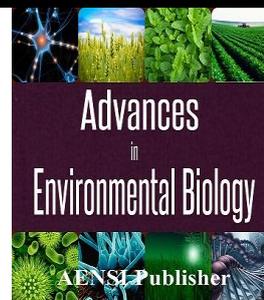




AENSI Journals

Advances in Environmental Biology

ISSN-1995-0756 EISSN-1998-1066

Journal home page: <http://www.aensiweb.com/AEB/>

Comparison of Body Composition, Skeletal Malformations and some of Fitness Factors in Employee Women and Housewives with Household Jobs

¹Mohaddeseh vakilizarch and ²Ardeshir Zafari

¹Student of Physical Education and Sport Sciences, taft Branch, Islamic Azad University, taft, Iran

²Department of Physical Education and Sport Sciences, Zanjan Branch, Islamic Azad University, Zanjan, Iran

ARTICLE INFO

Article history:

Received 12 October 2014

Received in revised form 26 December 2014

Accepted 1 January 2015

Available online 10 February 2015

Keywords:

skeletal malformations, body composition, physical fitness, household jobs and female workers.

ABSTRACT

Introduction: physical activity of people in the last several years has to be minimized by industrial development and industrial lifestyle, and human is faced with poverty in movement. So hence, the purpose of this study is to investigate the relations between body composition, physical fitness and skeletal malformations among married women. **Methods:** in this descriptive study correlation of 38 persons of married women in the city of Yazd were randomly selected and were placed in 3 distinct groups of employee women, housewives and women with household jobs. The examined cases in three types of tests called, body composition, physical fitness and skeletal malformations were done as follows: tests on the type of physical fitness were based on 5 factors as follows: flexibility {sit and reach exercise}; strength {medicine ball throwing exercise}; endurance {push up and sit up exercise}; agility {running 4×9}; balance {angle}.

Tests on the type of body composition were based on 5 factors as follows: body water, body fat mass, upper body fat, and lower body fat. And also detection of skeletal malformations was performed in 5 cases of kyphosis, lordosis, drooping shoulders, head forward, and scoliosis. Finally data were analyzed using descriptive statistics (mean, standard deviation) and inferential statistics such as one-way analysis of variance at the level ($p < 0.05$). The findings revealed that in the conducted studies, difference between the measuring variables (body water, upper body fat percentage, and lower body fat percentage and body fat mass percentage) were not significant. Also mean difference of fitness variable factors (flexibility, muscle strength, muscle endurance, muscle power and balance) were not significant. **Conclusion:** considering the above, it was found that there is not a statistically significant difference between body composition, skeletal malformations, and some factors of physical fitness in female employee and housewives with household jobs

© 2015 AENSI Publisher All rights reserved.

To Cite This Article: Mohaddeseh vakilizarch and Ardeshir Zafari., Comparison of Body Composition, Skeletal Malformations and some of Fitness Factors in Employee Women and Housewives with Household Jobs. *Adv. Environ. Biol.*, 9(2), 148-151, 2015

INTRODUCTION

Nowadays, having proper body composition and physical health of skeleton, are most concerns of women. And the most common problems of people are not having of normal and usual body composition including of body mass, the amount of body fat and body water and also common skeletal problems which are including different disorders [1]. Most of people are doing a lot of effort in elimination of these problems which are sometimes late and sometimes are compensable [2]. But the reality is that it is much better to avoid from catching of skeletal malformations and improper body composition and not having of required physical fitness.

There is no doubt that the industrial life, despite the great services that has had for human, it also has side effects that may be the most important of them in the term of health is poverty movement. That removes happiness and freshness from human body and instead has replaced the risk of obesity. Of course, increase prevalence of obesity in all around the world takes place in conditions that energy costs for work and employment activities and personal works and individual needs gradually decrease due to the modernization of life, and in contrast, daily energy costs have not been increased sufficiently, to compensate urbanization changes and modernization life. Also, nutrition incorrect culture and resorting to fast foods are the most important causes of obesity in population. For this reason, an amazing increase was taken place, in the last century. All indications reveal the fact that conditions will be worse in the coming decades. It may seems that the problem

Corresponding Author: Mohaddeseh vakilizarch, Student of Physical Education and Sport Sciences, taft Branc, Islamic Azad University, taft, Iran
Tel: +989139694471; E-mail : hadis.1714@gmail.com

exists only in developed and industries countries, but according to the center of cardiovascular research of Medical Sciences University of Tehran, the incidence of obesity among citizens of Tehran and particularly the adults is like their Western counterparts [3]. And it's positive and negative changes can affect other aspects of human life. Many researches in different countries, the effect of physical and exercise activities have investigated on prevention of unfavorable changes and have reached to different conclusions. More results obtained from the study show that physical and exercise activities that can increase muscle involvement, can cause improves oxygen transport system activity, better nutrition of muscles and improve of body joint efficiency.

Therefore, it is important and essential to pay attention to the physical activities and active and vibrant lifestyle, which requires designing and implementations of extensive researches in the field of influence and relations of physical activities, exercise activities, and active and dynamic lifestyle on cardiovascular risk factors [4]. Doing of specific and uniform activities during a day, causes applying of more or less pressure to one member and on the other hand, these activities cause that a person cannot develop his/her activity and/or do not has any extra time for doing body exercises. In this case a question arises that what body composition and physical fitness are there in people who have uniform physical activities? What differences are there between body composition, physical fitness and skeletal malformations in women with household jobs with employee women? The main objective of this study is skeletal malformations, body composition, and some factors of physical fitness in female employees and housewives with household jobs.

Method:

For this purpose, 38 married women who lived in the city of Yazd, were selected and randomly were placed in three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12). After explaining of the subjects with conditions and method of conducting of the research, a consent form and a questionnaire of general information and history of disease were placed at their disposal, at first. Also, before running the test, they were asked to follow normal sleep patterns (at least 8 hours of sleep), daily activity patterns and diet during the study. And they were asked to refuse any strenuous physical activity, dietary supplements, drug use, coffee, tobacco and cocoa consumption until 48 hours before performance of the test. Physical characteristics of the subjects such as age, weight and height and body mass index were measured and recorded. Subjects weight were measured by using of Seca scale with accuracy of 1.0 kg in standard form, and with minimal clothing, height of the subjects were measured by using of stadiometer with accuracy of 1.0 cm of Seca model and also body mass index were measured by using of body composition. Data were recorded in a table and the measured cases were performed in 3 types of tests consist of body composition, physical fitness, and skeletal malformations, as follows: tests on the type of physical fitness were based on 5 factors: flexibility {sit and reach exercise}; strength {medicine ball throwing exercise}; endurance {push up and sit up exercise}; agility {running 4X9}; balance {angle}. The measuring cases on the type of body composition were based on 5 factors: body water, body fat mass, upper body fat, and lower body fat. And also detection of skeletal malformations was performed in 5 cases of kyphosis, lordosis, drooping shoulders, head forward, and scoliosis. Then the results were analyzed using descriptive and inferential statistics. In descriptive statistic to show variables of the study, central index, mean and standard deviation were used in the form of tables and charts. And in inferential statistics section, correlated t-test was used for comparing of means by one-way analysis of variance. All tests were investigated by using of SPSS software version 18 at a significant level ($p < 0.05$).

Results:

The results of two-way statistical test of one-way analysis of variance showed that differences of body mass, body water, upper body fat percentage, lower body fat percentage, body fat mass, flexibility of body, strength of muscles, endurance of muscles, power of muscles, agility and balance variables were not statistically significant between housewives, employees women and women with household jobs (Table 1 to 10).

Table 1: Comparison of body mass index variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	234.660	2	117.330	0.677	0.515
Intra-group	6068.928	35	173.398		
Total	6303.588	37	-----		

Table 2: Comparison of body water variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	37.973	2	18.986	1.958	0.156
Intra-group	339.418	35	9.698		
Total	377.391	37	-----		

Table 3: Comparison of upper body fat percentage variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	104.592	2	52.296	1.437	0.251
Intra-group	1273.340	35	36.381		
Total	1377.933	37	-----		

Table 4: Comparison of mass body fat variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	177.011	2	88.505	1.342	0.274
Intra-group	2308.468	35	65.956		
Total	2985.479	37	-----		

Table 5: Comparison of flexibility of body variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	423.331	2	211.666	3.289	0.05
Intra-group	2252.142	35	64.347		
Total	2975.474	37	-----		

Table 6: Comparison of strength of muscles variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	19.764	2	9.882	2.844	0.072
Intra-group	121.627	35	3.475		
Total	141.391	37	-----		

Table 7: Comparison of endurance of muscles variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	274.507	2	137.253	0.962	0.392
Intra-group	4991.309	35	142.609		
Total	5265.816	37	-----		

Table 8: Comparison of power of muscles variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	1244.017	2	162.009	1.759	0.187
Intra-group	12375.377	35	353.582		
Total	13619.395	37	-----		

Table 9: Comparison of agility variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	128.892	2	64.446	2.887	0.07
Intra-group	781.299	35	22.323		
Total	910.191	37	-----		

Table 10: Comparison of balance variable between three groups of housewives (n=15), employee women (n=11) and women with household jobs (n=12); ($p \leq 0.05$).

Source of variation	Sum of squares	Degrees of freedom	Mean	Amount of F	Being significant
Inter-group	523.283	2	261.642	0.205	0.815
Intra-group	44603.559	35	1247.387		
Total	842.45126	37	-----		

Discussion:

Research findings show that there is no significant relation between body mass index variable [$p=0.51$ and $F(2,35)=0.67$], body water [$p=0.15$ and $F(2,35)=1.56$], lower body fat percentage [$p=0.39$ and $F(2,35)=0.96$], upper body fat percentage [$p=0.25$ and $F(2,35)=1.43$], body fat mass [$p=0.27$ and $F(2,35)=1.34$], flexibility of body [$p=0.05$ and $F(2,35)=3$], strength of muscle [$p=0.07$ and $F(2,35)=2.84$], endurance of muscle [$p=0.39$ and

F(2,35)=0.96], power of muscle [$p=0.18$ and F(2,35)=1.75], agility [$p=0.07$ and F(2,35)=2.88], balance [$p=0.81$ and F(2,35)=0.20], of housewives, employee women and women with household jobs.

Doulat Abadi also obtained a significant relation between body mass index and body fat percentage in 8 to 12 years old active or non active boy students, in his research [5]. Also Kargar in a research on boys in the range of 7-17 years old obtained similar results [6]. These results are inconsistent with obtained results by Hamedia Nia and Lamei. One of possible reasons for the problem is small volume of samples for measuring of relations [7, 4].

Saeedi in a research that was performed on female athletes with 12 to 22 years old, did not find a significant relation between estimated strength, endurance, and power of muscle, that are consistent with results of this group from groups of current research, and it is inconsistent with Waltz obtained results, that possibly is due to age, strain and number of participants.

According to scientific findings, the amount of body fat in women is ascending process and in the range of 5 to 6 years old, a little change occurs and then ascending process continues until ages 13-15 years old, and when approaches to the adults ages (17 years old), body fat mass is reduced and also body mass index of girls, as a health factor has almost same changes. But it should be noted that body mass index increases with increase of age, so it should not be expected that a sensitive index be considered for body composition in children. The main weakness of BMI is ignorance of that muscle tissue in compared to fat tissue may contribute greater in body weight gain to the height. Therefore, body mass index is only a crude index for obesity, for this reason, researchers have recommended that it is best to use body mass index to measure body fat percentage only when that using of the other methods is not possible.

Also in during adolescence groups and after adolescence groups, WHR was not significantly associated with percentage of body fat. The reason seems to be due to this fact that in women associate with sexual maturity due to increase of pelvis width and accumulation of more fat in hip area and lower change in waist area, waist circle is lower increase than hip circle.

Conclusions:

With respect to the mentioned issues, it was found that there is no statistically significant difference in employee women and housewives with household jobs between body composition, skeletal malformations and some factors of body fitness.

REFERENCES

- [1] Ashrafi, M.R., 2000-2001. Prevalence of obesity in 6-14 years old boys in Tehran by using of body mass index. Master thesis.
- [2] Tofighi, A., 2003-2004. BMI. WC. WHR. Normalization, body fat percentage and amount of physical activity in men in age of 30-55 years old in Tehran and assessing of their relation with cardiovascular risk factors. Master thesis. Faculty of Sport Science and Physical Education. Tarbiat Modares University.
- [3] Lamei, T., 2004-2005. Relation between body fatness percentage (BF%), body mass index (BMI) and waist to hip ratio (WHR) in 15 years old and older women in Tehran, Master thesis, Tehran University.
- [4] Doulat Abadi, H., 2000-2001. Validation of body mass index and body fat percentage in 8-12 years old student boys. Master thesis, Faculty of Sport Science and Physical Education, Tehran University.
- [5] Kargar Sharif Abad, A., 2005-2006. Relation of body fat percentage with some anthropometric indexes in active and non active students, before, during and after adolescence. Master thesis, Faculty of Sport Science and Physical Education, Tarbiat Moallem University.
- [6] Hamedia Nia, M.R., S. Rezai, 2004-2005. Physical activity and body fat percentage relation with some cardiovascular risk factors in faculty at Sabzevar Tarbiat Moallem University, Asrar publication, 11(3): 34-40.
- [7] Saidi, T., 2000-2001. Estimate the relation between body fat percentage with results of body size in female athletes and non-athletes female, motion magazine, 6: 95-102.