

The Effect of Swimming in Reduction of Depression in University Male Students

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Abstract: Swimming can increase the compatibility of depressed patients and reduce their disease symptoms. To assess the effect of swimming as a therapeutic management on depressed Male university students. Among 300 participants from Tabriz medical university 74 student were chosen by using the Beck Depression Inventory (BDI), whose scores was higher than 19 and were divided randomly into two groups (control groups = 37 and trial group = 37) then therapeutic method of swimming was used in trial group for 12-15 sessions. At the end of the course 2 groups were again evaluated by the device (BDI). Findings showed that swimming as a therapeutic management has been meaningfully caused the reduction of severity of depression in trial group ($p < 0/001$). and in control group that haven't received this treatment method, found no statistically reduction in test scores ($p > 5\%$). This research suggest that swimming sport could reduce depression symptoms and therefore can be used lonely or with other clinical management to reduce of depression severity.

Key words: Depression, swimming, students

INTRODUCTION

The complexity of humane relations in the present age and application of the modern technology in the daily life and lack of physical activity, have caused the appearance of some of psycho-behavioural disorders such as anxiety and depression and therefore, in some ways, threats human lives.

Depression is one of the most current psychical disorders and studies in Africa and Asia proves its development (WHO).

In recent years. The application of short term non-pharmaceutical therapeutic methods for treatment of depression has been considered for their positive effect and lack of side effects and exact evaluation of these methods has shown hopeful results.

According to the published statistics in the forth edition of Diagnostic and Statistical Manual Disorders (DSM-IV), the rate of depression, in life duration has been 10-65% for women and 5-12% for men. (Psychiatry Society of America, 1994).

Several studies which on major depression disorder were accomplished in different countries, show that the rate of its prevalence in women is twice as much as men (Kaplan and Sadook, 2003) Byrne and Byrne (1993) from Canberra university (Australia) have reported the anti-depressive and anti-anxiety effects and mood improvement that are resulted from sport programs.

While results of Cooper *et al.* (1997) studies in Baltimore university of untied states on 913 middle aged

physician suggest that the risk of depression among athletes and non-athlete people is the same.

Findings of Dimeo *et al.* (2001) in the sport Medical Department of Berlin Freie university indicate that short term aerobic sport can cause the fundamental recovery and improvement of the mood, in patients who suffer from major depression disorder. In this sport program which was performed as 30 min walking on treadmill for 10 days, the rate of depression (according to the Hamilton Rating Scale for Depression) was reduced from the score of 19/5 to 13 ($p = 0/002$).

Finding of a study, which was accomplished in Wolverhampton university of England (Lane and Lovejoy, 2001), also show that exercise is associated by mood improvement and significant reduction of the negative mood symptoms such as anger, confusion, stress (tension) and fatigue.

Findings of Chanudda *et al.* (2006) study on 49 female volunteers, who were 18-20 years old, with mild-to-middle depressive symptoms, as measured by the Center of Epidemiologic Studies Depression (CES-D), showed that their depressive scores significantly decreases after 8 week period of exercise program.

The research of Shevchuk (2007) from Virginia university appears to support in the previous hypothesis that a cold hydrotherapy (which is performed once or twice daily for several weeks to several months, with 20°C water for 2-3 min and regularly increases to 5 min), can significantly reduce depression symptoms.

Through a research which has been conducted Iran, prevalence of depression disorder, has been reported 4/20% and also, on another research which has been accomplished in north areas of Iran, it has been reported 6/24%. (Dadash Zadeh, 1998).

The aim of this study is evaluation of swimming as a treatment method in improvement of depression symptoms in male student, of medical science of Tabriz University.

MATERIALS AND METHODS

The present research, which is a semi-experimental one, was conducted to study and review the effect of training the swimming skills lonely and without other treatments in reduction of the rate of depression disorder on boy university students who suffer from depression.

For this aim, by cooperation of sport experts, 75 depressed students were chosen, whose depression score in Beck Depression Inventory was higher than 19 and divided randomly to 2 groups of test and control.

Then the therapeutic method (swimming sport) was applied for a bout 2/5-3 months (12-15 sessions) on 35 students in test group. All of the subjects, were again evaluated by using the same measurement divided (Beck Depression Inventory)

The research sample was 75 boy students who suffer from depression.

All of the research subjects were chosen among boy university students.

They were 19-22 years old and in terms of education level, all of them were student of medical science. Most of the subjects were single (unmarried) and from different towns. All of the subjects, themselves, were interested in this therapeutic method and announced their inclination for cooperation with this research.

Sample kolmogorov- Smirnov test, independent, Paired-t-test were used for data analysis in SPSS software.

RESULTS

The age range of the students, who participated in this research, was 19-22 years old. And there wasn't any meaningful statistical difference among the average age of subjects of both test and control groups.

For studying the normality of the depression scores distribution, on all of the 74 subjects, One sample kolmogorov-Smirnov test was applied and its results showed that the distribution of depression scores follows the normal distribution ($Z = 1/59$, $p = 0/179$)

Before intervention (beginning the study), the average depression scores of both test and control groups were, respectively of $24/6 \pm 4/8$ and $23/8 \pm 4/5$,

Table 1: Comparison of depression scores before and after intervention

Group	Scores before the intervention	Scores after the intervention	p-value
Test	$24/6 \pm 4/8$	$17/7 \pm 4/6$	$<0/001$
Control	$23/8 \pm 4/5$	$23/6 \pm 4/4$	$0/668$

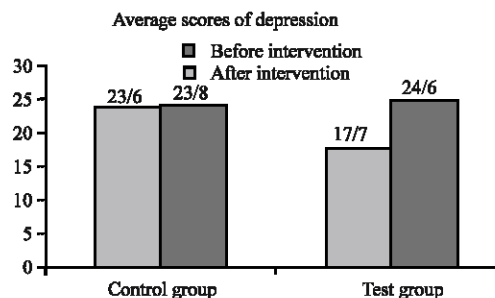


Fig. 1: Effect of swimming in reduction of depression severity

which, according to independent-t-test, didn't show any meaningful statistical difference. ($p = 0/429$). This comparison shows the uniformity of both groups in terms of their depression scores at the beginning of the study.

After intervention in test group, the comparison of depression scores of both groups, shows that it has reduced to $17/7 \pm 4/6$ for test group but is $23/6 \pm 4/4$ in control group ($p < 0/001$).

The comparison of depression scores of both groups, before and after intervention, by using of Paired-t-test has been shown in Table 1.

Also, the comparison of scores difference, before and after intervention in both groups, shows that the average reduction of depression scores in test group is $6/9 \pm 2/9$ and is $0/13 \pm 1/9$ in control group ($p < 0/001$).

Finally, the Fig. 1 shows clearly the effect of swimming in reduction of severity of depression symptoms in students.

DISCUSSION

Aim of our trial was to estimate the effect of exercise (swimming) on reduction of depression symptoms. Thus we selected our subjects among male students in Tabriz University of medical science and compared the effects of swimming in two group. These findings are parallel with the results of findings of Frieer university (Berlin), based on the effect of aerobic exercise in improvement of patients mood and behaviour and are parallel with findings of Chanudda *et al.* (2006) (Virginia university), Wolverhampton university in England and Canberra university and Baltimore university in USA, so the effect of swimming is proved in treatment of depression disorder and can be considered as one of the therapeutic methods of depression disorder for its positive effect and lack of

side effects of drugs which are criticized by patients and is suitable management for patients which are resistant to pharmaceutical treatments.

The present research is parallel with findings of Crist *et al.* (1979), Doyen *et al.* (1983), Fremont *et al.* (1984) which have demonstrated a meaningful relation between training and physical activities with reduction of depression rate and have considered exercise as an effective method in reduction of the rate of depression and anxiety disorders. This research proves the findings of Soroush nasab, (1993) and Raoofi (1998) based on the reduction of depression severity of students and depressed patients by DoSaho movement activities and exercise.

The obtained results show that there is a meaningful relation between swimming and reduction of rate of depression in students. Therefore, swimming can be introduced as one of the methods of depression reduction for treatment of depressed patients.

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