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Physical activity and motor fitness for sedentary lifestyle of Iraqi students

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Abstract

Background

The aim of the research was comparison of motor fitness and physical activity of Iraqi students of the first and fourth years of study with mostly sedentary style of life.

Material/Methods

The research involved 88 students of the first year of study and 88 students of the fourth year of study of the University of Misan, Al Amarah, Misan, Iraq. Basic motor fitness test based on the International Physical Fitness Test Eurofit was used. In addition Physical Activity Questionnaire with 19 questions was filled out by the subjects.

Results

Almost all students assessed faculty conditions concerning equipment and facilities to practice physical activity as low or very low. Active students undertake sport trainings mostly out of their faculties. The motivation to undertake physical activity were: they like it, want to have a good health and to be slim, want to meet friends. They practice especially football, fitness exercises, walking, running, bicycle riding. Parents and teachers mostly do not encourage them to undertake physical activity. Students do not use alcohol, drugs. One sixth of them smoke cigarettes. The first and fourth year students did not differ in most of motor fitness tests, except handgrip. Older students were stronger.

Conclusions

The city and university administrations should establish places for all people in order to make environment prepared for exercising. It is necessary to undertake strong information action on positive influence of undertaking physical activity in order to become students and other young and older people more healthy and fit.

Keywords: *Physical activity, motor fitness for sedentary lifestyle, Iraqi students*

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INTRODUCTION

According to the World Health Organization (WHO) "health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" [1 WHO 2019]. It should be added that healthy person is a fit person, i.e. someone who can run for catching a bus, can bring home heavy goods from the store, who can go for active vacations (skiing, kayaking, etc.) [2 Erdmann].

Unfortunately, more and more people around the world, especially in the countries of high income, have sedentary way of life. On worldwide decline in physical activity and increase of the sedentary and obesity problem wrote Fagaras et al. [3 2015]. They pointed out that inactivity at different ages is a major problem for most countries. Communication goods such as television, computers, cell-phones, are engineering marvels enriching human life. But using them above the norm is a source of bad body posture, low level of fitness, appearance of diseases or infirmity. It is very important to promote healthy life style. According to WHO "health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment." Improvement in health requires a secure foundation in the following prerequisites: "peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity." [4 WHO 2014]

Within "State of Health in the EU. Companion Report" a chapter 1 is devoted to "Switching the focus to prevention and the social determinants of health", and title of a sub-chapter is "Prevention is better than cure". The authors of a Report wrote that "Member States [of the European Union] continue to devote only a small fraction of their attention and resources to preventive interventions." They spent only around 3 % of health budget on prevention measures [5 State of health in EU]. Furthermore, within the Report "Health at a Glance: Europe 2018" the authors said that due to tobacco smoking, harmful consumption of alcohol, unhealthy diets and lack of physical activity in 2016 there were prematurely deaths of nearly 800 thousand people in EU countries [6 Health at glance Europe 2018].

There are significant disparities amongst Member States of EU. This takes into account the situations in which people live, their occupational status, and lifestyles. Poverty, unemployment, and material deprivation are major risk factors for health. Europeans with lower incomes are less likely to get regular physical activity [5 State of health in EU].

This situation can be even worse in the countries with smaller income then European countries have, for example in Iraq. This country being involved in recent years in three wars is steadily returning to the normal life. One of the examples is introducing the Western style of life. But on the other hand this style of life, especially intake of more food and inactivity, if used in excess can be a source of musculoskeletal problems, obesity, and other diseases.

Above cited sources [5 State of health in EU, 6 Health at glance Europe 2018] showed significance of physical activity as a preventive action against diseases or infirmity. This form of life should be based on proper motor development. According to Clark and Whitall [7 1989] motor development includes biological (growth and maturation) and psychological (human behavior and perception) ways of life. It is continually adaptation to improve motor control and movement competence [8 Gallauhe et all 2012]. With proper physical activity and motor development people acquire sufficient level of motor skills / motor fitness.

Physical activity is based in some way on genetically determined motor abilities (talent). But even more it depends on subject's style of life, especially his or her approach to motor behavior [9 Bokan 2009]. Physical activity in daily life can be categorized into occupational, sports, conditioning, household, or other activities [10 Caspersen et al 1985]. According to the first International Consensus Statement on "Physical Activity, Fitness and Health" physical activity is an umbrella term which has many different dimensions, such as: exercise, sports, dance, leisure activities, and others. They are considered as sub-categories of physical activity [11 Corbin et al 2010].

According to East European (Russian, Ukrainian) scientists – Ozolin (in 1949, cited by Verkhoshansky [12]), Matveev [13], Platonov [14], motor fitness / skills include: strength, speed, endurance, flexibility, and agility. Farfel also added: feeling of balance, feeling of time and space, skill to relax muscles [15 Farfel 1960]. The best model of physical activity would be development of all above skills. But if a person is involved in some specific sport activity it can be

also positive if he or she develops in higher level some skills and in lower level other skills. To be in a good level of health it is recommended 150 minutes of moderate physical activity or 75 minutes of vigorous physical activity plus strength exercises on two or more days per week [16 NHS 2019].

Unfortunately, the above recommendation is in poor use. According to Przeweda [17] with an each decade young people are getting greater somatic (higher body mass) and motor weaker (low physical fitness). Changes in the condition of movement in youth describes the model of divaricating scissors: more and better morphological development is accompanied by getting worse level of capacity and fitness. This asymmetry of development deepens with each decade, destroying the structure of the physical condition and posing a threat to positive health of young people, including students in the following decades.

In the 21st century people spend a lot of time sitting and working on computer, watching TV, playing virtual games. They also like to eat fast food which has no healthy characteristics. This type of life can increase the amount of fat tissue [18 Sudani Erdmann 2017].

The aim of the research was comparison of motor fitness and physical activity of Iraqi students of the first and fourth years of study with mostly sedentary style of life.

MATERIAL AND METHODS

MATERIAL

The subjects of the study were Iraqi male students from the University of Misan (Amarah, Misan, Iraq). They represented different faculties: College of Education, Department of Psychology, Department of Mathematics, Faculty of Management and Economics, Faculty of Law, Faculty of Pharmacy. They were chosen as students with mostly sedentary way of life. The study included two student groups: 1) the first year of study: 88 students, 18 years old, body height 172.81 (S.D.

7.15) cm, body mass 62.38 (S.D. 5.91) kg; and 2) the fourth year of study: 88 students, 22 years old, body height 174.39 (S.D. 6.36) cm, body mass 69.07 (S.D. 6.64) kg. In the age 18-22 years maturation stops and body changes are small. Usually, body development and most of motor abilities in this group is already structured.

METHODS

For assessment of physical activity the Physical Activity Questionnaire was used. This questionnaire was prepared by the author in 2014 [19 Sudani 2017]. It contains 19 questions on physical activity / sport practiced by the students together with some questions on influence of social environment on students' physical activity as well as some questions on life style. The questions were as follow:

1) According to your opinion conditions of learning sport at your faculty are (five options were given)
2) Do you have at your faculty many kinds of physical equipment and space for physical education?
3) Do you like that at your faculty will be sport equipment and place for practicing physical activity?
4) Do you always plan your physical activity?
5) How many times in a week do you practice spontaneous physical activity?
6) How many times during the day do you practice physical activity?
7) How many times during the week do you practice organized physical activity?
8) How many times during the month do you practice physical activity?
9) How many times in a week do you practice physical activity / sport in a sport club or different places which are not connected to your faculty?
10) How much time do you spend during a week for practicing physical activity / sport in a sport club or other places not connected to your faculty?
11) What is the motivation for practicing physical / sport activity?
12) Why you do not practice physical activity?
13) What are the kinds of sport practicing by you?
14) Did your parents encourage you to practice physical activity / sport?
15) Does anyone from your family practice physical activity or sport?

16) Did your teachers encourage you to practice physical activity or sport?

17) Did another people encourage you or support you to practice physical activity or sport?

18) Do you use stimulants, if yes what kind?

19) Do you have a job?

For assessment of motor fitness the following tests were used:

a) Flamingo Balance Test

b) Standing Long (Broad) Jump

c) Sit-Up Test

d) 10×5 m Shuttle Test

e) Sit and Reach Flexibility Test

f) Handgrip Strength Test

g) Pull-Up Test.

Tests were based on the International Physical Fitness Test [20 Eurofit 1993]. Tests were performed before noon indoor at the sport hall and outdoor at the sport ground. Subjects were wearing sport uniforms.

STATISTICAL ANALYSIS

Basic statistical data were obtained: means m, standard deviations SD, coefficients of variance V, significance of differences of means. With the latter t-Student Independent Sample Test was used. A level of $\alpha = 0.05$ was chosen for significance of difference. For degrees of freedom $N = 88 + 88 - 2 = 174$, a significant value $t.\alpha = 1.974$.

RESULTS

PHYSICAL ACTIVITY

All students of the 1st year of study said that conditions of learning sport at their faculties were low or very low. Also all students from the 4th year of study answered that at their faculties conditions of learning sport are very low. About 80 % of the 1st year and 84 % of the 4th year students answered they do not have physical equipment and facilities to practice. The rest of students did not have opinion on this subject. More than half (56 % of the first year) and almost two third (63 % of the fourth year) of questioned students would like or strongly would like to have sport equipment and facilities at their faculties for practicing physical exercises. Unfortunately, there were also students (23 % - 1st year, 16 % - 4th year) who did not like or strongly did not like sport equipment at their faculties. In addition, 22 % of all students (for both groups) did not have opinion on this problem.

Answering the question on planning physical activity only 26 % of the first year and 30 % of the fourth year answered positively. 52 % of the first year and 35 % of the fourth year students said they do not plan their physical activity. From the first year sample 65 % and from the fourth year sample 53 % practice spontaneous physical activity once or more than one time in a week. Only 5 % (1st year) and none (4th year) of students practice physical activity daily. They did it mostly: 1st year one to three times in a week (65 %), 4th year one to two times in a week (59 %). Taking into account monthly engagement 20 % students of the first year and 17 % students of the fourth year practice physical activity 6 to 12 times in a month. 4 to 6 times did it 27 % and 30 %, respectively. 24 % and 17 % did it 2 to 3 times in a month. Above activity students undertake mostly out of their faculties. One or more times in a week they practice physical activity in a sport clubs or in other places: 69 % first year students, 56 % fourth year students. They spend there mostly 45 minutes to one and a half hour for a one session of training.

Answering the question on motivation why students undertake physical activity they responded as follows (first year and fourth year):

Like it – 23 and 14 %

Want to have a good health – 22 and 25 %

Want to meet friends – 7 and 19 %

Want to have slim body – 17 and 15 %

Feel better after practicing sport – 16 and 16 %
Have a free time – 10 and 11 %

There are few reasons why some students do not practice physical activity. Most of all because they do not have court or other facilities (27 and 26 % of the first and fourth year, respectively) and do not have lessons of physical education / sport at their faculties (33 and 37 %). Other reasons were: lack of time (16 and 14 %), no motivation (6 and 11 %), afraid to be injured (3 and 1 %).

Students who were physically active practiced especially football / soccer (27 and 25 % of the first and fourth year, respectively). 14 and 20 % of students walk. Fitness was practiced by 10 and 20 %, respectively. Other forms of activity were: running, gymnastics, bicycle riding, sport games such as table tennis, basketball, volleyball, handball.

Answers regarding the life style included intake of beverages, using medicines, work, influence of social environment. Around 60 % of students drink tea (63 and 58 % of the first and fourth year of study, respectively). 19 % and 30 % drink coffee, 18 % and 13 % smoke cigarettes. None of the students drink alcohol, take drugs or use some pills. In order to obtain some financial resources 35 % of the first year sample and 60 % of the fourth year sample of students have some kind of job. Huge amount of students declared their parents did not encouraged them to practice physical activity / sport (86 % and 94 % parents of students of the 1st and 4th year of study, respectively). This is partly because many parents did not practiced physical activity (90 % and 95 %). In the 1st year sample about 11% and in 4th year sample only about 2 % of respondents get advice from their teachers that it's good for them to be involved in sport. Also another people mostly did not encouraged them to practice sport. Only in 9 and 6 % cases other people encouraged them.

MOTOR FITNESS

Comparing younger and older students in the fitness test one must say all but one differences between mean values of the tests were insignificant. Significant differences appeared in the handgrip test. The results of the motor fitness tests are shown in Table 1.

Table 1. Results of motor features; M – mean, SD – standard deviation; d – difference, p – level of significance; value printed in bold is significant.

Feature	Unit	1st year		4th year		Difference		
								of means
		M	SD	M	SD	M	SD	d value p value
Sit up	30 s	14.83	1.97	15.01	2.59	0.18	0.601	
Long jump	cm	183.69	8.98	187.20		15.69	3.51	0.701
Flexibility	cm	9.03	3.00	8.85		2.98	-0.18	0.687
Flam Balance	60 s	3.77	0.88	3.80	1.67	0.03	0.884	
Run 5×10 m	s	21.12	1.32	20.82	1.55	-0.30	0.166	
Pull up	number	3.10	0.92	3.19	1.10	0.09	0.554	
Handgrip	kG	42.81		4.13	45.97	7.85	3.16	0.001

DISCUSSION

Sport in Iraq developed in a steady way in the first half of the 20th century. Unfortunately, during the Second World War and thereafter the country and sport suffered because of political reason of the former regimes. But when the country received more wealth from the oil industry a new sport facilities were built and sport again was popular among the people. But then again because of the wars conducted on the territory of the country in 1990s the development of sport decreased. In addition, many good sportspeople fled the country. In the recent years, when there is peace in Iraq, sport again began to attract attention. But people are interested in sport mostly in a passive way as spectators of the

sport events [21 Sport Wiki 2019]. In addition since Iraq won at the Olympic Games (first appearance in London 1948) only one bronze medal [22 Olympics Wiki 2019], there are no Olympic idols to follow.

Physical inactivity is a key determinant of health across the lifespan. A lack of activity increases the risk of several diseases. It is well documented that physical activity and higher physical fitness level may improve health but also it can improve academic performance. It is especially important for efficient and effective execution functions. Basic cognitive functions related to attention and memory facilitate learning. They are enhanced by physical activity and higher aerobic fitness [23 Kohl & Cook].

Kwan et al [24 2012] as well as Sigmundova et al. [25 2013] wrote physical activity declining is evident during young adults' transition into early adulthood with the steepest decline occurring at the time of entering a university. Bray and Born [26 2004] alarmed that one third of active students in a high school turn to be insufficiently active upon transition to the college life.

It is of high concern that about half (1st year) to one third (4th year) questioned Iraqi students in this work either did not like or did not have any opinion on sport facilities and equipment in their faculties.

Half of a sample (1st year) and one third of a sample (4th year) do not plan their physical activity. Only around 60 % of all students practice their physical activity one or more times in a week and around 60-70 % at least ones a month. Unfortunately, one third (1st year sample) and more than one third (4th year sample) did not undertake physical activity at all. This is very unhealthy. As it was said before there are recommendations of health institutions [1, 4, 5] people need to practice physical activity at least two times in a week. A large proportion of Iraqi students who practice physical activity undertake this activity outside their faculties, i.e. in sport clubs or in other places.

Of those who practice physical activity just only one fifth to one fourth of students do it because they think about having good health. This is small amount of young people. One sixth of students want to have slim body. Around 30-40 % of students practice physical activity because they like it and feel better after the sport session. It is good information that only less than 20 % students smoke cigarettes. Because of religious reason none of them drink alcohol or take drugs.

Problem with not enough active / too much sedentary way of life of university students is worldwide. For example, Deliens et al. [27] reported that Belgian university students (mean age 20.7 years) of whom 2/3 were women and also 2/3 were studying humanities, were in 22 % overweight, around half of them reported little to no physical activity and around 1/5 reported poor to very poor eating patterns.

Among Irish college students a significantly higher percentage of males reported participation in organized physical activity/sport (almost 60 %). In addition many of them participated also in unorganized physical activity (almost 60 %). Some of them participated in both organized and unorganized activity. The primary motivation for physical activity were: enjoyment, fitness, fondness of competition, interest. Barriers to physical activity were elements associated with college life (e.g., lack of time, coursework) as well as lack of interest [28 Lerner 2011].

In the United States despite the importance of physical activity on overall health, less than half of all New York University, or NYU, students engage in sufficient physical activity to meet the Physical Activity Guidelines for Americans [29 PAG for Am 2019]. One quarter of NYU students are overweight, of which 6.0% are obese. Research indicates that during the transition to college, exercise and fitness levels usually decrease.

What was found in this study of Iraqi students (declining of physical activity in comparison of younger and older students) was not found among American students. Driskell et al. [30 2005] compared eating and exercise habits of a group of lower-level (freshmen/sophomore) and upper-level (juniors/seniors) students, 19 to 25 years of age. Both groups reported similar eating habits and duration and frequency of various types of physical activity, and places of physical performance.

According to the Physical Activity Guidelines for Americans key guidelines for adults are as follow: "for substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) to 150 minutes (2 hours and 30 minutes) a week of

vigorous-intensity aerobic activity". In addition "adults should also do muscle-strengthening activities of moderate or greater intensity and that involve all major muscle groups on 2 or more days a week". [31 Guidelines 2018]

COCLUSIONS

Soccer is the most popular sport in the country followed by basketball. Iraqi teams won several titles at the Asian tournaments. More and more young people are involved in the sport games. It is necessary the government needs to spend more money on sport development, including sport clubs and facilities, in order young people would have possibility to practice sport [32 Sudani 2019].

The city and university administrations should establish places for all people in order to make environment prepared for exercising. But for now people should know they can make exercises without recreation and sport facilities by using the existing environment and own body as a load for exercises.

It is necessary to undertake strong information action on positive influence of undertaking physical activity in order to become more healthy and fit. Since parents of students did not undertake physical activity it is assumed the current exercising students would influence their children to do so.

REFERENCES

[1] World Health Organization. Constitution of the World Health Organization. Available: http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf. Accessed: 01 Jul 2019.

[2] Erdmann W. S. Biomechanical opinion in the case of Katarzyna Z. against Guarantee Insurance Fund in Warsaw for payment. For Regional Court in Ilawa, case I C 1464/17, 2019.

[3] Fagaras S-P., Radu L-E., Vanvu G. The level of physical activity of university students. Procedia – Social and Behavioral Sciences, 2015, 197:1454-1457. Available: https://doi.org?10.1016/j.sbspro.2015.07.094. Accessed: 21 Jul 2019.

[4] World Health Organization. Milestones in Health Promotion. Statements from Global Conferences. Health Promotion. Geneva, 2009. Available: www.who.int/healthpromotion/Milestones_Health__Promotion_05022010.pdf?ua= 1. Accessed: 25 Jul 2014.

[5] State of Health in the EU. Companion Report 2017. Luxembourg: Publications Office of the European Union 2017.

[6] OECD/EU. Health at a Glance: Europe 2018: State of Health in the EU Cycle. Paris: OECD Publishing. Available: https://doi.org/10.1787/health_glance_eur-2018-en. Accessed: 01 Jul 2019.

[7] Clark J. E., Whitall J. What is motor development? The lesson of history. Quest-Illinois-National Association for Physical Education in Higher Education, 1989, 41(3):183-202. DOI: 10.1080/00336297.1989.10483969.

[8] Gallahue D. L., Ozmun J. C. Understanding motor development. Infants, Children, Adolescents, Adults. 6th edition. New York City: McGraw Hill.

[9] Bokan M. Motor abilities of volleyball players and tests for estimation. Physical Culture, Belgrade, 2009, 63:126-134.

[10] Caspersen C. J., Powell K. E., Christenson G. M. Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. Public Health Rep., 100(2):126-131.

[11] Corbin Ch. B., Pangrazi R. P., Don Frank B. Definitions: Health, Fitness, and Physical Activity. Washington D. C.: President's Council on Physical Fitness and Sports, 2000.

[12] Verkhoshansky Y. V. Fundamentals of special strength training in sport (in Russian). Moscow: Fizkultura i sport, 1977.

[13] Matveev E. N. Force-velocity relationships in throwing (in Russian). Teoriya i Praktika Fyzicheskoy Kultury (Theory and Practice of Physical Culture), 1964, 27(8):24-28.

[14] Platonov V. N. Theory and methodic of sport training (in Russian). Kiyev: Visha Shkola, 1984.

[15] Farfel V. Physiology of sport (in Russian). Moscow: Fizkultura i sport, 1960.

[16] Physical activity guidelines for adults. National Health Service, United Kingdom of Great Britain and Northern Ireland. Available: https://www.nhs.uk/live-well/exercise/. Accessed: 02 Jul 2019.

[17] Przeweda R. Changes of physical fitness in Polish youth during the last decades (in Polish). Studia Ecologiae at Bioethicae, 2009, 7:1:57-71.

[18] Sudani A. A. D., Erdmann W. S. Development of body morphology of Iraqi students: sedentary way of life and fatness. Baltic Journal of Health and Physical Activity, 2017, 9(2):30-38.

[19] Sudani A. A. D. Morphology, motor fitness and physical activity of male students of the 1st and 4th year of study in Iraq. Doctoral dissertation, Gdansk University of Physical Education and Sport, Gdansk, Poland and University of Al-Qadisiya, Al-Qadisiya, Iraq, 2017.

[20] Eurofit Tests of Physical Fitness. 2nd edition, Strasbourg, 1993.

[21] Sport in Iraq. Available: https://en.wikipedia.org/wiki/Sport_in_Iraq. Accessed: 20 Jul 2019.

[22] Iraq at the Olympics. Available: https://en.wikipedia.org/wiki/Iraq_at_the_Olympics. Accessed: 20 Jul 2019.

[23] Kohl H. W., Cook H. D. – eds. (2013) Educating the student body. Taking physical activity and physical education to school. Committee on Physical Activity and Physical Education in the School Environment, Food and Nutrition Board, Institute of Medicine. Washington, D. C.: National Academies Press (US).

[24] Kwan M. Y., Cairney J., Faulkner G. E., Pullenayegum E. E. Physical activity and other health-risk behaviors during the transition into early adulthood: a longitudinal cohort study. American Journal of Preventive Medicine. 2012, 42:1:14-20; doi: https:doi.org/10.1016/j.amepre.2011.08.026.

[25] Sigmundova D., Chmelik F., Sigmund E., Feltlova D., Fromel K. Physical activity in the lifestyle of Czech university students: Meeting health recommendations. European Journal of Sport Science, 2013, 13:6:744-750, doi: https://doi.org/10.1080/17461.2013.776638.

[26] Bray S. R., Born H. A. Transition to university and vigorous physical activity: Implications for health and psychological well-being. Journal of American College Health, 2004, 52:4:181-188, doi: https://doi.org/10.3200/JACH.52.4.

[27] Deliens T., Deforche B., De Bourdeaudhuij I., Clarys P. Determinants of physical activity and sedentary behavior in university students: a qualitative study using focus group discussions. BMC Public Health, 2015; 15:201, doi: 10.1186/s12889-015-1553-4.

[28] Lerner J., Burns C., de Roiste A. Correlates of physical activity among college students. Recreational Sports Journal, 2011, 35:95-106.

[29] American College Health Association - National College Health Assessment II: New York University Executive Summary, Spring 2011. Hanover, MD.

[30] Driskell J., Kim Y., Goebel K. Few differences found in the typical eating and physical activity habits of lower-level and upper-level university students. Journal of the American Dietetic Association, 2005, 105:5:798-801.

[31] Physical Activity Guidelines for Americans. 2nd edition, 2018. Available: https://health.gov/paguidelines/second-edition/pdf/PAG_ExecutiveSummary.pdf. Accessed: 5 Jul 2019.

[32] Sudani A. A. D. Organization and work of sports institutions in Iraq. 2nd International Congress “21st Century Sport Market”, 23-25 May 2019, Gdansk University of Physical Education and Sport, Gdansk, Poland, EU,