ISSN: 2476-5279; International Journal of Musculoskeletal Pain Prevention. 2019; 4(2): 167-169.

Effect of an Educational Intervention on Sitting Behavior of Female Student among High School of Izeh, Ahvaz, Iran: A Protocol Study

ARTICLE INFO

Article Type
Protocol study

Authors
Samaneh Norouzi[1], *Msc*
Sedigheh Sadat Tavafian[1*], *PhD*
Sedigheh Kahrizi[2], *PhD*

How to cite this article
Norouzi S, Tavafian S.S, Kahrizi S. The Effect of an Educational Intervention on Sitting Behavior of Female Student of High School of Izeh, Ahvaz, Iran: A Protocol Design. 2019; 4(2): 167-169.

[1] Department of Health Education, Faculty of Medical Science, Tarbiat, ModaresUniversity.
[2] Department of Physiotherapy, Faculty of Medical Science, Tarbiat Modares University.

** Correspondence*
Address: Tehran, Jalal Al Ahmad, Nasr Bridge Highway, Tehran, Iran.
P.O. Box: 14115-111
Phone: +98 (21) 82884547
Fax: +98 (21) 82884555
Email: tavafian@modares.ac.ir

Article History
Received: December 18,2017
Accepted: December 31,2017
ePublished: October 30, 2019

ABSTRACT

Aim: Students spend a lot of time at the school in sitting. While sitting in the wrong position, they put pressure on the muscles, ligaments, lumbar joints, intervertebral discs and other muscles. The purpose of the present study is to investigate the impact of health education program on sitting behavior of female student of high school of Izeh , Ahvaz ,Iran.

Instrument and Method: This study is a semi- experimental (field trial) in which two secondary high schools in the Izeh, one school as the control group and one school as the intervention group, will be selected randomly. The data collection tool will include Nordic Musculoskeletal Questionnaire (NMQ) and a researcher – made questionnaire to assess knowledge, attitude and behavior of participants regarding sitting principles on the bench while listening to the lesson. The training programme will be run in three one –hour sessions including an one-hour lecture and questioning / answering session that is awareness-raising session, an one-hour group discussion regarding beliefs, and one-hour session regarding watching educational movies for training behaviours on how to sit properly on the bench. Data will be collected at the beginning of the study and three months after intervention form both groups. Once these steps will be implemented, the results will be analyzed through chi-square, T-test, and paired T-test using SPSS version 21.

Keywords: Musculo Skeletal Disorder (MSD), Educational Intervention, Sitting Behavior, High school Student.

Introduction

School is one of the most important institutions among social institutions, which must provide opportunities for growth and prosperity by providing a healthy environment for the children [1]. Through the whole school period, the child changes in physical, emotional, and social domains, and if he or she does not have the proper environment for his development, he will face a developmental disorder and childhood illness. This is not only creates important barriers to learning and education, but also provides the basis for many diseases, physical and psychological disorders in adulthood [2,3]. The motive of these problems should be seen in the physical condition (posture) while sitting, standing and walking as, many misplaced habits [2]. Students spend a lot of time at schools in sitting position on the bench. Sitting position in a wrong position, could lead to put pressure on the muscles, ligaments, lumbar joints, intervertebral discs and other muscles [4]. The occurrence of these abnormalities at any age is possible, however, it could increase in young people particularly among school children due to the intolerance of the musculoskeletal system and the high degree of flexibility and formation[5]. Studies in various countries have been conducted on complications of body changes and complications caused by lack of proper sitting and failure to apply the principles of ergonomics regarding health of students. In 2008, a study in Europe on students aged 15-16 showed that over 50% had pain and discomforts in the lower lumbar area, and 25% noted these pain and discomfort as they did not reduce or decrease their activities[6]. According to a study at Columbia University after facial

**Corresponding Author:* Address: NO. 212, Health Education and Health Promotion Department, Faculty of Medical Sciences,Tarbiat Modares University, Nasr Bridge, Jalal-Al-Ahmad Highway, Tehran, Iran Phone: +98 (21) 82884547 Fax: +98 (21) 82884555.

[DOR: 20.1001.1.24765279.2019.4.2.2.2]
[DOI: 10.52547/ijmpp.4.2.167]

swelling, skeletal-muscular pain was the second most common problem in the student participating in the study, with 5% of them feeling pain in their organs [7]. In a study conducted in Tehran province in 2010 on primary and secondary school students showed, the highest incidence of skeletal disorders was observed in the shoulder region with 37.99%, neck 28.5% and in the lumbar region 17. 4% [8]. A study was conducted in 2014 with the aim of prevalence of MSDs in students of Abadan , Iran showed. the most common skeletal disorders among female students were muscle weakness and spinal deviation [9]. Factors such as lack of adequate training to meet the correct conditions, lack of proper educational facilities, high written activity in inappropriate situations, inappropriate design of the table and chair, prolong sitting time could lead to high risk of creating abnormal conditions in students. [8]. A curriculum on the correct posture of body when sitting on a bench can affect physical health of children, that should be noted [6].Therefore, in this research, we aim to educate students to improve sitting position through an educational study.

Instrument and Method

The population of this present semi-experimental (field trial) study include female secondary school students of Izeh in 2017-18. A random clustering sampling method will use in which a list of all high school girls' secondary schools, will be provided from which two schools (one as intervention and the other as control school) will be selected randomly.

The intervention policy will be done for intervention group only. Based on the existed study [10] The sample size will be as 73 students per each group.

The inclusion criteria are willing to participate in the study, having any skeletal muscular diseases, which prevent from sitting properly. The data collection tools are two types of questionnaires as follows: Nordic Musculoskeletal Questionnaire (NMQ) and a researcher - made questionaire: The Nordic questionnaire NMQ with 28 items determines the amount of musculoskeletal disorders [11] . This questionnaire is divided into two sections: the demographic data and main questions with the yes/no response index for assessing the prevalence of pain, discomfort, weakness or numbness in the two periods of the previous 12 months and 7 weeks [11] .Researcher - made questionnaire is about knowledge, of attitude and behavior of the participants.

The validity and reliability will be evaluated through consulting 10 health education experts. Meanwhile, for the reliability of this tool, it will be availabled to 30 similar people to the sample population and the Cronbach's alpha will be calculated. The response indexes differ according to the nature of each question. The responses in knowledge questions are a two–value scale, as "yes" (score=1), and no" (score=0).

The item responses for attitude questions are ranged between three– choice Likert scale using from "agree" (2) to "disagree" (0). The domain of behavior is responded with two valued–index as "yes" (score=1) and a "no" (score = 0). Before doing the study , the objectives of the study will be described for participants. Written and voluntary consent will be obtained from each participant. The educational intervention will be run in 3 one–hour sessions, including a one-hour lecture and questioning / answering sessions for improving awareness of the students a one-hour group discussion regarding beliefs, a one-hour watching educational movies for training topics on how to sit properly on the bench. Post-test will be performed at intervals of 3 months after the educational program. Data will be analyzed by SPSS 21 software, using independent t-test and Chi-square test [12].

Discussion

We expect the findings from this study can improve the behaviors of the students, and increase their knowledge and attitude.

[DOR: 20.1001.1.24765279.2019.4.2.2.2]
[DOI: 10.52547/ijmpp.4.2.167]

We expect that the educational intervention of this study would be an effective program among high school students. Furthermore, it is predicted that knowledge, attitude, and behavior of the students who get interventional education will be better. In previous study , it was shown that the musculoskeletal disorders were most common among students that were related with their sax and age [9].

A previous study has argued that the sitting position of most students. According this study, the sitting posture of most students in the classroom is undesirable and damaging . This study recommended that proper intervention would be provided and the students should receive proper educational program regarding correct sitting position[13] .

Conclusion

The results of the study are based on an intervention that is being investigated by the researcher in near future.

Acknowledgements

This research is part of the dissertation of the Master of Science in Health Education and Health Promotion Department and Department of Physical Therapy.The authors hereby announce their gratitude and appreciation to all those who contribute to the research.

Ethical Permissions

The ethical approval code will be obtained from ethic committee of Tarbiat Modares University reported by the authors.

Conflict of Interests

The authors declare that they have no conflict of interest.

Authors' Contribution

Norouzi S. (First author), will conduct all parts of the study (50%).

Tavafian S.S. (Second author), will supervise all parts of the study (30%); Kahrizi S. (Third author), will advise regarding performing of the study author (20%)

Funding

Research deputy of Tarbiat Modares University will fund the study.

References

1. Hong, Y, Cheung C.K. Electromyographic responses of back muscles during load carriage walking in children. in ISBS-Conference Proceedings Archive.2002,1(1),405-408.
2. Rezaei, B. The effects of unilateral backpack carrying on postural changes and gait pattern rural children during treadmill walking. mrj. 2016, 9(1): 161-170.
3. Nylund T, Mattila V, Slami T, Pihlajameki H, Makela J. Recovery of brachial plexus lesions resulting from heavy backpack use: A follow-up case series. BMC Musculoskeletal Disord.2011.12(1):62-67.
4. Desouzart G, Gagulic S. Analysis of postural changes in 2nd cycle students of elementary school .J Spin. 2017.6(1):2-3.
5. Shamsedini A, Hellisaz M, Dalvand H, Khatibi A. The investigation of prevalence of musculoskeletal symptoms and discomfort caused by them in students of Tehran. J Arm Univ. 2011;8(2):271-276.
6. Heidarimoghadam R, Motamedzadeh M, Roshanaei GH, Ahmadi R. Match between school furniture dimensions and children's anthropometric dimensions in male elementary schools. J Ergon. 2014;2(1):9-18.
7. Sobhani A, Akbari M. Body Posture of Ghaem Motlagh Primary School Students. J Ardabil Uni Med Sci. 2005;5(4):340-346.
8. Mirzaei R, Ansari H, Khomri A, Afrouz M. Relationship between ergonomic and environmental conditions of classrooms with pain sensation in students. J Qazvin Univ Med Sci. 2010;13(1):36-41.
9. Zakeri Y, Baraz SH, Gheybizadeh M, Bijavzadeh D, Latifi S. Prevalence of musculoskeletal disorders in primary school students in Abadan-Iran in 2014. Int J Ped. 2016;4(1):1215-1223.
10. Bagheri M, Mohseni M. L. Low Back Pain and Disability in Schoolchildren in Mazandaran Province. J Kermanshah Univ Med Sci; 2017, 2(4), 354-356.
11. Uorinka B, Jonnson A, Kilbomlt H, Vinterberg F, Beiring G, Andersson Jorgensen K, et al. Standardised Nordic questionnaires for the analysis of musculoskeletal symptoms. Appl Ergon. 1987;18(3):233-237.
12. Stuper M, Shearer H , Cote P, Van der velde G, Cassidy jd, Carroll j. Prevalence and factors associated with neck pain in office workers in proceeding of the world congresson neck pain; 2008,12(8),20-22.
13. Ilbeigi S, Kabootari A, Afzalpour M, Farzaneh H. The relationship between sitting posture and musculoskeletal pain in boy elementary school students. J Ergon. 2018;5(3):41-49.

[DOR: 20.1001.1.24765279.2019.4.2.2.2]
[DOI: 10.52547/ijmpp.4.2.167]