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DIFFERENCE IN ANTHROPOMETRIC CHARACTERISTICS AND FUNKTIONAL ABILITIES ACTIVE AND NON ACTIVE WOMEN

INTRODUCTION

Every day obligations which people have to fulfill in short time lead to neurosis. Minimized activities compared with normal or bad nutrition make people fat, especially in industrially developed countries. This all causes lot of diseases, such as neurosis, depression, cardiovascular diseases and respiratory diseases, diseases of locomotors system, cancer of digestive system and other. This causes enormous material expenses in curing named diseases.

fortunately, nothing is being done in prevention of this diseases, although this could save lot of money. Organized physical activities like physical education (school clubs) recreative education, talking part in sport, can be powerful prevention. With those activities, we make our organs function better and better health condition of all organism.

Modern women's live, bad habit, physical inactivity, put off maternity for later are the majority bad factors for women halty and working capacity .

AIM OF RESEARCH

Less physical activities from childhood to adults' leads to decrease of functional abilities of our body. The main target of this work is to show difference in anthropometrical characteristics and functional abilities women athlets and women non-athlets average ages of 30 to 35 years.They are working active but don't have maternity activities.

WORKING METHODS

We carry out this research among 22 female recreatives average age 30-35 years and 22 non active women average age 30-35Years old.

We measured 14 anthropometrics and 3functional variables.

Anthropometrics variables are: , average age (AYEAR), body mass in kg(AMAST); body height in cm(AVIST); length of leg in cm(ADUNO); seat height in cm(ASEDV);biachromial distance in cm (AŠIRA); bi crystal diameter in cm(AŠIKA), bi femoral diameter in cm(AŠIKU), circumference of thorax in cm(AOGKŠ), circumference of upper arm in cm(AOBUT), maximal circumference of upper leg in cm(AOPOT), skin thickness of upper arm in cm(AKNNA), skin thickness of scapular angle in cm(AKNLE) and skin thickness of abdomen in cm(AKNTR) .The measurements were taken by International biological program Winner J., Lourie J.(1969).(4)

Measured functional variables are: heart beat per minute (FPUMI); values of maximal oxygen uptake in l/min(FO2LM); values of maximal oxygen uptake in ml/min/kg(FO2ML). Functional parameters were measured by standard method and maximal oxygen uptake indirect by Astrand method.

RESULTS WITH DISCUSSION

Our results are showed at table 1,2,3,4,5,6.

Basic statistical parameters of anthropometri characteristis are showed at table 1,2,3..

Table 1. Basic statistic parameter of anthropometric variables of active group

Variables	SV	SD	Cv	MIN	MAX
YEAR	33.00	3.72	15.68	30.00	35.00
AMAST in kg	54.43	8.00	12.82	54.00	70.00
AVIST in cm	165.00	6.60	3.94	158.00	170.70
ADUNO in cm	94.00	5.00	5.16	78.20	95.00
ASEDV in cm	88.39	4.67	4.19	83.00	94.20
AŠIRA in cm	38.88	2.00	6.42	35.20	41.00
AŠIKA in cm	27.34	1.42	5.19	23.50	29.00
ASIKU in cm	32.69	1.62	5.11	29.80	34.60
AOGKS in cm	82.86	3.74	4.51	77.20	90.20
AONAD in cm	23.88	1.77	7.41	20.00	30.00
AOBUT in cm	55.15	3.11	5.63	49.80	61.50
AKNNA in cm	10.36	3.07	29.80	6.20	22.20
AKNLE in cm	10.53	3.11	29.55	2.00	16.40
AKNTR in cm	8.62	2.69	11.60	4.60	16.80

Our results show basic statistic parameters anthropometrics variables of female handball team during competition 2004. Results show that average old is $33 \pm 3,72$ year. Average height is 165 ± 6.60 cm.

Table 2. Basic statistic parameter of anthropometric variables of non active group

Varijable	SV	SD	Cv	MIN	MAX
YEAR	34.00	2.50	1.10	30.00	35.00
AMAST in kg	60.25	5.64	10.36	41.10	69.10
AVIST in cm	164.22	6.61	4.02	154.20	186.30
ADUNO in cm	91.82	5.18	5.64	84.50	109.40
ASEDV in cm	87.84	3.18	3.62	81.20	94.70
ASIRA incm	36.06	1.28	3.54	33.60	39.50
AŠIKA in cm	27.19	1.57	5.77	25.00	32.00
ASIKU in cm	30.95	1.95	6.30	27.60	35.50
AOGKS in cm	80.34	4.67	5.81	67.20	90.00
AONAD in cm	23.78	2.18	9.17	20.00	29.20
AOBUT in cm	51.22	3.13	6.11	44.00	61.00
AKNNA in cm	12.39	4.42	35.67	6.00	27.00
AKNLE in cm	9.70	3.48	35.88	6.00	19.00
AKNTR in cm	12.54	5.11	40.75	6.00	23.00

Our results show basic statistic parameters anthropometrics variables of non active women who take part at recreative activities . Results show that average old of active group is 33.00 ± 3.72 year. Average height is 165.00 ± 6.60 cm. Average weight at non active group is 60.25 ± 5.64 kg. Skinfold is higher than average.

Average height of athletes group is 167.09 ± 6.60 cm and average height of non active women is 164.22 ± 6 cm. Average weight at athlete group is 54.43 ± 8.00 kg, and at non active group is 60.25 ± 5.64 kg.

The table shows arithmetic average (SV) and standard deviation (SD). Importance is showed by using T-test.

Our results show that average measured values of active women are much better than values of non active women. Coefitient of variation are less values at sport active women than at non active women, which show that sport active group is much more chomogenic than non activ group. This is the results of planed selection and continue training program and competition activities

Average height of athletes group is 168.09 ± 6.60 cm and average height of non active women is 164.22 ± 6 cm. Average weight at athlete group is $63,25 \pm 8.05$ kg, and at non active group is 54.43 ± 5.64 kg.

We find out difference at body composition with statistic importance at athletes group than at non active group, so we can conclude that players are similar to athlet type of body composition. Less skinfold at scapular angle at athletes with statistic importance , and less at uper limb and umbilicus, show that athletes have bigger muscle mass, what is better for helat status.

Tabela 3. Statistic importance of difference average anthropometric variables of athletes women and non active women

Variables	Actives		Non active		T	P
	SV	SD	SV	SD		
YEAR	33.00	3.72	34.00	0.21	5.75	< 0.001
AMAST u kg	54.43	8.05	60.25	5.64	3.92	<0.01
AVIST in cm	168.09	6.60	164.22	6.61	1.41	>0.05
ADUNO in cm	93.26	4.82	91.82	5.18	0.94	>0.05
ASEDV in cm	87.39	3.67	87.84	3.18	0.43	>0.05
ASIRA in cm	36.88	2.00	36.06	1.28	1.61	>0.05
ASDCA in cm	27.34	1.42	27.19	1.57	0.33	>0.05
ASDCU in cm	31.69	1.62	30.95	1.95	1.35	>0.05
AOGKS in cm	82.86	3.74	80.34	4.67	1.55	>0.05
AONAD in cm	23.88	1.77	23.78	2.18	0.02	>0.05
AOBUT in cm	55.15	3.11	51.22	3.13	4.09	<0.01
AKNNA in cm	10.36	3.07	12.39	4.42	-1.81	>0.05
AKNLE in cm	10.53	3.11	9.70	3.48	0.82	>0.05
AKNTR in cm	8.62	2.69	12.54	5.11	-3.06	0.01

Tabela 4. Basic statistic parameter of functional abilities of active female

Variables	SV	SD	Cv	MIN	MAX
FPUMI ud/min	65.20	6.00	9.80	52	80
FO2LM	2.5	0.20	7.28	2.00	2.8
FO2ML	48.00	8.12	12.84	45.00	50.00

Tabela 5. Basic statistic parameter of functional abilities of non active women

Variables	SV	SD	Cv	MIN	MAX
FPUMI ud/min	80.00	9.99	12.85	60.00	96.00
F02LM	2.00	0.39	19.50	1.20	2.2
F02ML	40.00	5.24	14.43	29.00	48.00

At tables 4 and 5 showed basic statisti parameters of functional abilities of athlet and non active women.

Table 6. Statistic importance of difference average values of functional abilities athlete and non active women

Variables	Athlete women		Non active women		P	T
	SV	SD	SV	SD		
FPUMI ud/min	65.20	6.00	80.00	9.99	3.35	<0.001
FO2LM	2.5	0.27	2.00	0.39	17.40	<0.001
FO2ML	48.00	8.12	40.00	5.24	12.84	<0.001

Average values of heart beat per minute are smaller at active group (65.20 ± 6.00 b/min) than in non active women (80.72 ± 9.99) with statistic importance. The average values of maximal oxygen uptake, in both absolute and relative, are higher in athlete group (2.5 ± 0.20 l/min) than at non active group (2.00 ± 0.39 l/min) with statistic importance. The same results we got in relative values of oxygen uptake. Less values of heart rate at athlete group show that they have better recovery of cardiovascular system.

All those better results at athlete group is the results of influence of aerobic training process. High aerobic values are sign of better physical condition which is importance for defense abilities against disease of organ systems.

CONCLUSION

We can conclude that:

1. Active women are statistically better anthropometric parameters than non active women, with less values of skinfold.
2. Average values of heart beat per minute are smaller at active female group. The average values of maximal oxygen uptake, in both absolute and relative, are higher in active group
3. Women who are active female are similar to athlete type of body structure than non active women, and better function of organ system and better health status.

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Modern women's live, bad habit, physical inactivity, put off maternity for later are the majority bad factors for women health and working capacity .

The main target of this work is to show difference in anthropometrical characteristics and functional abilities women athletes and women non-athletes average ages of 30 to 35 years. They are working active but don't have maternity activities.

The results of this longitudinal investigation show that women who takes any activity are better than non active women. We find difference in circular dimension, skin fold, % body fat and BMI. Maximal oxygen uptake at active women is 48.00ml/min/kg, and 40.00 ml/min/kg at women who don't practice any sport.

RAZLIKE U MORFOLOŠKIM KARAKTERISTIKAMA I FUNKCIONALNIM SPOSOBNOSTIMA ŽENA REKREATIVACA I NEAKTIVNIH ŽENA

Savremen način života, loše navike u ishrani, fizička neaktivnost ali i odlaganje materniteta na račun karijere za kasnije godine života, glavni su faktori koji negativno utiču na zdravstveni status, ali i radnu sposobnost žena.

Cilj ovog rada je da se utvrdi razlika u morfološkim karakteristikama i funkcionalnim sposobnostima žena koje su aktivno uključene u rekreativni program fizičke aktivnosti i žena koje su neaktivne starosne dobi od 30 do 35 godina koje su radno angažovane ali sebe još nisu reproduktivno realizovale.

Rezultati ovog longitudinalnog istraživanja pokazuju da je zdravstveni status žena rekreativaca znatno bolji u odnosu na neaktivne žene. U morfološkom prostoru razlika postoji u cirkularnim dimenzionalnostima, debljini kožnih nabora, procentu masti u organizmu kao i u indeksu stanja uhranjenosti. Aerobne sposobnosti praćene kroz relativnu potrošnju kiseonika znatno su viših vrednosti kod žena rekreativaca 48ml/min/kg u odnosu na neaktivne žene 40ml/min/kg.

Ključne reči: fizička aktivnost, žene, antropometrija, funkcionalne sposobnosti.