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The effects of eight weeks of public exercise pattern on physical fitness and general health of female students

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ABSTRACT

The aim of this study was to evaluate the effect of eight weeks suggested public sport pattern on physical fitness and general health of urbun and rural female students. In this study of 422 urban and rural students (260 urbun students and 162 rural students) were used. Physical fitness using test AAHPERD (sit-ups, flexed- arm hang, vertical jump, 45 Mtr speed, agility and 540 m) and General Health measured by GHQ questionnaire. The intervention group suggested sport model perform to two times a week for 8 weeks. During the training period the control group triable did not exercise any activity. After 8 weeks, all variables were measured again. The data were analyzed by paired t- test. The results showed that the schedule of the public sport influenced on some factors such as cardio - respiratory endurance, Gridle shoulder endurance, flexibility, agility, explosive power and speed ($p < 0.05$). But it did not influence on some factors such as abdominal muscular endurance and body mass index ($P > 0.05$). While this way has significant effect on general health of students ($P < 0.05$)

KEYWORDS: physical Fitness, public sport, general health, urbun, rural

INTRODUCTION

Technological and life modernization and also extension of apartment living, although in many respects to modern man has brought prosperity, But on the other hand has been associated with reduced mobility and physical activity and affected cardiovascular fitness and physical health of people [1]. Good and healthy life has the important factors including Regular physical activity, healthy eating and reduce the stress. Researchers believe that regular physical activity can reduce stress and the nutritional intake and also improved her fitness level, which can ensure the safety of the end of life [2]. Today officials and experts pay attention to the sport, particularly public sport, due to the size, availability, applicable for all ages and people [3]. Anbari et al (2006) to study the effects of eight weeks of public sport pattern on physical fitness and general health of the male employees and conclude that the shoulder girdle and abdominal muscle endurance, cardio-respiratory endurance, explosive power significantly increased, however, BMI, percent body fat, and general health scores showed a significant reduction [4]. Davoodi (2012) examined the effect of exercise on students physical fitness and happiness and observed that morning exercise increases cardio-respiratory endurance, flexibility and welfare of students, while the other variables, it was not significant [5]. Mohammadi (2013) investigated the effects of morning exercise on the vitality and motivation of students in ilam, concluded that morning exercise significant positive impact on the students [6]. Yamazaki (2013) found that eight weeks of exercise improved, muscular endurance, muscular strength, power, agility and flexibility [7]. Development in technology and machinery to work not only adult were prevented necessary to sustain a healthy life open, but also Children and adolescents deprived physical activity that was necessary to grow and ensure the health and development of their adult life. In addition, the expansion of television networks and a variety of programs and games, as well as increasing urban population and forced to live in a small apartment on the one hand and lack of spaces and sports facilities on the other hand, prevented children from the least movement and physical activity is essential for the health and wellness. However, due to the perception that youth physical fitness is a fundamental and critical issue, Increase the efficiency of the body through physical education and physical activity does not come from any other training program and physical education should be a part of complementary education programs [8]. Many studies have investigated the effects of public program on some sport and physical fitness parameter however, there is limited data on the effectiveness of this method of training on general health and physical fitness of students, especially students in rural areas and where motion poverty has gripped the students, hence The aim of this study was to evaluate the effect of eight weeks on of public sport pattern general health and physical fitness of female students in urban and rural.

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METHODOLOGY

The statistical universe of this study constitutes elementary school students (the fourth, fifth, sixth) Astara city in the 92-93 academic year. 260 students Urban (137 individual experimental group and 123 individual control group) and 162 rural students (99 individuals control group and 63 individuals experiment group) were selected from 2 urban and rural school. Height and body weight with minimal clothing was measured by a scale at schools. Body mass index is the weight in kilograms divided by the square of height in meters respectively. The physical fitness were measured by AAHPERD test. From 540 meters to measure cardiorespiratory fitness, sit-ups to measure the strength of the abdominal muscles, flexed- arm hang subjects to measure the muscles of the upper body strength to measure, the vertical jump for the evaluation of Explosive power, and 45 m of speed for the evaluation speed, 4*9 m was used for evaluating agility. First, subjects did morning exercise in the school morning program and then participated in an 8-week training program. Measurements were repeated again at the end of the training program. Subjects in the intervention group participated for eight weeks, 2 sessions per week, each session lasting 45 minutes each sport program that includes a 10 to 15 minute warm - up, 5 minutes Cool, 20 minutes of exercise program (a combination of movements of walking, running, stretching, endurance, speed). General health was measured by a questionnaire with 28 questions GHQ. This questionnaire before and after training was provided to students and the mean scores were compared. To analyze the data were used spss version 20 and tests Kalmogorov– Smiranov to check the normal distribution of data, Paired Samples t –test to examine within-group changes and independent t-test was used to evaluate changes in the group

RESULTS

The results showed that eight weeks of sport model flexibility, shoulder gridle endurance, Explosive power, agility, cardio-respiratory, speed in the experimental group had significant improvement ($p< 0.05$), But Abdominal muscular endurance and body mass index did not change significantly ($p > 0.05$). Table 1 shows the mean, standard deviation and t-test is shown. The results of the General Health Questionnaire GHQ showed that the total score of the general health intervention group improved after the training period However, this improvement was not significant

Table 1. Mean and standard deviation of the variables measured in the pre-test

	Urbun		**Rural**	
Tests	**experimental group (x±sd)**	**Controls group (x±sd)**	**experimental group (x±sd)**	**Controls group (x±sd)**
Flexibility (cm)	5.37 ±22.28	4.77 ±22.89	6.47 ± 28.56	7.40 ±28.50
Abdominal endurance (number)	3.35± 14.6	8.81 ±18.12	7.02 ± 22.75	5.11 ±26.78
Cardio respiratory endurance (min)	4.7 ± 4.17	0.54 ± 3.58	8.31 ± 14.37	5.8 ±13.27
Gridle shoulder endurance (number)	5.24 ±11.37	6.42± 10.59	7.96 ±15.05	5.71 ±13.38
Speed (seconds)	1.42 ±11.88	1.16 ±11.01	1.35 ±10.77	1.13 ±10.24
Agility (s)	0.86±14.10	1.44 ±13.99	0.75 ±12.46	0.95 ±13.91
Explosive power (cm)	4.06±15.48	3.52 ±13.33	4.33 ±22.7	5.36±20.20
b.m.i (kg / m²)	3.5± 19.92	4.83 ±19.06	2.77 ±18.77	3.44±17.57
public health	7.5±16.10	4.5 ± 15.5	1.7 ±12.02	2.5 ± 14.25

Sd: standard divition X: mean

Table 2. Mean and standard deviation of the measured variables in the post-test and pre-test and t – test

	Urbun		**Rural**		**T**	
Tests	experimental (x±sd)	Controls (x±sd)	experimental (x±sd)	Controls (x±sd)	experimental	**Control**
Flexibility (cm)	5.37±22.28	6.25±22.92	4.84±28.65	7.5±28.52	*0.00	0.96
Abdominal endurance (number)	4.57 ±13.53	7.72±18.06	6.25 ±22.65	9.89 ± 26.7	0.30	0.62
Cardio respiratory endurance (min)	0.29±3.00	0.35±3.5	0.54 ±3.19	0.46 ±3.20	*0.00	0.06
Gridle shoulder endurance (number)	6.31 ±12.96	6.55±10.95	7.96 ±15.05	5.71 ±13.38	*0.00	0.04
Speed (seconds)	1.85 ±10.96	1.49±11	0.85 ±10.53	1.22±10.20	*0.00	1.00
Agility (s)	0.82±13.53	1.35±13.84	1.80± 12.20	1.00 ±13.89	*0.00	0.47
Explosive power (cm)	4.30 ± 19.03	2.90 ±13.46	4.96 ±23.12	5.6±20.43	*0.00	0.55
b.m.i (kg / m²)	3.59±19.19	3.18 ±19.01	2.70± 18.72	2.56±17.51	0.96	0.87
public health score	5.5± 14.10	4.3 ± 15.0	1.7 ± 10.02	1.5 ±14.00	*0.00	0.65

Sd: standard divition X: mean Significant level ($p < 0.05$)

DISCUSSION

Every person needs to health to a minimum level of physical fitness, the minimum attainable for all the performance and increase the level of physical fitness is possible. However, physical activity can reduce the damaging effects of stress. The aim of this study was to investigate the effect of 8 weeks of suggested public sport model and general health in urban and rural female students. The results showed that the8-weeks public sport (morning) affect the resilience of rural and urban students. The results were agree with the results of Najarzadeh (1998), Rstmlv (2004), Shahbaz (2006), David (2012) Yamazaki (2013), Arian Far (2001) and kosha (2011) [9,10]. However, these were opposed RjayyanZahedi (2011), MallaeeKohi (2005). Reasons for opposing the age of the participants and the type of training. MallaeeKohi used female students in his research and proceed measurement of physical fitness factors that related to individual health and training was 3 sessions 8-week [11]. The results showed that 8-week of public sport exercise public (morning) on Abdominal endurance urban and rural students had no significant effect. The results with the results of Rstmlv was agree (2004), but was compatible with the results of Shahbazi (2006), MallaeeKohi (2005) was opposed. The paradox was becaus of age, sex, severity, duration and type of exercise . Sport model was also impressive agility urban and rural students. The results of research were compatible with Aminian and Jafari (2000), and RjayyanZahedi (2010), but agrees with the results of Rstmlv (2004), Najarzadeh (1998) was opposed [12]. Rstmlv used 17-15 year old students in his study and motion Morning exercise in the morning because it was inconsistent with the results of the present study [13]. The public sport model of students affected the cardio-respiratory endurance. The results of research were compatible with the researches of Markynz et al (2011), amber (2012), Rstmlv (2004), MallaeeKohi (2005), and RjayyanZahedi (2011), David (2012) Aminian and Parsley (2000), Gaeini (2008) (14, 15). But did not comply with the the results of Najarzadeh (1998). Morning exercise training could affect the fitness of students, probably due it is active to increased aerobic enzymes, vo2max, an increase in stroke volume and cardiac output, increase the vital lungs, it's increase the density of capillary Cardiomegaly, enzymes increase the oxidative, mitochondrium increase the number and size of muscle. Explosive power also increased in the sport modle that results from the study of kindness (2005), MallaeeKohi (2005), Yamazaki (2013) was agree [16, 17]. But the results of Rstmlv (2004), Najarzadeh (1998) contradicted. The paradox of sex and exercise program was handled. Training program of public sport was effective on speed of urban and rural students. The results of this with the results of research Anbari (2012) and Rjayyan Zahedi (2011) [18]. The study has used female .The body mass index had no effect on, physical fitness training program in urban and rural students. The results agree with the of Kosha research (2011) [19]. But with the the results Shahbazi results (2006) disagreed. Shahbazi had had women 40 to 35 years had used that may cause conflict with the present results. This study did not effect on training program since students did not have special diet, also duration and intensity of exercise was few. The gridle shoulder muscle endurance public sport program in fluences on physical fitness of students in urban and rural. The results with the results was agree of Ryanfr (2001), Aminian and Jafari (2000), but it was disagrees with the results of Rstmlv (2004), David (2012), Vrjayyan Zahedi (2011), Yousefi Hemayattalab (2002), Gaeini (2001) [20]. Yousefi had used of 18-16 year old boys the results of the present study is probably reason for contradiction (21). In this study, subjects nutrition were not and controld and didnot control mental states affected mental health, as well as respond to this questionnaire, needed subjects honesty that researcher can not control it

Conclusion

Doing Regular public Sport (morning), easy to implement, inclusive and low cost, is the best activities that can compensate for the lack of movement, mental health and physical fitness of students. Additionally Morning exercise increases muscle flexibility, movement of joints, coordination nerve - muscle and ultimately improve the preparation of students as well

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