Investigate the status of physical fitness in primary school students in Qhaemshahr city and compare with the other city of Mazandaran province

Alihossein Taghavi *a

a Faculty of Rehabilitation, University of Shiraz, Shiraz, Iran

Article

Abstract

This study aimed to investigate the physical fitness of primary school students in Qhaemshahr and their relationship with each other. Although the physical fitness status of different age groups has been determined in some provinces, the levels of various indicators of physical fitness in particular areas of the section have not been determined using the modified AHHPRED test. This study aimed to investigate the physical fitness of primary school students in Qhaemshahr and their relationship with each other. The statistical population of this study consisted of 10,330 primary school boys and girls in the age groups of 11 and 12 years in Qhaemshahr city, from which 370 people were randomly selected. Students' physical fitness was assessed using modified AHHPRED test, 540 m, flexibility, sitting and horizontal stretching. To analyze the obtained values, the standardized norm of girls and boys in 10 and 11 years in Mazandaran province was used. To compare the status of each physical fitness index of students in Qhaemshahr city with the provincial norm, a t-test was used. The physical fitness of primary school students in Qhaemshahr city was higher than the average norm in Mazandaran province. According to the research findings, it can be said that the level of physical fitness of elementary school students in Qhaemshahr city was higher than the average norm in Mazandaran province. Although the current performance shows the appropriate status of the fields under study, the knowledge of the progress of physical fitness of children and adolescents in the country and the renewal of local and national physical fitness norms should be a priority.

Introduction

Primary school is one of the most sensitive stages of growth, formation and development of a student's personality. The primary school years are the golden years for discovering and developing children's motor and physical talents. Obviously, at this age, children and adolescents need a lot of physical activity to deplete their physical energy naturally. Therefore, one of the best constructive, valuable and low-cost tools is to engage in physical activities through physical education and sports [1]. Today, students' performance in the field of sports and physical activities is an important category and is considered by those involved in education. Since the word education is guidance, physical education is that aspect of the education process in which both body education and body education are discussed. Therefore, physical education courses can be practical through training for

movement and movement education. In intertwined curricula, physical education can be an effective aid to other subjects [2].

To achieve the goals of physical education, access to accurate information about the physical fitness of students in schools is necessary. Because adolescence is usually considered the appropriate stage of physical fitness, adolescents can do sports activities, such as running and jumping, full force and for a long time [3]. Therefore, Asigbee et al. (2018) points out that recent research and evidence indicate the following issues: A) There is a strong correlation between students' physical fitness and academic achievement. B) There is a direct relationship between the physical activity of children and adolescents and their mental and emotional health. C) The complication of obesity, which begins at the beginning of youth, is due to inactivity and overeating during childhood and adolescence. D) The social status of each student in comparison with his peers at school; To a large extent, this situation, to the extent of students' physical skills in schools, will be the right way for the progress and health of today's students and the future makers of society [4].

To achieve these goals, we must understand what the condition of our students in physical fitness is? Also; Assessing the physical fitness status of different age groups in particular areas of each province is essential in this regard so that physical education officials can take measures to prevent the possible poor physical fitness status of students, especially in primary school, or improve the current situation to Avoid many problems and obstacles in the coming years. Considering that so far, no study has been done to compare the physical fitness of primary school students in Qhaemshahr city compared to the provincial norm; Therefore, the present study seeks to investigate the difference between the physical fitness of elementary school male and female students in Qhaemshahr city and the regional standard?

Research methodology:

The method of the present research is descriptive. The statistical population of this study consists of 10- and 11-year-old male and female students in Qhaemshahr city, whose number was 10330. Using the Morgan table, 370 of them were randomly selected. The measuring instrument in physical fitness was the standardized AHHPRED test, which includes: cardiovascular endurance (450m double test), flexibility (sitting and reaching trial), muscular endurance and strength (sitting posture, horizontal stretching test). Data analysis was performed through descriptive statistics, including tables, frequency percentage and inferential statistics, including t-test.

Research Findings:

Descriptive information of different indicators of physical fitness in 10- and 11-year-old boys and girls in Qhaemshahr are presented in Tables 1 and 2, respectively. Tables 3 and 4 also show physical fitness status for boys, while Tables 5 and 6 show this information for girls. Examination of different indicators of physical fitness of 11-year-old boys in Qhaemshahr city compared with the norm of Mazandaran province indicates that only in the case of horizontal test, no statistically significant difference was observed between them (Table 3). In 10-year-old boys, there is no statistically significant difference only in the flexibility test compared to the provincial norm (Table4). The study of physical fitness of 11-year-old girls in Qhaemshahr city compared with the regional standard of Mazandaran province (Table 5) indicates that no statistically significant difference was reported in the horizontal and flexibility tests. Examination of different indicators of physical fitness of 10-year-old girls in

Qhaemshahr city compared with the norm of Mazandaran province indicates that in all trials (540 meters, long sitting, horizontal and flexibility), no statistically significant difference was observed between them (Table 6).

Table 1

Variable name	Average	Middle	Standard deviation	Minimum	Maximum	Domain	Skewness	Elongation
Running 540 meters (seconds)	59.167	164	25	120	240	120	0.58	-0.24
Long sitting (number)	31	30	12.44	2	68	66	0.11	-0.087
Horizontal (number)	8	7	4.95	1	20	19	0.62	-0.32
Flexibility (cm)	26.79	26	6.56	10	40	30	0.2	-0.4

Table 2

Variable name	Average	Middle	Standard deviation	Minimum	Maximum	Domain	Skewness	Elongation
Running 540 meters (seconds)	182.93	182	22.51	88	230	142	0.36	1.18
Long sitting (number)	27	27	13.27	1	75	74	0.62	0.59
Horizontal (number)	11	10	6.42	1	20	27	0.55	-0.37
Flexibility (cm)	25.99	25	6.58	10	43	33	0.26	-0.15

Table 3

Variable name	Medium amount of soft	Average	Standard deviation	The value of t	Significant amount
Running 540 meters (seconds)	152	158.52	24.78	2.54	0.006
Long sitting (number)	26	38.1	10.8	10.74	0.001
Horizontal (number)	12	7.56	5.25	-5.67	1
Flexibility (cm)	26	30.74	5.21	8.9	0.001

Table 4

Variable name	Medium amount of soft	Average	Standard deviation	The value of t	Significant amount
Running 540 meters (seconds)	154	179.47	23.83	9.91	0.001
Long sitting (number)	24	36.02	11	10.31	0.001
Horizontal (number)	13	14.88	5.69	3.03	0.002
Flexibility (cm)	27	27.75	7.78	0.91	0.182

Table 5

Variable name	Medium amount of soft	Average	Standard deviation	The value of t	Significant amount
Running 540 meters (seconds)	182	176.87	21.7	-2.26	0.98
Long sitting (number)	20	22.59	8.4	2.78	0.003

Horizontal (number)	9	8.09	4.71	-1.4	0.91
Flexibility (cm)	28	22.62	5.1	-10.07	1

Table 6

Variable name	Medium amount of soft	Average	Standard deviation	The value of t	Significant amount
Running 540 meters (seconds)	176	186.2	20.8	4.68	0.001
Long sitting (number)	19	17.89	8.16	-1.28	0.898
Horizontal (number)	8	6.27	3.17	-4.4	1
Flexibility (cm)	28	24.29	4.59	-7.73	1

Discussion

According to question 1 of the research, the level of physical fitness of primary school students in Qhaemshahr city was higher than the average norm in Mazandaran province. The present study evaluates the situation of Mazandaran students compared to the provincial standard in cardiovascular capabilities (540 m); less than the regional norm, in upper torso endurance; On average, sitting up; It is estimated to be more flexible than the standard norm above the provincial norm. In this regard, Ma et al. 2019 have conducted an extensive study that examined the physical fitness of male and female students aged 9 to 17 years across the country and compared it with the national norm. They have concluded that; In 53% of the significant cases, the condition of male and female students in the provinces in cardiovascular capabilities, the high endurance of the torso and abdomen, and posterior flexibility of the thighs and back was better than the average for those capabilities in the national norm [5].

Based on question 2, which measures the difference between the physical fitness of girls and boys in the age groups of 10 and 11 years, we have achieved the following results: For 11-year-old boys, the average time for running 540 meters is higher than the norm (152/52). The average length of sitting was 38.10, which is higher than the average for 11-year-old boys. The average Horizontal is reported to be 7.56, which is lower than the standard norm for 11-year-old boys. According to Asigbee et al. (2018), the boys of Amol city are less prepared in terms of speed, shoulder girdle muscle endurance and general endurance (cardiorespiratory) than the national and provincial average, while in terms of abdominal muscle endurance, they are less prepared than the average. National and regional conditions are more favourable [4].

The average flexibility is 30.74, higher than the average norm for this age group of boys. The average time for running 540 meters is 179.47, more than the average norm of 154 for 10-year-old boys. The average sitting length is 36.02 for 10-year-old boys above normal. The Horizontal average rate is 14.88 for 10-year-old boys above normal. For this age group of boys, the moderate flexibility is 27.75 less than or equal to the average norm. The average time for two 540 meters is 176.87 in 11-year-old girls, less than or equal to the norm value of 182. In this study, with increasing age, the performance of girls in the double test increases by 540 meters, which is the same as the findings of Ma et al. 2019. Ma et al. 2019 stated with Fleischmann's results that in flexibility, strength and muscular endurance of the upper torso and abdomen (Horizontal and sitting position) in male and female students with age, there are non-uniform changes that are consistent with the results of the present study [5]. The average length of sitting is 22.59 for 11-year-old girls above normal.

The Horizontal intermediate level is 8.09 for 11-year-old girls, less than the average norm. For this age group of girls, the moderate flexibility is 22.62 less than the average norm. The average time for 10-year-old girls to run 540 meters is 186.20, more significant than the soft value of 176 (below average). The average sitting length is 17.89, less than or equal to the average norm for 10-year-old girls. The middle horizontal bar is 6.27 for 10-year-old girls below normal. For this age group of girls, the moderate flexibility is 24.29 less than the average norm.

Conclusion

According to the research results, it is suggested to increase students' physical fitness as the most important goal of physical education in schools and to know the progress of physical fitness of children and adolescents and the renewal of local and national norms of physical fitness in Prioritize. Also, physical education officials pay more attention to the physical fitness of elementary school students and do not use physical fitness to participate in school competitions.

References

1.   Issurin, V.B., *Evidence-based prerequisites and precursors of athletic talent: a review.* Sports Medicine, 2017. **47**(10): p. 1993-2010.

2.   Burson, S.L., et al., *Essential components of physical education: Policy and environment.* Research Quarterly for Exercise and Sport, 2021. **92**(2): p. 209-221.

3.   Corr, M., J. McSharry, and E.M. Murtagh, *Adolescent girls' perceptions of physical activity: A systematic review of qualitative studies.* American Journal of Health Promotion, 2019. **33**(5): p. 806-819.

4.   Asigbee, F.M., S.D. Whitney, and C.E. Peterson, *The link between nutrition and physical activity in increasing academic achievement.* Journal of School Health, 2018. **88**(6): p. 407-415.

5.   Ma, J.K.-H., T.E. Vachon, and S. Cheng, *National income, political freedom, and investments in R&D and education: A comparative analysis of the second digital divide among 15-year-old students.* Social Indicators Research, 2019. **144**(1): p. 133-166.