30 patients was selected from this population in 2004. The sample was divided into two parts including control and experiment groups. The sample members had 47-75 years old. The average of control group members' age was 63.93 years old and the average of experiment group members' age was 63.06. In order to collect the research data, the questionnaire of happiness of Oxford and hypertension measurement machine were used.

The main hypothesis of this study indicates that training happiness influences patients' hypertension negatively. In order to collect the research data in terms of happiness, the questionnaire of Oxford, which was developed by Argyle and Lu (1989), was used. The questionnaire consists of 29 items. Different authors have used this questionnaire and its reliability and validity has already been examined and confirmed by them. The questionnaire has already been examined and normalized in Iran in 1999 [23]. The authors have reported Cronbachs' Alpha Coefficient is 0.87. On the other hand, blood pressure measuring device was used for collecting the research data. In other words, hypertension of the respondents was measured in both pretest and posttest steps and then the experiment group members were investigated in the next step. The research data was analyzed by descriptive and inferential statistics (Covariance analysis and t-test) in the SPSS.

Findings:

The findings of this study are presented in the table 2. The results of this table revealed that systolic hypertension and diastolic hypertension of experiment group members were decreased in posttest. But systolic hypertension and diastolic hypertension of control group members were increased in posttest.

Table 2: the average and standard deviation of blood pressure scores in experiment and control groups

Groups	pressure scores	Test type	Average	Standard deviation
Experiment	Systolic	Pretest	137	9.94
		Posttest	135	9.06
Control	Diastolic	Pretest	136.66	10.29
		Posttest	142.66	6.51
Experiment	Systolic	Pretest	85.33	6.39
		Posttest	80	7.55
Control	Diastolic	Pretest	84.66	6.39
		Posttest	88.33	4.87

Because it was necessary to evaluate research hypotheses through using Covariance analysis, this test was used. There are several prerequisites in using that method such as equity of variances of two groups. For this purpose, Levin test was used. The results of this test are presented in table 3.

Table 3: the results of Levin test

Variables	F	df1	df2	Sig
Systolic	0.101	1	28	0.75
Diastolic	3.73	1	28	0.06

The results of Covariance analysis revealed that there is a significant difference between experiment and control groups' averages of systolic and diastolic (p: 0.01 for systolic and p: 0.001 for diastolic). This means that the difference between systolic of experiment group (135) and control group (142.66) is significant. On the other hand, difference between experiment group (80) and control group (88.33) is significant. It can be said that training happiness is effective on systolic and diastolic hypertension. The extent of change in systolic was 0.23 and extent of change in diastolic was 0.34. As a result, the hypothesis is supported.

Table 4: the summary of covariance analysis

Variation sources	Sum of squares	df	Average of squares	F	Sig	Effects	Statistical power
Systolic	456.59	1	456.59	7.80	0.01	0.23	0.76
Diastolic	539.24	1	539.24	13.70	0.001	0.34	0.94

The follow-up sessions were implemented after a week. Since it was not possible to implement follow-up session in control group, only experiment group was investigated in follow-up session. The results of this part revealed that the difference was significant. This means that the effects of training happiness is sustainable on diastolic after a week. But significance of systolic means that long-term training is more effective.

Table 5: the summary of t-test

	Average	Standard deviation	Standard error of average	t	df	Sig
Systolic	10.33	10.43	2.69	3.83	14	0.002
Diastolic	2.33	9.97	2.57	0.90	14	0.38

Discussion and conclusion:

The results of this study revealed that training happiness is effective on decreasing hypertension of patients. The findings imply the use of methods for changing life style such happiness. Naks *et al.* (1988) found that people with normal blood pressure have more ability in avoiding sadness and anxiety. They also refer that people with high blood pressure experience less happiness in their life. In addition, McCarthy *et al.* (1995) found that psychological interference, which results in less negative reactions and more positive moods, influences cardiac-vascular performance significantly. Another part of findings of this study revealed that positive emotions can be effective in treating hypertension, Coronary artery occlusion, and myocardial [25]. Also Shapiro *et al.* (1997) found that there is a significant relationship between patients' report of sadness feeling and their diastolic hypertension [26]. On the other hand, Moller and Winder (1999) found that people with anxiety, depression, and stress suffering more heart disease and high blood pressure [27]. Ohira *et al.* (2002) found that Japanese man, who cannot express their anxiety, suffer hypertension more than others [28]. Caputo *et al.* (1998) found that positive life events results in less blood pressure. As a result, there is less probability of hypertension among them [20]. In addition, the results of this study revealed that there is a significant difference between systolic scores of respondents in experiment group in posttest and follow-up sessions. With respect to this fact that scores of follow-up session was less than posttest, it can be said that the effect of training happiness is significant in long-term. On the other hand, the results showed that there is not any significant difference between diastolic scores in posttest and follow-up. This means that the effect of training happiness on diastolic is significant in long-term. Another part of the results indicated that control of hypertension is not appropriate in the patients. With respect to the effectiveness of training happiness on decreasing hypertension, it is suggested to the treatment centers to utilize different methods for increasing happiness as a complementary treatment method. Also it is suggested to the companies and organizations to increase their employees' happiness through developing and implementing happiness sessions. One of the main limitations of this study is that sample members were older people.

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