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Effects of healthy psychological course

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ABSTRACT

The aim of this research is to prepare a healthy psychological course and study its impact on the levels of serum uric acid (SUA) and pessimism and depression. The research sample was limited to teaching staff of the Iraqi State Universities in Baghdad, who were retired at 63–65 years of age. Data were collected by independent group experimental approach via pre- and posttest measurements. The study sample consisted of 21 people with cases of pessimism and depression. The sample was randomly chosen based on their consent to do pre- and posttests and to be subjected to healthy psychological approach. After collecting the data obtained from the samples and processing them statistically, the results showed that the healthy psychological course had a positive effect on the levels of SUA, pessimism, and depression of the research sample.

Keywords: *depression; pessimism; uric acid*

INTRODUCTION

It is natural that a person changes in a healthy and psychological way because of his or her age. Aging, like all other stages of life, is a phase during

which the person is exposed to strength and weakness as well as health and illness.

The exposure of the Iraqi society to difficult conditions in various aspects of life has led to the acceleration of the aging process in Iraqi people.

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As one reaches about 60 years of age, their health begins to deteriorate, which in turn contributes to the deterioration of psychological condition.¹ By the age of retirement (63 years), one is accompanied by a feeling of lack of need and disappointment (pessimism) and mood swings (simple depression), as well as physiological changes, including changes in serum uric acid (SUA) levels, which are subjected to study here. Hence, research which focus on the development of a training curriculum to overcome the difficulties experienced by the sample population through the preparation of a healthy course and study its effect in the SUA and psychology of pessimism and depression is of high relevance.

The problem of research was the health and psychological pressures experienced by individuals at this age, especially when referred to retirement and the lack of interest of the community in its various institutions and organizations. The provision of health and psychological care to this segment of the community led to the preparation of a healthy psychological course to overcome certain problems of the research sample.

Lamina and Okoye studied the effect of aerobic exercise on psychosocial status and uric acid in blood of men who suffer from chronic hypertension. They identified the effect of the continuous training program on SUA and the physiological status of black African population suffering from high blood pressure through the pretest and posttest measurements conducted in experimental and control groups. The study was conducted in men aged 50–70 years with chronic hypertension, both mild and moderate forms.²

Abulridha et al. studied the impact of physical health psychological program on some physiological variables and physical fitness and improvement of the mood in elderly by designing such a program that matches the nature of the sample population. They used the single, independent group experimental approach via pretest and posttest measurements, and the study was conducted in men aged 60–65 years, suffering from diabetes, cholesterol, and moderate depression.³

METHODS

The single, independent group experimental method was used for pretest and posttest measurements to suit the nature of the problem.

The sample was selected from teaching staffs of State Universities in Baghdad (The University of Baghdad, University of Technology, Mustansiriyah University, Al Nahrain University, and the Iraqi University) who have retired over the past 3 years (2017, 2018, 2019). The data of staff were collected from the universities, and the population reached to 363 professors aged 63–65 years. Individuals with pessimism and depression (average [mood disturbance]) were chosen for the study. Smokers, alcohol users, and patients with kidney disease and gout, as well as practitioners of various kinds of sports, were excluded from the study by distributing a questionnaire to collect the information. The optimism and pessimism measurement form was also distributed in addition to the depression scale form. This was done during the period from Sunday 5/5/2019 to Sunday 7/7/2019. The sample size reached to 94 persons who were selected based on their consent to carry out the tests, as well as the approval of the application for the health psychological approach. After excluding the participants in the pilot and non-regular training, the number of individuals in the final sample was 21. The sample percentage was 22.34% of the research population.

Measurement tools

(a) Aron Beck scale form: (3:7–8): The depression scale consists of 21 paragraphs, and each paragraph of the scale refers to the axis of depression on the scale. (b) The Seligman Scale for pessimism and optimism⁴: The Seligman scale consists of 48 paragraphs, the degree of examinee ranges between 0 and 48. A low score (0–24) indicates the tendency to be pessimistic, while a high score (25–48) indicates optimism. The two scales have been codified and adapted to the Iraqi environment for older people aged 63–65 years, by presenting it to a group of experts and specialists in psychology and sports

psychology. The scales were codified and applied to the Iraqi environment. Chinese-made spectrophotometer, electronic thermometer for measuring ambient temperature, 2 ml syringes number 60, stopwatch type (Casio) Japanese-made number 2, questionnaire form, cotton, medical alcohol, tubes to save blood number 60, Chinese-made centrifuge apparatus, blood test results form, expert form, ball balance number 3, weight of weight (1 kg and 2 kg) number 4 per weight, ground mat number 3, height (30 and 60 cm) , treadmill number 3, rubber sling number 4 are the coefficients of validity,

Tests and measurements

Uric acid in the blood (SUA): A blood sample was obtained from the study sample by intravenous withdrawal for the examination of SUA, the normal level ranges between 3.3 and 7 mg/dl.

Pilot experiment

This pilot experiment on a sample of five people was done to identify the efficiency of the assistant team, to know the necessary time required to conduct the tests, to verify the scientific basis of the results of the measurement, and to make the work accurate, which was conducted in 2 days, Tuesday and Wednesday, dated 27/8/2019 and 28/8/2019, respectively. On the first day, the blood samples obtained were tested in the laboratory of pathological analysis at Obesity Unit, Elkindi Faculty of Medicine, University of Baghdad to identify the obstacles, difficulties, and shortcomings that the researchers may face. On the second day, items of training unit was implemented on the same sample for pilot experiment in the fitness hall at University of Baghdad to discover the shortcomings in the implementation of the program.

Pretests

The pretests were done by the Assistant Team from 3/9/2019 to 5/9/2019 at the Obesity Unit, Faculty of Medicine, Baghdad University with the determination of similar conditions for the posttests.

The health psychological course

A health psychological course* was prepared in music along with some updates and expert opinions. The course took 10 weeks, from Sunday 8/9/2019 to Friday 15/11/2019.

The duration of the course was 10 weeks, with four units and three training units per week (Sunday, Tuesday, Thursday) and recreation unit (Friday or Saturday) depending on the circumstances. The total number of units was 40, 30 training units and 10 recreational units. The researchers believe that these units are sufficient for adaptation and development of the study indicators.

Oxygen training in the preparation of the health psychological course was adopted by the method of interval training, in a circular way from low intensity to medium intensity with module time between 45 and 60 min for one training unit.

The training intensity of the health fitness course ranges about 50–67%. The calculation of the intensity of the training based on the heart rate is as follows⁵:

$$\text{Target Pulse} = (\text{Minimum Pulse} \times \text{Required Intensity}) + \text{Comfort Pulse} \quad (1)$$

$$\text{Lower Pulse} = \text{Maximum Pulse} - \text{Comfort Pulse} \quad (2)$$

$$\text{Maximum Pulse} = 220 - \text{age} \quad (3)$$

Weekly load ripple is 1–2, and the ripple of training modules within the week is 1–2.

Recreational units were implemented through the establishment of trips to different places of recreation, with the application of relaxation exercises and relaxation with music (in the final section of the training module).

Posttests

Posttests were carried out on the research sample, from 17/11/2019 to 19/11/2019 at the Obesity

*Appendix (1).

Unit, El-Kindi Faculty of Medicine, University of Baghdad. The blood samples were obtained from the subjects, and the questionnaire form for optimism, pessimism, and depression measurements was distributed and filled by the research sample.

Analysing the Results and Discussion

Table 1 shows the significance of the differences between the pre- and posttests in favor of the post-test in improving the level of SUA (see Figure 1). The suggested health psychological course had a positive effect, knowing that in both tests the level of uric acid was within normal limits. Regular long-term aerobic training reduced the level of SUA. Francis and Hamrick⁶ have confirmed that the low-to-medium aerobic training program of 8 weeks decreased the level of SUA. Furthermore, Lamina and Okoye concluded that moderate-intensity aerobic exercise showed a decrease in the level of SUA.² On the contrary, Beavers et al. confirmed that there is a positive relationship between physical exercise and high uric acid level in the blood, as regular participation in vigorous exercise will lead to increased SUA levels.⁷

Table 1 shows the significance of the differences between the pre- and posttests in the level of pessimism for the benefit of the post-test (see Figure 1). The health psychological course had a

positive effect on self-assessment and inclusiveness, in overcoming the pressures and imparted a positive outlook of the stressful situations and reduced the pessimism and raised the level of optimism in the individual. This was confirmed in a study by Khreibt and Abdel-Fattah. They confirmed that regular aerobic training has positive effects on self-confidence, improves mental function, and makes the person happier.⁸

Also, the significant differences between the pre- and posttests in level of depression (irritability) in favor of the post-test are included in Table 1 and Figure 1 which attributed to the fact that the used psychosocial course has a tangible benefit for self-control, satisfaction, enjoyment of life, decision-making, and willpower, which led to the improvement of mood and lead a quality life. This was confirmed by Ahmed, who pointed out that practicing sports activities is one of the pillars of treatment for those who feel irritable as they have significant role in granting self-confidence and achieving happiness and well-being.⁹

Also, music and mass travel away from the family for some time, such as blending into the natural and social environment, together are sufficient to facilitate nervous and psychological relaxation. This was confirmed by Allawi and Abdel-Fattah, who

TABLE 1. The Mean, Standard Deviation, and the T-test Values of Serum Uric Acid Level, Optimistic and Pessimistic, and Depressed for the Pretest and Posttest of the Sample.

Variable	Test	Arithmetic mean	Standard deviation	Average differences	Standard deviations of differences	T- test value	Value significance	Level of variance
Blood serum uric acid (SUA)	Pre-	6.65	0.56	2.85	0.58	22.43	0.000	Significant
	Post-	3.79	0.32					
Pessimism	Pre	22.38	1.24	-13.76	3.91	16.12	0.000	Significant
	Post-	36.14	3.77					
Depression	Pre-	26.95	1.39	4.33	2.24	8.85	0.000	Significant
	Post-	22.62	1.74					

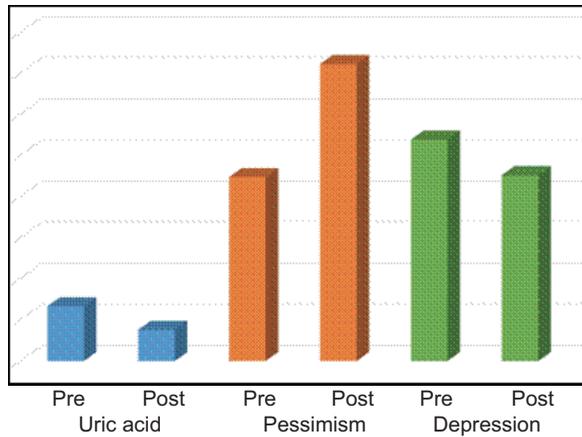


FIGURE 1. The values of differences parameters for pre- and posttest.

stated that exercise and regular training improve mood, clear tension, and help to largely get rid of psychological stress.¹⁰ This was also confirmed by Ahmed who said that listening to music during easing and relaxation exercises helps to overcome stress and irritability.⁹

Generally, the used course had a positive psychological health effect to overcome the negative effects and health damage caused by age, lack of mobility, and the existence of a large vacuum which led to the negative impact on the health and psychological status of human beings in general, especially in the elderly. This was in agreement with the observation of Nabih, who mentioned that the increasing interest in exercise and physical activity, especially for the elderly, is not only for the purpose of championship and competition, but also for physical and psychological health and for improving performance efficiency and enjoying life.¹¹⁻¹²

CONCLUSIONS

There were significant differences between the pre- and posttests in the level of SUA, and levels of pessimism and depression that attributed to the posttest.

REFERENCES

1. Jassim SH. The effect of exercise in some functional and motor variables to relieve psychiatric depression for elderly. M.Sc. Thesis. College of Physical Education and Sports Science for Girls, Baghdad University, Iraq; 2016. 40 p.
2. Lamina S, Okoye Gc. Effects of aerobic exercise training on psychosocial status and serum uric acid in men with essential hypertension: A randomized controlled trial. *Ann Med Health Sci Res.* 2012;2(2):161–8. <https://doi.org/10.4103/2141-9248.105665>
3. Abulridha AS, Idrees MT, Jallu LA. The effect of physical, healthy, psychological program on some physiological variables and physical efficiency and mood improvement for elderly. University of Baghdad, Iraq: Faculty of Physical Education and Sports Science for girls; 2016. *Contemporary sports.* p. 1–16.
4. Nasrallah NKH. The prevailing patterns of thinking and their relation to the psychology of optimism and pessimism among the students of the second stage. Master Thesis. Faculty of Graduate Studies, An-Najah National University, Nablus, Palestine; 2008. 75 p.
5. Fahey TD, Insel PM, Roth WT. Fit and well core concepts and labs in physical fitness and wellness. 7th ed. New York: Mc Graw Hill; 2015. 73 p.
6. Francis K, Hamrick ME. Exercise and uric acid: Implication in cardiovascular disease. *J Orthop Sports Phys Ther.* 1984;6(1):34–9. <https://doi.org/10.2519/jospt.1984.6.1.34>
7. Beavers KM, Hsu FC, Serra MC, Yank V, Pahor M, Nicklas BJ. The effects of long-term physical activity intervention on serum uric acid in older adults at risk for physical disability. *J Aging Phys Act.* 2014;22(1):25–33. <https://doi.org/10.1123/japa.2012-0018>
8. Khreibt R, Abdel-Fattah AE. Sports training. Cairo: The Book Center for Publishing; 2016. 56 p.
9. Ahmed KI. Modern concepts in mathematical psychology. Baghdad: Noor Office for Printing and Reproduction; 2010. 229 p.
10. Allawi MH, Abdel-Fattah AE. Physiology of sports training. Cairo: Dar Al-Fikr Al-Arabi; 1984. 24 p.

11. Nabih AS. Effect of a training program within the water center on the efficiency of the respiratory system and the psychological stress of older people. Helwan University, Egypt: Faculty of Physical Education for Boys in Haram; 2014. Scientific Journal of Physical Education and Sports, Part II, No. 71. 279 p.
12. Abdulbaqi AS, Obaid AJ, Hmeed Alazawi SA. A smart system for health caregiver based on IoMT: Toward tele-health caregiving. Int J Online Biomed Eng. 2021;17(7):70–87. <https://doi.org/10.3991/ijoe.v17i07.22525>

APPENDIX (1)
MODULE 13 SAMPLE

Date: 29/9/2019

Day: Sunday

Sequence of Training Course: 10th

Week: 4

Month: First

Training time: 50 min

Number of participants: 21

Intensity of the training unit: 55% of the target pulse

Location: Sports Hall, University of Baghdad

Main part			
Exercises	Recurrence	Groups	Break taken between groups
<ul style="list-style-type: none"> • Stand open, bend the trunk forward, lean the left arm on the hand balance ball, the right arm is stretched down, carrying 2 kg weight; lift the arm to the side and lower it, switch with the other arm. • Stand open, hands high; touch the left foot by right hand in front of the body, and then go back and touch the right foot with the left hand. • Lie on the ground rug with arms crossed on the chest, bend the two legs at the 80° angle, lift the shoulders forward, and return to the initial position. • The right side of the hip is placed on the balance ball, the right arm rests on the ground behind the ball, and the left arm is based on the ball. The legs are outstretched and grounded sideways, lifting the left leg up and lowering it, retraining the other side. • Sit on the bench and place hands on the thighs and each arm with a weight of 1 kg so that the palm of the upper hands raise the hands gradually to the chest by bending the elbow and returning to the initial position. • Long sitting, open legs, arms extended to the top, bend the trunk and touch the foot of the right leg with both hands and then the middle and then the left leg and return to the initial situation. • Hold the right arm and left leg up to touch the left foot with the right hand in front of the body and return to the initial position, and then switch with the left arm and the right leg. • Get on the Treadmill apparatus and after taking the standby mode, press the start button at 3 km/h and the sample individuals will start moving on the device (with continuous and instantaneous monitoring of the pulse, mileage, and walking speed) and start to increase the speed of the device until the person reaches the target pulse, and then begins to reduce the speed of the device 3° every minute until the speed of the machine reaches the start speed and then stop and get off the device. 	<p>15</p> <p>20</p> <p>15</p> <p>10</p> <p>15</p> <p>20</p> <p>20</p> <p>1</p>	<p>2</p>	<p>5–7 min</p>