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Do Regular Exercises Cause Exercise Dependence Symptom on Sedentaries?¹

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Abstract

The aim of this study was to investigate the exercise dependence syhmptom on individuals who do exercise regularly as nonathlete. Totally 123 individuals (32 female, 91male, mean age 28,2±16,2 years, exercise mean age 7,7,±6,2 years) participated in to the study voluntary. Data collected by using demographic survey sheet and Exercise Dependence Scale-21 which was developed by Hausenblas and Downs (2002) and adapted in to Turkish by Yeltepe and Ikizler (2007). SPSS used for analysis. Analysis showed that; %1,6 of participant were dependence, %84,1 of participant was symptomatic and %14,2 of participants were asymptomatic. In addition there were significant differences between groups according to weekly exercise frequency, exercise age and total dependence scale point. There was positive but low correlation with total exercise dependence score and weekly exercise frequency and daily exercise duration. On the other hand it is found that there was negative but low correlation with total exercise dependence score and age. According to findings it is possible to say that if losing control of weekly exercise frequency and daily exercise duration exercise dependence symptoms may occur among sedentaries.

Keywords: Exercise dependence, sports, health, sedentary

¹ This study was adapted from the first outhor's master thesis.

Introduction

Doing regular exercises have positive effects on psychological and physiological variables as known clearly. However increasing the frequency and duration of exercises may also cause health problems. One of these was described as exercise dependence. Exercise dependence is the term that; losing control of the exercise routine, constantly increasing the duration, frequency and intensity of the exercise for the satisfaction, being asocial because cannot give up exercise (Adams & Kirkby, 2002; Zmijewski & Howard 2003). Scientists explained that there is two types of exercise dependence; first is the negative dependence that the person feels anxiety, depression, irritability, insomnia when did not perform exercise. (Hausenblas & Downs, 2002) Second is positive dependence that the person does exercise for cope with the daily difficulties (Glasser 1976). Previous studies showed that there was a relation with personality, psychological-psychological variables, type of exercise, gender and exercise age (Hausenblas & Downs, 2002, Adams 2001). Previous studies focused on athletes thus situation of the exercise dependence symptom on sedentary needs investigation. Living healthy, coping with daily life difficulties, being fit are the most reason to doing exercise. But such reasons does cause the exercise dependence on sedentary when performing regularly? Because of this reason the aim of this study was the investigate the exercise dependence symptom on sedentary.

Method

Participants: Totally 123 individuals (32 female, 91male, mean age $28,2\pm 16,2$ years, exercise mean age $7,7,\pm 6,2$ years) without healthy problem, minimum 2 years exercise experienced and minimum 2 days of week performed exercise regularly in a sport center participated in to the study voluntary. 4 participants didn't want to answer scale so that totally 119 persons' scale was evaluated.

All participants signed an informed consent form before the beginning of the study, which was approved by the Human Ethics Committee of the Canakkale Onsekiz Mart University with the number of 08-03-2012/52 and conducted in accordance with the Declaration of Helsinki, good clinical practices, and applicable laws and regulations.

Data collection: Exercise Dependence Scale-21 was used to collect data which was developed by Hausenblas & Symons Downs, 2002b and which was adapted in to Turkish by Yeltepe and İközler 2007. The EDS contains the following seven subscales which are based on the seven criteria for substance dependence; Tolerance, Withdrawal Effects, Continuance, Lack of Control, Reductions in Other Activities, Time, and Intention. The EDS can be examined using either the seven subscale scores or a total EDS score by summing the 21-items. Participants respond to the items on a six-point Likert scale anchored at the extremes with 1 (never) to 6 (always). A lower score reveals less exercise dependence symptoms. The psychometric properties of this scale are good (Hausenblas & Symons Downs, 2002b).

Statistical analysis

SPSS used to analysis. Kruskal-Wallis used compare groups. Pearson correlation test used to analyse relation between variables. Findings accepted significant at $p<0,05$ level.

Findings

Table1. Demographic characteristics of participants (n-%)

| Variables | | n | % |
|-----------------|------------------------|-----|------|
| Gender | Female | 32 | 26 |
| | Male | 91 | 74 |
| | Total | 123 | 100 |
| | Uneducated | 1 | ,8 |
| | Primary school | 4 | 3,3 |
| | Midle school | 2 | 1,6 |
| Education level | High school | 14 | 11,4 |
| | University | 91 | 74,0 |
| | Master degree | 11 | 8,9 |
| | Total | 123 | 100 |
| | Govemernt official | 15 | 12,2 |
| | Retired | 6 | 4,9 |
| Job | Student | 38 | 30,9 |
| | Private company member | 44 | 35,8 |
| | Unemployed | 20 | 16,3 |
| | Total | 123 | 100 |
| | Low | 12 | 9,8 |
| Economic level | Modarete | 69 | 56,1 |
| | High | 42 | 34,1 |
| | Total | 123 | 100 |

Demographic characteristics of participants were showed on Table 1. According to Table 1, Totally 123 (%100) participants including %26 of female and %74 of male joined in to study. It is found that %74 of participants had university level education, %35,8 of participants worked in private company and generally participants described that their economic level as moderate (%56,1).

Table 2. Exercise routine of participants ($x \pm ss$ / n-%)

| | | x | Sd |
|------------------|-------------------------------|-------|-------|
| Exercise routine | Exercise age (year) | 7,7 | 6,2 |
| | Exercise periods (days/week) | 4,4 | 1,3 |
| | Exercise duration (hours/day) | 1,9 | 0,8 |
| | | n | % |
| Exercise reason | Medical advice | 4 | 2,0 |
| | Healthy lifestyle | 56 | 27,3 |
| | Losing weight | 17 | 8,3 |
| | Hypertrophy | 33 | 16,1 |
| | Being fit | 36 | 17,6 |
| | Doing sport | 53 | 25,9 |
| | Other | 6 | 2,9 |
| | Total | 205 | 100,0 |
| Exercise type | Jogging | 53 | 21,7 |
| | Cycling | 25 | 10,2 |
| | Swimming | 42 | 17,2 |
| | Rowing | 8 | 3,3 |
| | Body building | 61 | 25,0 |
| | Team sports | 55 | 22,5 |
| | | Total | 244 |

X: mean Sd: standart deviation

Exercise routines of participants were showed on Table 2. It is found that average exercise age of participants were $7,7 \pm 6,2$ years, average exercise age was $4,4 \pm 1,3$ days/week and average exercise duration was $1,9 \pm 0,9$ hours. Participants answered that their major reason for doing exercise was the healthy lifestyle (%27,3) and they did body building as exercise type mostly (%25).

Table 3. Comparison the dependence groups as exercise routine ($x \pm ss$)

| Groups | n | Exercise frequency days/week | Exercise duration (hours/day) | Exercise age (year) |
|--------------|-----|------------------------------|-------------------------------|---------------------|
| Dependence | 2 | $7,0 \pm 0,1^*$ | $4,0 \pm 0,1^*$ | $16,0 \pm 5,65^*$ |
| Symptomatic | 100 | $4,38 \pm 1,22$ | $1,96 \pm ,77$ | $7,50 \pm 6,33$ |
| Asymptomatic | 17 | $3,94 \pm 1,39$ | $1,64 \pm ,49$ | $7,41 \pm 5,70$ |
| Total | 119 | $5,1 \pm 0,9$ | $2,5 \pm 0,4$ | $10,3 \pm 5,8$ |

*P<0,05

Comparison the dependence groups as exercise routine was showed on Table 3. Analysis classified that %1,6 of participants were exercise dependence, %84,1 of participants were symptomatic and % 14, of participants were asymptomatic. Dependence group had highest average exercise routine scores than the other groups as found. ($7,0 \pm 0,1$ days/week $4,0 \pm 0,1$ hours/day and $16,0 \pm 5,6$ years exercise age). Kruskal –wallis analysis proved that there was

statistical differences with dependence group and other groups according to exercise routine scores (“X²:8,230 P:0,01”, “X²:8,009 P:0,01”, “X²:45,25 P:0,01” respectively).

Table 4. Correlation with total dependence score with some variables

| | | Exercise age | BMI | Age | Weekly exercise frequency | Daily exercise duration |
|------------------------|---|--------------|-------|----------|---------------------------|-------------------------|
| Total dependence score | r | ,014 | -,044 | -,229(*) | ,383(**) | ,335(**) |
| | p | ,882 | ,635 | ,012 | ,000 | ,000 |
| | N | 119 | 119 | 119 | 119 | 119 |

* p<0.05 ** p<0.01

Correlation with total dependence score with some variables were showed on Table 4. Analysis proved that there was positive but low correlation with total exercise dependence score and weekly exercise frequency and daily exercise duration. Beside it is found that there was negative but low correlation with total exercise dependence score and age.

Discussion

The aim of this study was to investigate the effects of regular exercises on exercise dependence symptoms among sedentaries. Totally 119 scale investigated and analysis proved that %1,6 of participant were exercise dependence and majority of them were symptomatic (%84). Previous studies reported that with the different evaluation techniques prevalence of the exercise dependence symptom in population was the range of %10-%35 (Costa et al. 2012, Lejoyeux et al. 2008, Vardar et al. 2012, Viella et al. 2011). On the other hand when exercise dependence symptom evaluated by dependence scale this range was %3-%5 as reported by researcher (Berczik et al. 2012, Monoc et al. 2012). Beside limited studies among Turkish population were showed that the range of exercise dependence symptom was %7,1-%12 (Bavlı et al 2011, Vardar et al. 2012, Bavlı et al. 2015). It is possible to say that exercise dependence symptom may be seen in low rates among populations. Reporters noticed that the reasons of the exercise dependence were various but accompany with psychological and physiological problems. For example; Cook (1996) reported that exercise dependence had a positive relation with body dissatisfaction and perfectionism, but had a negative relation with self esteem. Hausenblas and Giacobbi (2004) found that there was a relation with exercise dependence symptoms and extraversion, neuroticism, and agreeableness personality types. Another study showed that clinical and subclinical eating disorders are at high risk for the development of exercise-dependence symptoms (Zmijewski and Howard 2003). Recent study focused on whether exercise routine cause exercise symptom on sedentary. Participants’ exercise routine were; 7,7±6,2 years as exercise age, 4,4±1,3 days/week as exercise frequency and 1,9±0,9 hours as exercise duration. Participants answered that their major reason for doing exercise was the healthy lifestyle (%27,3) and they did body building as exercise type mostly (%25). When comparison the exercise routine with the groups we found that exercise dependence group has highest average exercise routine scores than the other groups as found. (7,0±0,1 days/week 4,0±0,1 hours/day and 16,0±5,6 years exercise age) and there was statistical differences with dependence group and other groups according to exercise routine scores about the exercise frequency, exercise duration and exercise age (“X²:8,230 P:0,01”, “X²:8,009 P:0,01”, “X²:45,25 P:0,01” respectively). When the limited

previous studies investigated it became clear that persons who had exercise dependence symptoms spent more time with doing exercises than others as we found. For example; Lejoyeux et al. (2008) noticed that exercise dependents spent more hours each day in the fitness center practicing (2.1 hours per day) and they went to the fitness center more often each week (3.5 days per week). Similar findings reported by Bavli et al. (2011) that exercise dependence group had higher weekly exercise frequency ($5,2 \pm 1,6$ days per week) and higher daily exercise duration ($1,9 \pm 0,5$ hours per day). Another similar findings supported to recent findings that dependence group had higher weekly exercise frequency and exercise duration ($4,3 \pm 0,9$ days per week and $4,1 \pm 1,5$ hours per day respectively) as reported by Bavli et al. (2015). Besides dependence groups also had a higher exercise age as found in this study. Similar findings reported by Kagan (1987) and Bavli et al (2011) and Bavli et al. (2015). Some variables which may accompany with exercise dependence were observed in this study that whether there was a relation with exercise dependence total score. Analysis showed that there was positive but low correlation with total exercise dependence score and weekly exercise frequency and daily exercise duration. Similar findings reported by researcher that exercise dependence has been positively associated with the frequency and duration of exercise (Adams et al. 2003; Furst and Germone 1993). Beside it is found that there was negative but low correlation with total exercise dependence score and age. Allegre et al. (2007) reported as we found that age had a negative effect on exercise dependence score. But opposite findings reported that no association between exercise dependence with age by Klein et al.(2004). Besides body Mass Index (BMI) and exercise age has no correlation with total exercise dependence score as found. Klein et al.(2004) found as we did but Allegre et al. (2007) and Sebastiano et al. (2013) indicated that age had relation with the exercise dependence. These contradictions may cause of the differences of the participants' demographic characteristics.

Conclusion

According to findings it is possible to say that the prevalence of the exercise dependence symptom among sedentary was low. But there was a correlation with increasing weekly exercise frequency and daily exercise duration. There is needed to further studies about exercise dependence symptoms among sedentary people. Limited studies and recent studies showed that exercise dependence symptom can be seen in low range among sedentaries. According to findings about this study it can be say that increasing weekly exercise frequency and daily exercise duration may cause exercise dependence symptoms. So avoiding the exercise dependence symptoms exercise frequency and exercise duration should be well planned.

Conflict of Interest

The authors have not declared any conflicts of interest.

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