Original Research Paper

Evaluation of study skills and habits in medical students

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Abstract

Objective: To investigate the study skills and habits of Zanjan Medical students.

Methods: in this descriptive cross-sectional study questionnaires were distributed among all the medical students of Zanjan University in spring 2005. A questionnaire containing 24 questions was designed to assess study skills and habits (time management, concentration, reading speed, note taking, study habits and comprehension). The questionnaires were distributed to all students and the next day collected. The total completed questionnaires were 181(82%). The lower score showed the higher position in each area. The median scores were compared among different subgroups using appropriate non-parametric tests ($p< 0.05$).

Results: The results showed that the median scores out of 4 were 2.75, 2.25, 2, 1.75, 1.75, and 1.5 in time management, concentration, reading speed, note taking, study habits and comprehension respectively. Interns had median score of (2.25 vs. 2.75, P=0.04) in time management compared with other students. The student had problems with time management, concentration, reading speed, note taking, study habits and comprehension in their studies. Interns had better scores in time management compared with other students. There was no significant difference in median scores in different conditions of students' living.

Conclusion: It appears that students possess better status in comprehension, study habits and note taking compared to other areas, and interns had better scores in time management, thus, we suggest that training courses be established in study habits and skills at the universities in order for the students to gain the information at that their entrance.

Background

Learning is a complicated process and a single study method may not be appropriate for all the situations. Efficient learning results from interest in subject matter and skilful use of study techniques. Interest in subject matter causes the learner to study further (Seif, 2001). Using innovative study skills and techniques to improve the student learning has been reported worldwide.

In a survey in Ramapo college in New Jersey compared two groups of new college students (participants and non-participants). The students who participated in study-skill seminars (letter writing, research techniques, note-taking techniques and time management) showed higher levels of scientific information retention (Stark & Mary, 2008). Concentration of students on external and internal dimensions of education environment and its positive effect on incentive and personal attention of students has been shown in a survey conducted by Travic and Corno (1995). In addition, it has been shown that possessing a scheduled plan, profound study along with concentration can improve learning in medical students (Reid et al., 2005). Richardson (1995) showed that students who were taught by traditional methods would score higher in the tests concerning concepts and definitions, while they scored lower in the

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tests concerning creation and innovation. Spiegel et al (1994), in a research on physiology and anatomy students taking part in 14-hour long study skill courses showed that retention of medical information using visualization of learning is far more than the students who reread and underlined the text.

Based on this growing body of evidence, many universities worldwide, including York University in Canada, Ferrum college, Berkley University in California, Coke University in Virginia and Dartmouth University have incorporated courses to improve study skills in their academic programmes. Recently Shahid Beheshti University of medical sciences in Iran has followed this initiative (Yazdani & Hosseini, 2004).

Medical students face a huge volume of different subjects with which they are not familiar and on the other hand remembering the various facts and new diagnostic and therapeutic methods seem difficult. Thus, learning all the facts need enough time and regular curriculum planning. This study mentions the nature of learning of medical students at the Zanjan University of Medical Sciences, Iran in order to make further improvement.

Method

In this cross sectional – descriptive study questionnaires were distributed among all the medical students of Zanjan University and collected the next day in spring 2005. Finally 181 (82 %) completed questionnaires were analyzed. Questionnaires included general questions (gender, living place, education grade) and 24 specific questions concerning the study skills and habits with 4 questions pertaining to each area of concentration while studying, time management, note taking while studying, comprehension, reading speed and study habits. Using Likert scale the answers were designed as multiple choice questions (with 5 answers) as completely disagree to completely agree and the answers scored 0 to 4 respectively. Lower scores obtained by students indicated the higher standards in the field; Prior to study validity of the questionnaire was calculated by experts and reliability of them calculated by Cronbach's alpha coefficient (alpha = 0.86).

The median score among different subgroups of respondents was compared. Mann-Whitney U test was used for dichotomous variables and Kruskal-Wallis test for the others. A p value less than 0.05 was taken as statistically significant.

Results

Out of 181 students who completed the questionnaire, 59 (32.6%) were males and 122 (67.4%) females. 27(14.4%) were basic science students 29(16.02%) Pathophysiology students, 52 (28.7%) externs and 73(40.3%) interns. 48(26.5%) of the students lived with parents, 67(37%) lived on campus and 66(63.5%) in rented houses with friends.

The median of obtained scores out of maximum 4 scores were 2.75, 2.25, 2, 1.75, 1.75 and 1.5 for time management, concentration, reading speed, note taking, study habits and comprehension respectively.

Comparison of score medians between gender (table 1) shows that male students scored lower in concentration (p=0.02), time management (p=0.04), and comprehension (p=0.001) compared to females while no significant difference was observed in other areas.

Comparison of score medians in different educational grades shows (table 2) that the students scored lower only in internship in time management and this was statistically significant (p=0.04) and there was no significant difference in other habits and comparison of scores of study habits and skills in different status of living place (table 3) show that students scored lower in study habits, comprehension and note taking compared to other areas. And there was no significant difference in terms of living place.

Table 1: Comparison of Median of Study skills and habits by gender

Variable	Boys (n=59) Median	Girls (n=122) Median	P-Value
Concentration	2 (1.2 -2.7)*	2.25(1.7 – 3)	0.02
Time management	2.5 (2- 3)	2.75 (2.2- 3.2)	0.004
Reading speed	2 (1.5 - 2.5)	2.25 (1.5 - 2.7)	0.13
Study habits	1.75 (1.2 – 2.2)	1.75 (1.2 – 2.2)	0.47
Comprehension	1.25 (0.7 – 2)	1.75 (1.2 – 2.5)	0.001
Note taking	1.5 (1 – 2)	1.75 (1.2 – 2.2)	0.23

n= Number, *= Data in parenthesis is inter-quartile range

Table 2 : Comparison of Median of Study skills and habits in different stages

Variable	basic science (n=25)	Pathophysiology (n=29)	Externs (n=52)	Interns (n=53)	p value
Concentration	2 (1.2 -2.7)*	2.5(1.3 – 2.8)	2.25(1.7 -2.9)	2.25(1.3 – 3)	0.88
Time management	2.75 (1.2-2.2)	2.75 (2.2- 3.5)	2.75 (2.5- 3.2)	2.25 (1.7- 3)	0.04
Reading speed	2 (1.2 - 2.5)	2 (1.7 - 2.7)	2 (1.5 - 2.7)	2.25 (1.5 - 2.7)	0.6
Study habits	2 (1.5 – 2.2)	1.5 (1.2 – 2.2)	1.75 (1.2 – 2.2)	1.5 (1.2 – 2.1)	0.15
Comprehension	1.5 (1 – 2.2)	2.25 (1.2 – 2.6)	1.5 (1.2 – 2.2)	1. 5 (1 – 2.3)	0.18
Note taking	1.5 (1 – 2.5)	2 (1.2 – 2.3)	1.75 (1.2 –2.2)	1. 5 (1 – 1.8)	0.16

Table 3 – Comparison of Median of Study skills and habits in different living type

Variable	with parents (n=48)	Campus (n=67)	Rented houses with friends. (n=66)	p value
Concentration	2.25 (1.5 -3)*	2.25(1.5 – 2.7)	1.17(17 -2.7)	0.88
Time management	2.75 (2.2-3.2)	2.5 (2- 3)	2.75 (2- 3.2)	0.18
Reading speed	2.25 (1.6 - 3)	2 (1.2 - 2.2)	2.25 (1.5 - 2.75)	0.08
Study habits	1.62 (1.2 – 2.5)	1.5 (1.2 – 2)	1.75 (1.2 – 2.2)	0.39
Comprehension	1.5 (1 – 2.5)	1.5 (1.2 – 2)	1.75 (1.2 – 2.5)	0.32
Note taking	1.62 (1.1 – 2.2)	1.75 (1 – 2)	1. 5 (1 –2.2)	0.86

n= number, *= Data in parenthesis is inter-quartile range

Discussion

In this research medical students were compared in terms of study habits and skills. Based on study results the most marked problems were in the areas of time management, concentration, reading speed, note taking, study habits and comprehension, respectively. This is in accordance with Stark's study (2008).

Comparison of scores in study skills and habits in terms of gender showed that male students scored lower in comprehension, concentration and time management, than female students with a significant difference indicating a better condition of male students in these areas compared with female students.

Investigation of obtained scores in study skills and habits in terms of education grade indicated that interns had the least trouble regarding the time management. This difference was significant. It appears that students acquire a proper experience in time management in the course of time.

Investigation of students, score in study habits and skills in terms of living place showed that in spite of no significant difference between different living places, most students scored higher in concentrations, time management and reading speed, implying a higher requirement in those areas.

Conclusion

It appears that students possess better status in comprehension, study habits and note taking compared to other areas and interns had better scores in time management, thus, we suggest that training courses be established in study habits and skills at the universities in order for the students to gain the information at that their entrance.

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