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The Benefits of Physical Activity for Health and Well-being Case Menopausal Women

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Abstract

Obesity is a global public health issue. Having a BMI over 25 kg/m2 at the start of menopause is a significant risk factor for fatal morbidity. The objectives of this study is to determine the benefits of physical activity on maintaining Body mass index components for health and well-being case menopause. For the propose, a total of 32 menopausal women 16 from them are engaged in planned physical activity, in the opposite of the second group present in this comparative study. Body mass index (BMI) was calculated from weight and height. Blood was withdrawn after an overnight fast from the antecubital vein. Triacylglycerols, total cholesterol and HDL-cholesterol levels in plasma were determined using colorimetric methods and Randox commercial kits. Plasma LDL-cholesterol concentrations were calculated according to the Friedewald formula.

Based on them results and the statistical analysis applied, we confirm:

- There is Strong and significant positive associations between physical fitness and BMI.
- There is Strong and significant positive associations between BMI and health well-being in benefits of the practice physical activity

Keywords: physical activity, health and well-being, menopausal women.

1. Introduction

Menopause is a natural phenomenon that occurs in all women as they age and enter their sixth decade of life (Margaret Rees, Sally Louise Hope, Veronica A. Ravnikar, 2005). The average age at the last menstrual period is 51 years for women in industrialized countries, with most women reaching menopause between ages 45 and 55 and the normal range spanning ages 40 to 60 (Irving B. Weiner, W. Edward Craighead, 2010). In Western biomedical literature, menopause is defined as an estrogen deficiency disease or as an ovarian dysfunction producing (Paul Van Look, Kristian Heggenhougen, Stella R. Quah, 2011). According to (Alice J. Dan, Linda L. Lewis, 1992) as a result, 21 % of the physicians saw menopause as a major health problem (Grace Baruch, 2012). Whereas (Dora Kohen, 2014) Two major health problems associated with the menopause include osteoporosis and cardiovascular disease. While (Alka Pandey, Navneet Magon, 2015) confirm that

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Menopausal transition brings about anomalies in total body composition characterized by an increased body fat mass. For this propose, our research sample was consisted by 32 menopausal women 16 from them are engaged in planned physical activity, in the opposite of the second group present in this comparative study. Where our background indicate that the Menopause is usually a most challenging transition (J.M. Swartz M.D., Y.L. Wright M.A., 2015) comprises the changes in Body Weight, Body Fat Distribution, and Hormonal due to diet, exercise, and many other factors (Rodolfo Paoletti, P.G. Crosignani, P. Kenemans, G. Samsioe, Maurizio Soma, Ann S. Jackson, 2012).

2. Methodology

Subjects

We studied a sample of 32 menopausal women. They were selected from 48 volunteers because they agreed to venous blood withdrawal under fasting conditions. All participants were healthy non-smokers and not taking any medication on a regular basis, 16 from them are engaged in planned physical activity (aerobic and swimming programs) for 3 hours' pre-week in the opposite of the second group which preferred stay at home. They were informed about procedures and all provided their written consent. The study protocol was accepted by our physiologist professor institute Physical Education and sport university of Mostaganem for the academic years 2015–2016.

Testing Protocol

Anthropometric measurements

Body mass was measured to the nearest 0.1 kg and body height to the nearest 0.5 cm using standard medical equipment in subjects wearing light indoor clothing without shoes, jackets and sweaters. Body mass index (BMI) was calculated as body mass (kg) divided by height (m) squared. The subjects' adiposity was classified according to WHO standards: underweight was defined as BMI < 18.5, normal weight as BMI ≥ 18.5 and <25, overweight as BMI ≥ 25 to BMI <30, and obesity as a BMI ≥30 (Marzena Malara, Anna Kęska, Joanna Tkaczyk and Grażyna Lutosławska, 2015) (W H O, 2010).

Blood tests

Our intervention in this study is limited in the analysis of medical assessments:

Triacylglycerol's (TG), total cholesterol (TC), and cholesterol were assayed calorimetrically. All variables were determined using commercial kits (laboratory of Dr. Bajaj Committee Zhana). All analyses were run in duplicate for the two groups. All results used in this research are derived from medical assessment of passions.

Statistical Analyses

Data analysis was performed using SPSS 22.0 for Windows (32BIT). Data obtained from the tests showed a normal distribution and were presented as mean ± standard deviation. Independent T sample t-test was conducted to combine the results obtained from the two groups where the relationship between the two groups was analysed by Pearson correlations (r).

3. Results

The characteristics of the study sample is presented in Table 1. Where all comparisons with the Shapiro-Wilk test as the normality and Levene Statistic as the homogeneity where p values are greater than ≤ 0.05. whereas all the comparisons with independent t-test are significant in the opposite of Age.

Table 1. shows the Anthropometric characteristics and biochemical variables in Sample

variables		means	SD	Shapiro-Wilk test			Levene Statistic	Sig.	T	Sig.
				Statistic	df1	Sig.				
weight	Inactive	80,44	2,75	0,92	16	0,151	2,70	0,11	7,28	0,00
	Sport	71,40	4,13	0, 96	16	0,659				

BMI	Inactive	29,63	1,23	0,94	16	0,343	1,59	0,22	7,52	0,00
	Sport	26,70	0,95	0,95	16	0,465				
TC (g/l)	Inactive	1,35	0,11	0,93	16	0,248	2,87	0,10	7,65	0,00
	Sport	1,12	0,07	0,94	16	0,349				
TG	Inactive	1,37	0,07	0,91	16	0,110	1,08	0,31	4,77	0,00
	Sport	1,26	0,058	0,94	16	0,332				
AGE	Inactive	50,06	2,08	0,93	16	0,228	0,03	0,86	1,47	0,15
	Sport	49,00	2,00	0,92	16	0,153				

According to the Pearson Correlation through the table 2 all the correlations are strong positive between the variables chosen to study.

Table 2. shows the correlations between the variables Weight, BMI, Triacylglycerol's (TG), and total cholesterol (TC) chosen to study

		weight	BMI	TC	TG
weight	Pearson Correlation	1	0,896**	0,906**	0,837**
	Sig. (2-tailed)		,000	,000	,000
BMI	Pearson Correlation	0,896**	1	0,941**	0,922**
	Sig. (2-tailed)	0,000		0,000	0,000
TC	Pearson Correlation	0,906**	0,941**	1	0,868**
	Sig. (2-tailed)	0,000	0,000		0,000
TG	Pearson Correlation	0,837**	0,922**	0,868**	1
	Sig. (2-tailed)	0,000	0,000	0,000	
	N	32	32	32	32
**. Correlation is significant at the 0.01 level (2-tailed).					

4. Discussion

According to the weight our menopausal sportive women have less body gain than the menopausal women which does not practice sport Though that we agree (Kathryn R. Simpson, Dale E. Bredesen, 2006) that weight gain is just one symptom of hormonal imbalance, it's a problem that plagues many women, particularly after menopause. While (Leigh Bivens, 2014) confirm that the Risks of Weight gain during menopause involves more than just how we look, as major health issues. Where (Mickey Harpaz, Robert Wolff, 2012) reported that their gravities return to women dieters do not exercise the case of our study. Based on BMI values we agree (Stanley P. Brown, Wayne C. Miller, Jane M. Eason, 2006) that Women's percent body fat increases after menopause, due to a decline in lean body mass and an increase in body fat. From the proof we accept that During menopause transition estrogen decrease affects metabolism and body fat distribution (Caroline J. Hollins Martin, Ronald Ross Watson, Victor R. Preedy , 2013).where our background confirm that Menopause is associated with an increase in concentration of triacylglycerol (TG), total cholesterol (TC) (Danik M. Martirosyan, 2008). In conclusion we agree (Marc A. Fritz, Leon Speroff, 2012) that body fat distribution in women is positively correlated with increases in total cholesterol, triglycerides, and LDL-cholesterol . Whereas in our case study we agreed that the risk begin if the serum cholesterol is greater than 200 mg/dL and serum triglycerides greater than 150 mg/dL (Pothuri Radha Krishna Murthy , 2013). From the proof as the results we confirm by (Liane Deligdisch, Nathan G. Kase, Carmel J. Cohen , 2013) that the menopause transition is also characterized by significant changes in body composition, including increments in weight and fat mass, and a higher prevalence of metabolic syndrome and the coronary heart disease risk (Courtney Dianne Perry, 2007) due to lifestyle chosen by women (Barbara Hoffman, John Schorge, Joseph Schaffer , 2012) where our find

confirm that increased BMI is associated more with aging and low physical activity than stage of menopause (Paola S. Timiras , 2007).

5. Conclusion

Our baseline study consists on the benefits of physical activity for health and well-being case menopausal women (Barbara Sternfeld, Sheila Dugan, 2011). Where this current research leads us to the fact of the habitual participation in physical activity results in many healths benefits, including decreased risk of changes in body composition (increased fat mass and decreased lean mass) and less risk cardiorespiratory due to estrogen decrease (Joyce J. Fitzpatrick, PhD, MBA, RN, FAAN, Meredith Kazer, PhD, APRN, A/GNP-BC, 2011) which influences metabolic diseases during the menopausal transition (Duru Shah, Sudeshna Ray, 2013). whereas the risk returns to the weight gain, which increases the levels of blood lipids, including total cholesterol, triglycerides, and low- density lipoprotein cholesterol (Wener W.K. Hoeger, Sharon A. Hoeger , 2016). From the proofs we recommend our menopausal women to practice physical fitness (W.H. Utian, 2012). Where (Kate Bracy, 2008) confirms that Exercise for Life is a wonderful start for preparing women to meet menopause with open arms. From the above the Health status at the menopause is largely determined by prior life experiences including the physical activity (W H O, 1996) explained by higher BMI (Tseng LA, El Khoudary SR, Young EA, Farhat GN, Sowers M, Sutton-Tyrrell K, Newman AB., 2012) and the changes in hormone secretion (Sarah E. Romans, Mary Violette Seeman, 2006).

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