

INTRODUCTION

One of problems of the educational systems in Iran is unfamiliarity of students with academic skills and their poor study skills in reading strategies (1). The study method should be chosen through the selection and combination of the diverse study techniques and skills. It is confirmed that these factors affect students' better learning (2). One of the reasons for students not getting the desired result is the lack of knowledge about the study method and its related skills (3). Various factors such as physical and mental health, motivation, age, and economic and cultural conditions affect the quality and quantity of learning. However, based on the psychologists' observations, general study skills in learning and remembering the lessons studied is the most helping factor to individuals while studying at university (4).

Studying is an important factor in the development of research and educational systems; hence, efforts to improve educational attainment and reading strategies are considered as one of the important educational measures (5). Academic performance of individuals is influenced by various factors one of which is their study habits and skills (6). Study has certain principles and conditions as a mental process. To have a useful and effective study, one should know and apply the conditions of the study. The differences in the psychological characteristics of each century are identified by reference to the history of human life. Therefore, it seems necessary to focus on appropriate teaching methods (7). Based on the study by Reed et al, a regular program and an in-depth and focused study could be effective in better student learning (8). New teaching methods have improved the problems in the field of education, but in the field of learning, we need methods that improve the problems related to learning (7).

Study habits are actually the same as individual study methods. These are habits that people use during their school years. Study habits can be good, meaning that they are effective and help students to achieve a good evaluation score (1). According to the results of some studies in Iran, students' learning status is not in a desired condition. Many previous studies using the Palsane and Sharma Study Habit Inventory (PSSHI), Study Habits Questionnaire in different educational settings in the country, have pointed out the inadequacy of students' study method and the necessity of educational planning (9 - 12). Also, in another study carried out by Zare' Zadeh et al on the students of Kurdistan University, it was suggested that a course entitled "Study Skills and Habits" is offered to students (13). Rouhani et al. in their study on study skills of dental students of Mashhad found that students do not have sufficient knowledge of study skills and 38% of students feel that they are not performing well with their current study method (14). Therefore, besides new teaching methods, methods that improve students' learning skills should be applied; however, before implementing these methods, the necessity of their existence in educational centers must first be examined. Hence, in the current study, the study habits of students studying in Mashhad school of paramedical sciences in the academic year of 2016-2017 and its relationship with

related factors are studied.

METHODS

This descriptive-analytical study was done on undergraduate students of Mashhad school of paramedical sciences who were studying in the first and last semesters of academic year of 2016-2017. Students were selected by the census method. The population of study was 164 students that 154 of them participated in the study. Data were collected using a questionnaire taken from the study by Kushan and Heydari, which was a translation of the standard questionnaire (PSSHI) in the field of the study habits. This questionnaire includes 45 questions in 8 domains including time management (5 questions), physical conditions of study (6 questions), reading ability (8 questions), noting (3 questions), learning motivation (6 questions), memory (4 questions), examination (10 questions) and study health (3 questions). Answers to the questions were justified: "Rarely or never", "Sometimes", "Always or more often", which due to the questionnaire instruction was given to always or more often score of 2, sometimes score of 1 and rarely or never a score of 0. The minimum total score was 0 and the maximum was 90. Higher scores indicated proper study habits. Total score of study habits of individuals based on the PSSHI questionnaire was categorized into 4 sections: excellent (more than 75 percentile), good (50-75 percentiles), moderate (25-50 percentiles), and weak (less than 25 percentile) and the highest score in the present study was 90, the study habits were considered as excellent (score above 67.5), good (score 45-67.5), moderate (score 22.5-45) and weak (score less than 22.5). Maximum scores in any domains included: time management (10), study physical condition (12), reading ability (16), noting (6), learning motivation (12), memory (8), exams (20), and health (6).

The validity and reliability of this questionnaire have been checked in previous studies; accordingly, the retest validity was 0.88 of internal consistencies with a split-half of 0.65 and a reliability dependent criterion of 0.74. Questionnaires were distributed and collected in Mashhad school of paramedical sciences. It is necessary to note that the students' consent to participate in the study was obtained and the necessary explanations about the questionnaire and its completion were provided to them. Data were analyzed by SPSS version 21 software at a significant level of $p \leq 0.05$. Data were analyzed using descriptive statistics (mean, frequency distribution) and independent T-test.

RESULTS

Out of 164 distributed questionnaires, 10 questionnaires were excluded due to their defective completion, so 154 questionnaires were analyzed. Based on the results, the majority of the students in the present study were female (78.9%) and single (85.4%). Table 1 shows the demographic characteristics of the students.

The most students (50.3%) used the handout or notes as the study source at the exam night. 18 (12%) of the participants were studying for the exam only during the semester, 56 (37.3%) in the semester break, and 76 (50.7%) at the exam night (Table 2). The score of study habits of 10 students (6%)

Table 1. Frequency of students according to demographic characteristics		
Demographic characteristics	Item	N(%)
Gender	Female	120 (78.9)
	Male	32(21.1)
Marital status	Single	129(85.4)
	Married	22(14.6)
Habitation status	Native	75(55.6)
	Non-native	59(43.7)
Father's education level	Degree and lower	25(19.2)
	Diploma	43(33.1)
	Academic	62(47.7)
Mother's education level	Degree and lower	37(28.3)
	Diploma	49(37.4)
	Academic	45(34.4)
Sources studied	Book	2(1.3)
	Handout/Notes	75(50.3)
	Both	72(48.3)

Table 2. Frequency distribution of students according to study habits		
Individual habits in order to preparation for exam	Item	N (%)
Exam preparation time	During the semester	18(12)
	Semester break	56(37.3)
	Exam night	76(50.7)
Study time	Morning	7(4.6)
	Evening	8(5.3)
	Night	51(33.8)
	All cases	85(56.3)

was in a weak range, 105 (68%) was in a medium range, 38 (24%) was in a proper range, and none of students had excellent study habits score (Table 2).

The total score of students' study habits was (42 ± 11) . Mean score for male students was (44 ± 11) and mean score for female students was (42 ± 11) . There was a significant difference between the mean scores of girls and boys based on the results of T-test ($P = 0.0001$).

Table 3 shows the relationship between the mean scores of students in different domains of study habits with gender, semester, place of habitation, study time, and time of exam preparation.

DISCUSSION

The present study investigates the study habits and skills of paramedical students and their relationship with academic performance and some other variables. The data collection tool in current study was designed based on the PSSHI

questionnaire and total score of study habits was categorized into 4 sections: excellent (more than 75 percentile), good (50-75 percentiles), moderate (25-50 percentiles), and weak (less than 25 percentile). According to the findings of present study, the average score of students' study habits (mean score of 42 out of 90) was in the moderate level. Generally, based on the results of studies conducted at other universities and on other students in Iran, the study skills and habits of most students were in moderate level and far from desired status (10). The study by Fereydouni Moqaddam and Cheraqian on students of Abadan nursing faculty using study habits test (PSSHI) also showed the most students had relatively desired or moderate study habits (11). Also based on the results of a study by Kushan and Heydari on the students of Sabzevar university of medical sciences using the study habits test, the mean scores of study habits in male and female students were 42 and 44 out of 90, respectively that these findings are in line with the results of present study and shows the need to pay more attention to students' study habits at universities (12).

According to the findings of current study, there was a significant relationship between gender and the score of study habits in terms of physical conditions and reading ability. These findings are inconsistent with the results of studies by Koushan and Heydari, as well as Hosseini et al. Also, in the study by Torshizi et al there was no significant difference between study habits of the two genders (10). The majority of studied students in this research, used the handout/notes as an exam study resource. Also in a study by Nneji, the majority of students using class notes and handout/notes as an important source of their study relied just on the contents provided by the classroom teacher (15). Based on the results of present study, the study condition was better in the students studying in the morning; however, in the study done by Zare' Zadeh et al, in all study fields, the students who were studying in the afternoon had a better situation than the students studying in the morning (13).

Also the results of present study indicated that there is no significant difference between the place of habitation and the study time management. The results of the study by Ravari et al that was done on Kerman medical students using the researcher-made questionnaire, there was a significant relationship between study time management and students' place of habitation, so that the dormitory students had the lowest time management scores while the students living with their parents had the highest time management scores (16). According to the results of the present study, students who studied during the semester had better condition than the students who studied in the semester break or at the exam night. In another study by Nabavi and Asgarian on the students of Islamic Azad university of Tehran medical unit, students who prepared for exam during the semester had better academic performance (17) which is consistent with the results of the present study.

The low sample size and the one-centrality of the study are the limitations of the present study, which could affect the generalizability of the results. It seems that the present study differs from other studies in the field of study habits in terms of the purpose and the research population studied, which

Table 3. Relationship of students' mean scores in different domains of study habits

Variable	Time Management (Score of 10)	Physical conditions (Score of 12)	Ability to read (Score of 16)	noting (Score of 6)	Learning motivation (Score of 12)	Memory (Score of 8)	Taking exams (Score of 20)	Health (Score of 6)	Average total score	
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean		
Gender	Male	4.6	7.5	7.9	2.2	6.2	4.1	7.9	2.6	11±44
	Female	4.4	6.7	6.7	2.6	5.7	4.2	7.8	2.7	11±42
	P-value	0.5	0.04*	0.01*	0.2	0.2	0.8	0.8	0.7	
Semester	Semester 2	4.3	6.8	6.9	2.3	5.9	4.3	7.7	3	11±42
	Semester 8	4.6	6.9	7	2.6	5.7	4.1	7.8	2.5	11±42
	P-value	0.4	0.8	0.9	0.3	0.5	0.6	0.8	0.03*	
Place of habitation	Native	4.5	6.8	7.2	2.7	5.9	4.04	8.1	2.7	11±43
	Non- Native	4.3	6.9	6.6	2.3	5.6	4.3	7.3	2.5	10±40
	P- value	0.4	0.7	0.1	0.1	0.3	0.2	0.1	0.4	
Study time	Morning	4.8	7.1	7.3	2.6	5.5	4.6	7.1	3.1	10±45
	Evening	5.1	6.8	7	2.8	5.7	4.5	7	2.5	11±44
	Night	4.2	7.06	7.1	2.5	5.6	4	8	2.6	11±42
	All cases	4.5	6.8	6.9	2.5	5.9	4.2	7.9	2.7	10±42
	P-value	0.6	0.9	0.9	0.9	0.8	0.5	0.8	0.8	
Exam Preparation Time	Semester during	5.3	7.6	8.05	3.6	6.7	4.5	8	2.8	11±47
	Semester break	4.9	7.3	7.09	2.4	6.1	4.2	8.5	3.1	1±45
	Exam night	3.9	6.4	6.7	2.3	5.4	4.1	7.3	2.3	11±39
	P-value	0.001*	0.01*	0.1	0.07*	0.01*	0.5	0.06*	0.003*	

*significant P value

may help to complement the results of other studies. Hence, it is suggested that similar studies with more sample size and with similar tools and the same scoring method are done and their results are compared. Another limitation of the present study was not-reviewing non-print sources in current study that can be considered and investigated in future research. Generally, based on the results of the present study, the study habits of the students of paramedical science schools were at an average level and it can be found that their study method has not a proper quality; hence, due to the importance of study habits in academic performance and academic achievement, also considering the imperative effect of academic performance on people's job and their academic future, attention and planning is essential in order to improve students' study habits and practices. In addition, researchers believe that studying habits and skills are teachable and learn-able, so various actions can be taken in this field. According to Hosseini Shahidi et al., incorporating teaching and learning methods into the curriculum, as well as forcing students to attend workshops in order to apply these skills can be effective steps (18). It is also suggested that classes be organized to teach students proper strategies and habits of study at the entrance time in university, and

also intervention programs be organized continuously in order to teach useful study habits to all students by university counseling offices.

Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

ACKNOWLEDGEMENT

Special thanks to bachelor of health information technology students and all students of the school of paramedical sciences and respected personnel of the education department of this school.

Financial Support: The present study has not received any financial support and it was done and confirmed as part of a student project in the department of health information technology, school of paramedical sciences, Mashhad University of Medical Sciences.

Conflict of interest: None

REFERENCES

1. Shahidi F, Dowlatkah HR, Avand A, Musavi SR, Mohammadi E. A study on the quality of study skills of newly-admitted students of Fasa University of Medical Sciences. *J Adv Med Educ Prof.* 2014;2(1):45-50.
2. Nourian Aa, Mousavinasab N, Fahri A, Mohammadzadeh A. Medical Students' Study Skills and Habits in Zanjan University of Medical Sciences. *Iranian Journal of Medical Education.* 2006;6(1):101-7. Persian.
3. Haghani F, Khadivzade T. The Effect of a Learning and Study Skills Workshop on Talented Students' Learning and Study Strategies in Isfahan University of Medical Sciences. *Iranian Journal of Medical Education.* 2009;9(1):31-40. Persian.
4. Nieradko B BA. Exercise behavior, sleep habits and time management among students of the Medical University of Lublin. *Ann Univ Mariae Curie Skłodowska Med.* 2003;58(1):358-61.
5. Makizadeh F. Evaluation of Yazd University students' knowledge of study methods. *Journal of Librarianship.* 2005;38(42):163-85. Persian.
6. Desiderato O, Koskinen P. Anxiety, study habits, and academic achievement. *J Couns Psychol.* 1969;16(21):162.
7. Seif A. *Methods of learning and study.* Tehran (Iran): Douran; 2001. Persian.
8. Reid W, Duvall E, Evans P. Can we influence medical students' approaches to learning? *Med Teach.* 2005;27(5):7-401.
9. Hashemian M, Hashemian A. Investigating study habits of library and information sciences students of Isfahan University and Isfahan University of Medical Sciences. *Iranian Journal of Medical Education.* 2014;14(9):7-751. Persian.
10. Torshizi M, Varasteh S, Poor Rezaei Z, Fasihi R. Study Habits in Students of Birjand University of Medical Sciences. *Iranian Journal of Medical Education.* 2013;12(11):866-76. Persian.
11. Fereydouni Moghadam M, Cheraghian B. Study habits and their relationship with academic performance among students of Abadan School of Nursing-Strides In Development of Medical Education. 2009; 6(1) :21 -28. Persian.
12. Koushan M, Heydari A. Study Habits In Students Of Sabzevar School Of Medical Sciences. *Journal of Sabzevar University of Medical Sciences.* 2007;13(4):185-89. Persian.
13. Zarezadeh Y, Rasolabadi M. Student's study skills and habits and some related factors in Kurdistan University of Medical Sciences. *Journal of Medical Education Development.* 2015;8 (17);29 - 37. Persian.
14. Rouhani A, Akbari M, Mamavi T. Evaluation of study skills among student of Mashhad dental school in academic year 2008-2009. *Teb Va Tazkieh* 2011; 4(79): 63-67. Persian.
15. Nneji LM. Study habits of Nigerian university students. *Nigeria: Nigerian Educational Research & Development Council.* 2002;8(1):6-49.
16. Ravari A, Alhani F, Anoosheh M , Mirzaie-Khalilabadi T. The pattern of time management in college students of Kerman University of Medical Sciences in the year 2006. *Iran South Med J.* 2008, 11(1): 76-84. Persian.
17. Nabavi S.J, Asgarian M. Influential factor on learning among students of Azad university. *Medical Sciences.* 2004;14(1):41-8. Persian.
18. Hoseini Shahidi L, Attarodi A, Moghemeian M. Survey of students using of learning and study technique. *Ofoghe Danesh: Gonabad College of Medical Science and Health Services.* 2005;11(1):60-53. Persian.