Journal of Research in Medical and Dental Science
2018, Volume 6, Issue 5, Page No: 240-245

Available Online at: www.jrmds.in
eISSN No. 2347-2367: pISSN No. 2347-2545

Evaluation of Study Habits among General Medical Students and its Relation with Test Anxiety in Ahvaz Jundishapur University of Medical Sciences, Southwest of Iran

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ABSTRACT

Introduction: Investigating the study habits and students' test anxiety and its impact on their academic status leads to a measure towards their desired learning. Therefore, this research was conducted for evaluation of study habits among general medical students of Ahvaz Jundishapur University of Medical Sciences and its relation with test anxiety.
Materials and Methods: This is a descriptive-correlational study done through three standard questionnaires and by census sampling method. Its statistical population includes all medical students of Ahvaz Jundishapur University of Medical Sciences, Southwest of Iran. For analyzing the data, the descriptive (mean, standard deviation, percentage, etc.) and inferential statistics and SPSS version 22 were used.
Results: A total of 170 students who had at least one year of study had participated in this research. Our results indicate that students' test anxiety was mild (33.41 ± 8.8) and their study habits were relatively desirable and moderate (47.27 ± 9.24). There was also an inverse relationship between test anxiety and students' habits (r=-0.13), but it was not statistically significant (p=0.619).
Conclusion: Habit and study skills are one of the most important factors affecting academic achievement in students. Replacing effective reading skills and effective study habits while minimizing test anxiety is of very effect in getting better learning.

Key words: Test anxiety, Study habits, Medical students, Iran

HOW TO CITE THIS ARTICLE: Abdolreza Gilavand*, Evaluation of study habits among general medical students and its relation with test anxiety in Ahvaz Jundishapur university of medical sciences, Southwest of Iran, J Res Med Dent Sci, 2018, 6 (5):240-245

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Received: 24/09/2018
Accepted: 08/10/2018

INTRODUCTION

One of the broadest realms of research in recent decades has been anxiety and its related areas. Recent studies have shown that anxiety disorders have the highest frequency in the total population. One of the forms of these disorders is the test anxiety [1,2]. The test anxiety comprehends unpleasant emotional feelings and experiences and the concern in situations in which a person feels that his or her performance is being evaluated [3]. Also, the test anxiety refers to a state through which a person is exposed to fear about his/her ability to perform a task, and its consequence is a reduction in the ability to cope with the test position [2]. Test anxiety is common among students and is one of the serious problems of education and also a concern of the educational system [4]. The high test anxiety is associated with many factors, some of which include: Low self-confidence, inadequate study, negative attitude towards university, fear of failure and history of previous failures; other important factors associated with test anxiety can be incorrect habits of study [5]. Studies have shown that students' mental health is inversely related to their academic failure [6,7]. Also, studies conducted in Iran have shown that the religious beliefs can also play a positive role in mental health and academic achievement of students [8]. In several studies, it has also been argued that test anxiety can negatively affect students' study habits and have an inverse relationship with their academic achievement [9-11]. Methods or skills of study are a set of skills used to learn [12]. These methods are different depending on the purpose of learning and are essential to success at the university and to obtain excellent scores. Given that with the development of science, learning all of them require time and planning [13]. A fruitful study is dependent on two factors of interest in the reading content and the skillful application of study techniques. Interest in the reading content makes an individual to deal with further study and further study leads to become better the use of the techniques of study [14]. Typically, students are evaluated in a variety of tests during and at the end of each semester, but they do not receive any advice on how to study and test. They spend a lot of time studying,

but they think very little about improving their reading skills. They continue to study in the same manner as in high school.

After being accepted in the university, it takes months to adapt students themselves to the differences between school and university, and usually at the end of university after gaining a lot of experience, some of them learn the best ways to study, but most of them even at the end of the course do not properly learn the methods of study [15]. Learning textbooks and scientific information does not just mean reading these materials, but it means digestion of them. In other words, the content of the textbooks requires active reading to prepare these materials for brain digestion. Obviously, the lack of choosing the correct method of study not only causes the loss of energy and time, but also the tendency toward bad habits, but it can be one of the important causes of backwardness and even academic failure [16], and can also cause the majority of students to be confused and anxious and affect their performance in exams [1,2]. In each educational system, the amount of "academic achievement" of students is one of the indicators of success in academic activities. Measuring the amount of academic achievement and the factors affecting it are among the main subjects that have attracted the attention of researchers [6,7]. Therefore, it is necessary to improve the learning situation, increase the accuracy, speed and quality of reading and comprehension, identify and institutionalize effective learning and study methods in order to increase the academic achievement of the students; naturally, first of all, the recognition of skills of and approaches to the study is essential. One of the important factors that can increase students' motivation and academic achievement is to learn the study and learning skills [17]. Most students are struggling to study and learn, but because they are weak in the skill of learning and study, many of their efforts are wasted [18]. In a review conducted in the end of 2017, Gilavand has examined the status of study habits among Iranian medical science students. After reviewing all the researches done in this regard, he reported the status of students' study habits and study skills in Iran University of Medical Sciences to be moderate [19]. Each student has a unique study style that may even be different, despite the same age, cultural and religious backgrounds [11]. Sometimes students may spend a lot of time for study; they are unaware of knowing the reading skills and understanding what they are reading. Investigating the study habits and students' test anxiety and its impact on their academic status leads to a measure towards their desired learning. Therefore, this research was conducted to evaluation of study habits among general medical students of Ahvaz Jundishapur University of Medical Sciences and its relation with test anxiety, southwest of Iran.

MATERIAL AND METHODS

This study is a descriptive-correlational research done in 2018 by using questionnaire and census sampling method. Its statistical population includes all general medical students in Ahvaz Jundishapur University of Medical Sciences, southwest of Iran. Of course, only students have been evaluated of who at least one year have been passed since their studies. Three questionnaires have been used. The first questionnaire includes the students' demographic data such as: Gender, marriage, age, academic year, being native or non-native, satisfaction and lack of satisfaction with the university and field of study (Table 1). To measure students' study habits, the 45-question standard questionnaire of Pulse and Sharma Study Habits (PSSHI) has been used. The questionnaire was comprised of 8 components: Time division (5 questions), physical status (6 questions), reading capability (8 questions), noting (3 questions), learning motivation (6 questions), memory (4 questions), holding exams (10 questions) and health (3 questions); according to the questionnaire's instructions, for response always or more times the score 2 was determined, sometimes 1, and rarely or never zero; thus the total minimum score is zero and the maximum is 90. The higher scores indicate good study habits. The total score of study habits in three sections of adverse study habits (the score less than 30), relatively desirable (the score less than 31-60) and desirable (the score greater than 61) were classified. Its validity and reliability have been confirmed in numerous previous studies in Iran, including studies of Fereidouni et al. [20]. Accordingly, the reliability of the retest was 0.88, the internal consistency was 0.65 and the standard-dependent validity was reported to be 0.74. To measure students' test, the test anxiety inventory (TAI) has been used. This questionnaire contains 25 four-option questions (never=0, rarely=1, sometimes=2, and often=3), with a minimum score of zero and a maximum of 75; higher scores represent the students' high test anxiety. Therefore, the amount of anxiety has been classified into four levels: Severe, moderate, mild and non-anxiety. Validity and reliability of this questionnaire have been confirmed in previous studies in Iran, including the study of Cheraghian et al. [9]. For analyzing the data and descriptive statistics (mean, standard deviation, percentage, etc.) the SPSS version 22, was used.

Table 1: Students' demographic characteristics

Variables	Medical faculty
	Number (percent %)
Gender	
Man	49 (28.8)
Woman	121 (71.2)
Total	170 (100)
Marriage	
Single	141 (82.9)
Married	29 (17.1)
Total	170 (100)
Ahwaz native	
Yes	91 (53.5)
No	79 (46.5)
Total	170 (100)
Satisfaction with university	

Yes	58 (34.1)
No	112 (75.9)
Total	170 (100)
Satisfaction with field of study	
Yes	90 (52.9)
No	58 (47.1)
Total	170 (100)
Academic year	
2	5 (2.9)
3	50 (29.4)
4	49 (28.8)
5	31 (18.2)
6	13 (7.7)
7	18 (10.6)
8	4 (2.4)
Total	170 (100)
Age	
Under 20	11 (6.5)
21-25	102 (60.0)
26-30	48 (28.2)
Over 30	9 (5.3)
Total	170 (100)

RESULTS

In total, 170 general medical students from Ahvaz Jundishapur University of Medical Sciences, being located southwest of Iran, with at least one year of study experience, have participated in this study whose characteristics have been shown in Table 1. Of these, 28.8% of students are male and 71.2% of them are female. 82.9% of students are single and the rest are married, 53.5% are native and the rest are non-native, 34.1% of them were satisfied with their university. 52.9% of them were satisfied with their chosen field of study. Also, 6.5% of them were in the age group under 20 years old, 60% of them in the age group of 26-30 and 5.3% of them had over the age of 30. Also 2.9% of students were in the second year of study, 29.4% of them in the third year of study, 28.8% of them in the fourth year of study, 18.2% of them in the fifth year of study, 7.7% of them were in the sixth year of study, 10.6% of them in the seventh year of study and 2.4% of them in the eighth year of study.

According to Table 2, the mean and standard deviation of students' test anxiety is (33.41 ± 8.8); it is evaluated to be mild according to the ranking of the questionnaire.

Table 2: Amount of test anxiety in a medical faculty

Mean ± Standard deviation	Minimum	Maximum
33.41 ± 8.8	13	47

On the basis of Table 3, the time division score was 5.1 ± 2.2 of 10, the physical status score was 6.8 ± 2.3 from 12, the reading capability was 8.1 ± 1.6 from 16, the noting score was 3 ± 1.8 of 6, the learning motivation score was 6.9 ± 2.1 of 12, the memory score was 4.2 ± 1.2 of 8, the score of holding exams was 10.3 ± 2.5 of 20 and the health score was 3.1 ± 069 of 6. The total mean and standard deviation of the questionnaire were evaluated by 47.27 ± 9.24. Therefore, according to the total scores of the questionnaire, the students' study habits under study were relatively favorable and moderate (47.27 ± 9.24).

Table 3: Mean of areas related to study habits

Areas (score interval)	Mean ± Standard deviation
Time division (0-10)	5. 1 ± 2.2
Physical status (0-12)	6. 8 ± 2.3
Reading capability (0-16)	8. 1 ± 1.6
Noting (0-6)	3 ± 1.8
Learning motivation (0-12)	6. 9 ± 2.1
Memory (0-8)	4. 2 ± 1.2
Holding exams (0-20)	10. 3 ± 2.5
Health (0-6)	3. 1 ± 0.69
Total (0-90)	47. 27 ± 9.24

In Table 4, the results of studying the views of students regarding the impact of the research main variables on the study habits of general medical students of Ahvaz Jundishapur University of Medical Sciences and the severity and weakness of the options of the questionnaire (most often, sometimes and never) have been given; most of respondents have chosen the option "Sometimes" among these three choices. Accordingly, they have selected the variables of health (64.7%), reading capability (60.3%), memory (58.8%), learning motivation (56.9%), physical status (52%), holding exams (50%), time division (47.1%) and noting (45.1%).

Also, there was an indirect and inverse relationship between test anxiety and students' study habits. So with the increase in anxiety, students' study habits are disturbed (r=-0.13), but it has been not become statistically significant (P=0.619).

DISCUSSION AND CONCLUSION

In general, according to research hypotheses, three general conclusions can be drawn from this research. The first conclusion is that the students' anxiety is mild. Alzahem et al. conducted a systematic review of the amount

Table 4: Students' comments on the effect of research main effects study habits

Response		Time division (%)	Physical status (%)	Reading capability (%)	Noting (%)	Learning motivation (%)	Memory (%)	Holding tests (%)	Health (%)
Medicine	More times	27.1	30.4	20.6	27.5	29.4	23.5	26.5	19.6
	Sometimes	47.1	52	60.3	45.1	56.9	58.8	50	64.7
	Rarely or never	21.2	12.7	18.4	23.5	13.7	16.2	23.5	15.7
	Undetermined	4.6	4.9	0.7	3.9	0	1.5	0	0
	Total	100%	100%	100%	100%	100%	100%	100%	100%

of stress on British dentistry students. The most important source of stress reported in this review was student exams [21]. Hashemi et al. measured the level of anxiety and its causes in medical students and showed that the highest test anxiety was due to the length of the exam period, lack of physical activities and large volume of courses [22]. Maimanee reported that test anxiety increases blood lipids such as triglycerides by stimulating the autoimmune system and the type of test has a significant difference in the triglyceride levels in individuals, which is higher in periodic exams than in the final exams [23]. Latas et al. examined the test anxiety in Belgrade's medical students and showed that the students had a moderate degree of exam anxiety and that female students had significantly higher test anxiety than male ones [24]. Afzal et al. showed that the test stress in medical students of the fourth year and the last year was more than the second and third year. They concluded that in total the test stress in the students under study was high [25]. Mohammadi et al. have assessed the test anxiety of medical students of Kermanshah University of Medical Sciences [26]. Also, Yousefi et al. have also assessed the test anxiety of medical students of Kurdistan University of Medical Sciences as to be relatively high [27]. Torabi et al. also showed that the students of dentistry in Kerman University of Medical Sciences have some levels of test anxiety [28].

Also, the second conclusion of this research showed that the study habits of the students under study were relatively favorable and moderate. It is consistent with the Gilavand's review who has investigated all studies conducted in Iran [19]. Also, Abazari et al. has evaluated the study habits of students of Zahedan University of Medical Sciences as to be moderate [29]. Also in a research conducted on the dentistry students at Kerman University of Medical Sciences, Torabi et al. evaluated the students' reading habits as to be moderate [28]. Fereidouni et al. have also evaluated the study habits of students of Abadan Faculty of Medicine as to be moderate [20]. Almdar et al. also evaluated the study habits of students of Rafsanjan University of medical sciences as to be moderate [30]. Torshizi et al. also evaluated so the study habits of students of Birjand University of Medical Sciences [31]. In an investigation by Zarezadeh et al. also the study habits of students of Kurdistan University of Medical Sciences are moderate [32]. In the study of Madmoli et al. also the students' study habits of Dezful University of medical sciences moderately have been assessed so [33]. Nourian et al. also have evaluated the students' study habits of Zanjan University of Medical Sciences as to be moderate [34]. Alimohamadi et al. also evaluated so the study habits of nursing students of Hamedan University of Medical Sciences [35]. Also, there was a positive and significant relationship between the mean score of study habits and the academic performance of the students of this university. Amini et al. also showed that most medical students of Shiraz University of Medical Sciences use their deep and strategic attitude for their study [36].

Also, the third conclusion of this research showed that there is an inverse relationship between test anxiety and students' study habits. So, with increasing anxiety level, the students' study habits also get disturbed. In two separate researches conducted among dental students of Ahvaz Jundishapur University of Medical Sciences, as well as on the students from different fields of Islamic Azad University of Ahvaz, Gilavand et al. showed that there was a significant and inverse relationship between mental health and students' academic achievement. In a research entitled Mental Health and its relation with academic achievement in students of Faculty of Nursing and Midwifery of Tabriz, [6,7]. Namdar et al. have observed a significant relationship between mental health and their educational achievement. So, with increasing mental health (lower overall score in the test), the students' average (as an index of academic achievement) increases [37]. Also, in a similar research, Mirkamali et al. observed a significant relationship between mental health and academic performance of students at Birjand University [38]. Ramezani et al. have investigated the relationship between the test anxiety and the academic performance of nursing and emergency medical students. In this research, there was no significant relationship. It was inconsistent with our research [10]. Also, Cheraghian et al. did not find a significant relation between the test anxiety and the academic performance of nursing students in Abadan Faculty of Medical Sciences. This result is not consistent with our research [9].

In this research, there was a significant inverse correlation between the level of test anxiety and the study habits by medical students. Test anxiety is not a new category and has always been one of the problems of the educational system, both public and private, in Iran and abroad. Of course, the problem in medicine may be doubled due to employment in a clinical environment and close contact with patients and close connection with physical and mental health problems of patients. Since the test anxiety is a multifactorial phenomenon and various factors affect its creation and continuity, it may be possible to achieve some ways that actively reduce test anxiety for helping students' learning to effectively manage anxiety, which is a challenging task, through teamwork of students, parents, professors, educational advisers and university directors. Also, habits and study skills are one of the most important factors affecting academic achievement in students. Replacing effective reading skills and useful study habits while minimizing the test anxiety is very effective in getting better learning and education.

Some limitations of this research are the psychological states of the person when completing the questionnaire, the time and honesty in answering and proper understanding of oneself, as well as the lack of acceptance of the students to complete the questionnaires due to the length of their questions; these are some main conditions of the correctness of the research and some factors may have contradicted this.

ETHICAL CONSIDERATIONS

Ethical issues were completely observed by the authors.

ACKNOWLEDGMENTS

This project was funded by the National Agency for Strategic Research in Medical Education, Tehran, Iran. Grant No 960437.

CONFLICTS OF INTEREST

Authors declare there is no conflict.

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