

# The Effectiveness of Pilates in Resiliency and Psych-asthenia of the Housewives

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## Abstract

This study aimed to investigate the effect of Pilates on resiliency and psych-asthenia of the housewives in Tehran. The most common problems of the housewives included decreased resilience and uniform life that led to increased psych-asthenia. Using the knowledge of Contrology, measuring the effect of Pilates on resiliency and psych-asthenia of the housewives was considered. Quasi-experimental research design included the control groups (pre-test, post-test). The statistical population consisted of 40 housewives (20 in Pilates group and 20 in control group) that were selected using the available sampling by referring to a sports club in District 2, Tehran. Data were analyzed using analysis of variance and multivariate analysis of covariance, and the adjusted comparison was conducted at the significance level of 5%. The results showed that the adjusted mean of the scores of resiliency and psych-asthenia for the intervention group are significantly different ( $p > 5.0$ ) and there is a significant difference between the mean scores of resiliency and psych-asthenia of the treatment and control groups. Pilates exercises increase resiliency and decrease psych-asthenia of the housewives. Thus, it is recommended that psychologists and psychiatrists consider Pilates as a supplementary treatment in their prescriptions.

**Keywords:** Pilates, resiliency, psych-asthenia

## 1. Introduction

Different theories of psychology have proposed a variety of very different solutions for the psychological problems, including taking the exercises (Alipoor & Noorbala, 1999). In different societies, sport is considered as a way for preventing the diseases, improving the health and a sense of well-being. Due to its positive mental and physical effects, it plays a crucial role in the rehabilitation and treatment of mental illnesses (Argyl, 2001; Bernard, 1993). Many studies discussed the positive effects of regular aerobic exercise in reducing the symptoms associated with mental disorders such as stress, anxiety, and depression and increasing the self-esteem and improving the moods (Cohen & Fredrikson, 1998; Cole, 2002; Deneve & Cooper, 1998).

It seems that physical activity improves the symptoms of pain, reduces the anxiety, depression, and other problems by increasing the endorphins and reducing the adrenal cortical (Diener & Diener, 2008). Physical activity improves the person's performance. It also increases the efficiency of mind and leads to the freshness and mental health by creating a good attitude to life. Women are affected by psychological factors of the physical activity more than men and experience good feelings more than men (Diener & Lucas, 2000). One of the recent treatment methods that has been increasingly considered by the fitness experts and is widely used is Pilates (Duffy, 1998). It consists of a set of specialized practices and a combination of the two elements of body and mind and focuses on the center of the body, including the abdominal area, hips, and spine. The main purpose of the Pilates exercises is to increase strength, flexibility, endurance, balance, and posture. In fact, Pilates is a good way to mind awareness, body, and controlling the movement states (Garmzy, Masten & Tellegan, 1984). Given the high prevalence of depression, anxiety and psych-asthenia among women and girls, and the effects of these factors on the social, job and family relationships, this study aimed to increase the effectiveness of Pilates in increasing the happiness, resiliency, and reducing the psych-asthenia. If the effectiveness of Pilates is confirmed it can be recommended for a wide range of the women as an available and cost-effective sport.

In the recent years more people, especially women have been interested in Pilates for its positive effects on the health. Pilates reduces the feeling of tiredness and reinforce the mind by coordinating the rhythm and the

movements (Haller, 2004). Resiliency means to cope with the stresses and crises. Psychologists have always focused on finding the ways to increase the resiliency that help people to adapt themselves with new conditions and overcome the life difficulties. Resiliency means to manage the stressful conditions, not to have a life with no pain or stress. People frequently experience the sorrow or other negative feelings after they are stuck on the problems. Improved resiliency helps people to learn the self-management skills and knowledge (Kaufman, 1994).

On the other hand, psych-asthenia is considered as one of the most important and prevalent psychological problems. Many patients in their complaints point out that they suffer from psych-asthenia, however, with their own words. Psych-asthenia has been dealt with a wide range of the studies under the titles of depression, apathy, or frustration. Although there are common elements between these concepts, psych-asthenia is characterized by a number of features that should be independently studies (Kumpfer, 1990; Maroulakis & Zervas, 1993).

Moreover, the effectiveness of Pilates on resiliency and psych-asthenia of the housewives has not studied yet. Therefore, this study aimed to discuss the results of the previous studies on the effectiveness of Pilates in the resiliency and psych-asthenia of the housewives.

## 2. Research Hypotheses

*Main hypothesis:*

Pilates is effective in resiliency and psych-asthenia of the housewives.

*Sub-hypotheses*

Pilates is effective in resiliency of the housewives.

Pilates is effective in psych-asthenia of the housewives.

## 3. Method

This is a clinical quasi-experimental study with a statistical population of 50 girls and housewives women that were selected using the available sampling by referring to a sports club in District 2, Tehran and explaining the objectives. The pre-test questionnaires were distributed and the participants were asked to complete them. Then, the subjects were peered based on the features of age, educational level, weight and so on.

Inclusive criteria of the subjects:

- Structured clinical interview by the experimenter
- Informed consent for participating the study
- Average age between 35 and 45
- Gender (Only women)
- Educational level (diploma to postgraduate)
- Lack of medical disorders
- Lack of the absence for more than four sessions during the experimental period.
- Lack of simultaneous participation in other sport programs
- -Lack of severe physical illness.
- Lack of inclusion criteria (age, sex, and educational level)

After sampling, participants were randomly divided into two groups: 20 patients in control group, 20 patients in Pilate group. Sport program for the Pilates group consists of 12 sessions for 60 minutes including 10 minutes for the simple stretching exercises for warming up and then, the stretching, strength, neuromuscular coordination and balance exercises and finally, 10 minutes of simple stretching to cooling under the supervision of experienced mentors. It should be noted that Pilates consists of four levels of exercises. For the aim of this study, exercises in level four were first considered and then, exercises of level three and two. The control group took no exercises and just participated in the pre-test and post-test. Upon the completion of training course and after the posttest, the results were analyzed using SPSS-18. For the descriptive statistics, mean, and standard deviation and for the inferential statistics, analysis of variance, multivariate covariance, and paired comparison of the adjusted averages were used.

## 4. Finding

The mean score of the posttest of the subjects in the intervention group for the Pilates exercises in scale of the

resiliency was 73.55 and in the scale of psych-asthenia scale was 11.35, and in the control group, it was 49.35 and 19.60 for the scale of the resiliency and the scale of psych-asthenia scale, respectively. The results of the covariance analysis were reported in table 1. There was no significant difference between the mean of the pre-test scores of resiliency and psych-asthenia in the treatment and control groups. However, there was significant difference between the mean of the post-test scores of resiliency and psych-asthenia in these two groups. Since the significance level obtained in the test (KS) (Table 2) in the variables is more than 5% of the criterion, it is concluded that variables in the statistical sample are normally distributed. Therefore, research hypotheses were tested using the analysis of covariance.

The adjusted mean difference in Pilates and control group is 0.19, that statistically significant ( $p = 0.988$ ). Therefore, Pilates is effective in increasing the resilience and reducing the psych-asthenia in the treatment group compared to the control group.

Table 1. Analysis of covariance between treatment and control groups after controlling the confounding variables (pre-test)

Source of changes	sum of squares	df	mean of squares	F	Sig (p)	Eta	statistical power
Pretest	0.019	1	0.019	0.0001	0.998	0.0001	0.05
Inter-group variance	5786.004	2	5786.004	70.9	0.0001	0.657	1
Intra-group variance	3019.481	37	81.608				
Total	159920	40					

Table 2. Results of analysis of covariance between the treatment and control groups after controlling the confounding variables (pre-test)

Source of changes	sum of squares	df	mean of squares	F	Sig (p)	Eta	statistical power
Pretest	649.735	1	649.735	4.176	0.048	0.101	0.512
Inter-group variance	9668.387	1	9668.387	62.14	0.0001	0.627	1
Intra-group variance	5756.865	37	155.591				
Total	88690	40					

Table 3. Results of analysis of covariance between the treatment and control groups after controlling the confounding variables (pre-test)

Source of changes	sum of squares	df	mean of squares	F	Sig (p)	Eta	statistical power
Pretest	0.431	1	0.431	0.039	0.845	0.001	0.054
Inter-group variance	680.827	1	680.827	61.006	0.0001	0.622	1
Intra-group variance	412.919	37	11.16				
Total	10673	40					

Table 4. The results of variance analysis in the multivariate analysis

of the variables	Source of changes	sum of squares	df	F	Sig (p)	Eta	statistical power
resilience	group	6114.96	1	104.12	0.001	0.74	0.99
psych-asthenia	group	688.59	1	66.03	0.001	0.65	0.99

#### 4. Discussion and Conclusion

Over the past decade, most of the people have been interested in taking exercise and sport programs due to its recently proved positive effects. Results show that Pilates increases the resilience and increases the psych-asthenia of the housewives after one hour up to 85%. Results also show that there is a significant relationship between the pre-test scores and post-test scores. Therefore, the intervention of Pilates exercises

show that the findings of this study are consistent with those of Poorranjbar et al. (2005), Karimian et al. (2005), Karoferia et al. (2015), and Igoras et al. (2010). They reported that Pilates exercises affects the performance, fatigue, weakness, depression, lack of balance, life satisfaction, self-concept and health.

Results also indicate that Pilates exercises had the significant effect based on the data of the control group. Therefore, it can be concluded that Pilates exercises increase significantly the resilience and reduce psych-asthenia in housewives compared to the control group. These results are consistent with those of Nasi et al. (2010), Igor et al. (2010), Mokhtari et al. (2013), Farira (2011), and Rodriguez (2010) that stated Pilates exercises influence on the fatigue, stress, anxiety, quality of life and physical health.

This study may include taking Pilates exercises and selecting the a period of 12 weeks for practice, therefore, group exercises by observing the rules of overload and monitoring the program for the housewives and preventing the mental health problems improve the performance, increase the resilience and reduce the psych-asthenia.

The results of the study suggest that Pilates is a feasible and convenient sport for the housewives that are effective in increasing their resiliency and reducing their psych-asthenia. Pilates consists of a series of muscle contractions that cause the abdominal muscular endurance and reduce the muscle pains of the upper part of the body notably abdomen and waist. The positive effects of Pilates exercises on physical symptoms include reducing the nor epinephrine level when relaxing and lower in the heart rate and blood pressure that lead to the improvement of the psychological symptoms. Thus, it is recommended that psychologists and psychiatrists consider Pilates as a supplementary treatment in their prescriptions.

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