



Medical Students' Perceptions of Educational Environment of SBMU

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ABSTRACT

Introduction and goals: Learning environment has an important role on the process and the quality of education. The purpose of current research was to determine the perception of the medical trainers from the educational environment of the Shahid Beheshti University of Medical Sciences (SBUMU) using a DREEM (Dundee Ready Education Environment Measure) survey. Methods: This is a qualitative study in which 160 male and female students of medical faculty of SBUMU, whom had passed minimally 6 months of their clinical training period, were randomly selected from the proper trainers at the time. A demographic epidemiologic questionnaire and a Persian form of DREEM survey was utilized to evaluate the samples. The validity and reliability of the survey was investigated in other articles and here we have calculated a Cronbach-alpha of 0.75 for internal consistency. The survey consists of 50 questions and 5 subscales with a total score of 0 to 200. Data analysis was performed following the DREEM guideline. Further, the relationship between the age, gender, entrance year and the training ward is investigated. Results: The comprehensive perception of medical trainers from the course indicated a mean of 143.08 ± 17.89 according to DREEM survey. The result of 5 subscales of DREEM (consisting of the trainers' perception of learning, trainers, the educational statuses of the students, the atmosphere or the educational environment and social status of the students) showed that (63.1%) of the medical students had a positive perception from their learning (34.6 ± 29.16) and none of them indicated a very weak perception (0.00%). (63.1%) of the trainers had a right attitude (30.5 ± 18.60) and a wrong attitude was not seen in this study (0.00%). (58.8%) of the students had a positive perception of their educational status (19.76 ± 4.60), a totally wretched sensation was not seen in current research (0.00%). (61.3%) of the students had a positive perception of the educational atmosphere (35.06 ± 5.72), and a panic from the environment was zero percent. (50.00%) of the students described a satisfactory social status for themselves (21.2 ± 54.62) and an unsatisfactory perception of social status was zero percent for the trainers. The students' perception from their learning process, trainers and social status according to their age, gender, the educating year and the surgical and non-surgical wards did not indicate a meaningful difference statistically. The students' perception from their educational status according to their age and sex did not show any significant difference statistically, but according to the educational year and the surgical or non-surgical wards there were a significant statistical difference. Discussion and conclusion: The result of current evaluation determined that for a development and progression in the educational environment of medical training in SBMU, one should work on the interactive student-based approaches of learning and educating, a more concentrated connection between content with occupations' subjects and an increased support for the students to develop a better access to the facilities and a diminution in their stress and anxiety.

Keywords: Perception; Educational atmosphere; Training; Medical students; DREEM; Learning quality

INTRODUCTION

Recently, the educational atmosphere has become of a subject of interest [1]. Educational atmosphere is an important factor in behavior determination and it indicates the students' perception from the surrounding environment [2]. The atmosphere of an educational environment is an indicator for learning motivation, because it will amplify the behaviors which cause a better learning and educational progress. Different studies indicated a meaningful level of students' perception of their educational environment and their success stage, satisfaction and acquiesce [3-9]. The atmosphere and a environment ruling on learning is often related to the performing of the educational curriculum schedules, the professors' trends toward the learning of behavioral and organizational culture of the institute, the students' perception of educational atmosphere and their perception of the social status. DREEM survey is a quantitative instrument for measurement of the educational environments' conditions, which is introduced by Dr. Sue Rough et al. in the Dandy University of Scotland in 50 items [10,11]. This is a tool for recognition of educational schedules and the effectiveness of educational transformation and also determination of a real environment and a satisfactory environment. Sue Rough believes that, the survey is an international and generic tool and it does not belong to certain culture or area [1]. The current tool was utilized in different phases of undergraduate medical education (UME) evaluation, consisting of clinical phases [4-9]. The validity and reliability of the survey in Farsi was recently measured by Soltani Arabshahi [11]. The purpose of the current research was to determine medical students' perceptions of educational environment of SBMU according to this tool. The curriculum of medical doctorate program was deeply modified from 1383 to approach the new educational strategies. After 6 years of these interactions in clinical training, this evaluation is performed to reach a more thorough perception of educational atmosphere of the program. The students who participated in current program was high school graduate students who entered the University by Concours examination. These students had 2 years and half phase of basic sciences, a half year phase of introduction to clinical sciences, two years of stagier and two years of internship and at last they will become an independent medical doctor.

METHODS

In this qualitative study 160 medical students of 3 entrance year (88,89,90) of the medical faculty of SBMU was randomly selected from the stagiers which have passed at least 6 months of their training course. In current study pediatric, infectious diseases, dermatology and neurology and psychology wards is defined as non-surgical and the surgical wards consist of orthopedic and female surgical wards. A demographic questionnaire consisting of age, gender, the entrance year and the ward of training was attached to the Farsi form of standard DREEM survey consists of 50 special questions, with a five measured scale of Likert (from very satisfactory to unsatisfactory) in five part of learning, trainers, the educational status of the students, the educational environment and the social status of the students was recruited. 9 items out of 50 items of DREEM survey (questions number 4,8,9,17,25,35,39,48 and 50) were negative and had invert scores. The total score of the survey was 200 for all the questions. According to the DREEM guideline a score between 0 to 50 was in the unsatisfactory level, 51-100 was semi-satisfactory, 101-150 was satisfactory and 151-200 was perceived as very satisfactory. The validity of the Farsi form of the survey was proved by a Cronbach-alpha rate of 0.75. The result from quantitative data was reported as mean and standard deviation (Mean \pm SD) and the qualitative variables were defined as the numbers (the percentage). For analysis of the data a SPSS version 17 was utilized.

RESULTS

According to the data of the research, 82 medical students (51.3%) had an age of 22 and the average age and the standard deviation of the age was 22.46 \pm 0.97 and 109 students (68.1%) were female. 89 trainers (54.9%) were in non-surgical wards and 71 students (43.80%) were in surgical wards. The mean and the standard deviation of the questions were detailed in the tables 1 to 5. The mean of every question should be 2.5 according to the DREEM guideline [18]. The total average of the male and female students of the educational atmosphere of training course was 143.08 \pm 17.89. the total mean of students' perception of the learning of themselves was (34.6 \pm 29.16) and (63.1%) of the students had a positive perception of their learning and taught-based learning were only reported in 36.10% of female students and 27.50% of the male students (Table 1). The total average of students' perception in teaching part was (30.5 \pm 18.60) and (63.1%) of trainers had a right movement (Table 2). The total mean of the students' perception of their educational status was (19.76 \pm 4.60) and (58.8%) of the students had a positive perception of their status (Table 3). The total average of students' perception in the educational environment was (35.06 \pm 5.72) and (61.3%) of the students had a positive perception from that (Table 4). The total average of students' perception from their social status was (21.2 \pm 54.62) and (50%) of the students described a satisfactory social status (Table 5). The only surprising result in current study was that the

perception of the medical students from their educational status according to the age ($\chi^2 = 8/72$, p-value=0/319) and gender ($\chi^2 = 4/45$, p-value= 0/20) did not show any significant difference statistically. However, a significant difference was present with their relation to the entrance year ($\chi^2 = 17/11$, p-value=0/001) and the ward's type ($\chi^2 = 9/43$, p-value=0/015). In other elements and parts, there were no meaningful difference in gender, age, educational year and the ward type (surgical, non-surgical).

Table 1: Learning domain questions

| Row | Questions | Average | Standard deviation |
|-----|---|---------|--------------------|
| a | How do you think the learning process during the training? | | |
| 1 | I am encouraged to participate in class (including the classes and hospital rounds) | Mar-08 | Jan-19 |
| 2 | The teaching helps to develop my confidence | 2/59 | Jan-07 |
| 3 | The teaching encourages me to be an active learner | 2/77 | Jan-09 |
| 4 | The teaching is well focussed | Feb-23 | 0/56 |
| 5 | The teaching helps to develop my competence | 2/71 | Jan-10 |
| 6 | I am clear about the learning objectives of the course | Mar-09 | Jan-02 |
| 7 | The teaching is often stimulating | 2/63 | Jan-06 |
| 8 | The teaching time is put to good use | Feb-05 | 0/69 |
| 9 | The teaching is student centred | Feb-01 | 0/67 |
| 10 | Long term learning is emphasised over short term learning | 2/44 | Jan-17 |
| 11 | The teaching is too teacher centred | Mar-19 | Jan-04 |
| 12 | The teaching over-emphasises factual learning | 3/67 | Jan-08 |

Table 2: The questions about trainers

| Row | Questions | average | Standard deviation |
|-----|---|---------|--------------------|
| b. | How do you think the trainers acted? | | |
| 13 | The teachers are good at providing feedback to students | Mar-08 | 0/99 |
| 14 | The trainers has a good relationship abilities with the patients | 3/56 | 0/88 |
| 15 | The teachers are enough knowledgeable | Mar-02 | 0/74 |
| 16 | The teachers give clear examples | 3/51 | 0/86 |
| 17 | The teachers are well prepared for their session (including the classes and rounds) | 2/41 | 2/95 |
| 18 | The teachers provide constructive criticism here | 2/87 | 0/97 |
| 19 | The teachers ridicule the students | 2/87 | Jan-05 |
| 20 | The teachers get angry in the classes and rounds | Mar-24 | Apr-16 |
| 21 | During the sessions (classes and rounds) the teachers acts authoritarian | Mar-20 | Jan-07 |
| 22 | The trainers behave patiently with the patients | Mar-31 | 0/95 |
| 23 | The students irritate the teachers | 2/82 | Jan-10 |

Table 3: The questions about the educational status

| Row | Questions | average | Standard deviation |
|-----|---|---------|--------------------|
| c. | What do you think of your educational status in this course? | | |
| 24 | I am able to memorise all I need | 2/31 | Jan-01 |
| 25 | Much of what I have to learn seems relevant to a career in medical sciences | Feb-04 | 0/63 |
| 26 | I feel I am being well prepared for my career | 2/78 | Jan-20 |
| 27 | The education in this ward makes me prepared for my future medical career | 2/99 | Jan-10 |
| 28 | My problem-solving skills are being well developed here | 2/88 | Jan-08 |
| 29 | I am ensured to do well my duties as a medical doctor | Mar-05 | Jan-01 |
| 30 | I learned many things of sympathy in this work | Mar-14 | Jan-13 |
| 31 | Learning strategies which worked for me before continue to work for me now | Mar-24 | Jan-07 |

Table 4: The questions about the educational environment

| Row | Questions | Average | Standard deviation |
|-----|---|---------|--------------------|
| d. | What do you think of educational environment during training period? | | |
| 32 | The atmosphere is relaxed during laboratory/practical/fieldwork classes | 2/97 | Jan-12 |
| 33 | I feel able to ask the questions I want | 3/41 | 2/68 |
| 34 | I feel comfortable in class socially | Mar-26 | Jan-08 |
| 35 | There are opportunities for me to develop my interpersonal skills | Feb-11 | 0/63 |
| 36 | The atmosphere is relaxed during seminars/tutorials | 2/96 | Jan-07 |
| 37 | The enjoyment outweighs the stress of the course | 2/86 | Jan-25 |
| 38 | The atmosphere motivates me as a learner | 2/80 | Jan-09 |
| 39 | I am able to concentrate well | Feb-16 | 0/67 |
| 40 | The atmosphere is relaxed during lectures | 2/86 | Jan-12 |
| 41 | The course is well timetabled | 2/42 | Jan-19 |
| 42 | I find the experience disappointing | Mar-06 | Jan-15 |
| 43 | Cheating is a problem in this faculty | Mar-03 | Jan-25 |

Table 5: The social status questions

| Row | Questions | Average | Standard deviation |
|-----|--|---------|--------------------|
| e. | What do you think about your social status during the training period? | | |
| 44 | I have good friends in this faculty | 3/87 | Jan-07 |
| 45 | There is a good support system for students who get stressed | 2/31 | Jan-12 |
| 46 | I am too tired to enjoy the course | Mar-23 | Jan-16 |
| 47 | I am rarely bored on this course | 2/54 | Jan-17 |
| 48 | My accommodation and facilities is pleasant | 2/00 | 0/73 |
| 49 | My social life is good | 3/66 | 0/97 |
| 50 | I seldom feel lonely | 1/98 | 0/74 |

DISCUSSION

The purpose of current study was to determine medical students' perceptions of educational environment of training atmosphere in the SBMU according to DREEM survey. The results of the study indicated that the majority of the students described a positive perception in educational atmosphere of training with a mean of 34.29 ± 6.16 , the trainers in the atmosphere with an average of 30.18 ± 5.60 , the educational status in the training atmosphere with a mean of 19.76 ± 4.60 , the training atmosphere with a mean of 35.06 ± 5.72 and the social status within the training program with an average of 21.54 ± 2.62 .

In a study from Avalos et al. (2007) on all the students of medical doctorate in first semester, the mean of the total score of educational atmosphere was 130 ± 3.65 which the high mean of this study can be caused from the satisfaction of the students in higher education learning environment [10]. In the current research, (61.3%) of the students (35.5 ± 06.72) had a positive perception of educational atmosphere; however, in the study from Abraham et al. (2008) in India the average of students' perception from the educational environment in the first year was 28 ± 48 and in the clinical phase was 30 ± 48 [9-12]. The average of the students' perception from their social status in the educational atmosphere of the training course in the present study was 21.54 ± 2.62 and in the study from Bakhshi et al. (2013) in Iran was 15.3 ± 3.7 [13]. A satisfactory perception of the students from their social status can be interpreted as a good evaluation from the training environment and it means they had a good relationship from the society aspect in the environment; however, a suitable supportive system, an increased basic life facility can help the students to feel less lonely and it can decrease the stress probability (Table 5).

The data from present study indicated a less than average of 2.5 in subject concentration, appropriate utilization of education time, emphasis on the long-term learning and student-based learning. In the trainer part, the preparation for the educational session and in the educational status part, two items of memorizing all the notes and relation to the future medical occupation had a less than expected average. In the educational atmosphere part, three items of the relationship opportunities to other people, curriculum scheduling and student concentration and in the social status part three items of a supportive system in the stressful conditions, the suitable life facilities and loneliness feelings of the students had a less than normal average. These subjects can brighten the major weak points in the wards, in addition to the points that should be focused in these wards. A focus on the job-related subjects along with a better scheduling on the learning process is suggested to ameliorate the concentration; also a student-based course in learning which can deepen the learning process is recommended. Further, there should be a program for augmentation of the relationship. Also, working on the supporting system for the students and increasing the facilities can increase the students' satisfaction and can help development of educational atmosphere. Teaching the relationship abilities and increasing the opportunity for relationship with others can decrease the social stresses, ameliorate the problem-solving abilities and progress the self-confidence (Table 1).

The significance relation between educational status and the educational environment with the type of wards along with the negative sensation and less positive attitude can alert us about the basic difference of such learning environment in addition to the necessity of rethinking about these atmospheres (Table 3). Although, (58.8%) of the students had a positive perception of their educational status (19.4 ± 76.60), a group of them that their learning process were lengthened due to any issue had positive sensations; this can be because of their separation from the other classmates but the personal problems cannot be neglected (Table 3).

CONCLUSION

The total average of the male and female students indicated that the educational environment of the University is suitable for medical training (without gender concerns); however, due to a total score of 200, a more related tries should be done. Thus, the importance of clinical training is a subject of interest for giving the students the real scenarios for clinical preparation [3]. The clinical phase of education is the headstone of the clinical training. The medical students enter a hardly structured environment which aims to prepare them for being an independent doctor [4]. Contrary to the courses in class, the clinical education is performed in a complicated

social environment that many factors affect it [5]. In such environment the students develop their attitude, qualification, the social relationship, the critical thinking and the ability of problem-solving [6]. Chan (2005) believe that such environment can help the students to progress in knowledge, attitude and psychomotor actions to empower their social abilities, problem solving, critical thinking and professional/clinical qualifications [7]. The results show that the time dispensed for the patients during the training period can develop the positive perception of the students from their learning quality [8,9].

REFERENCES

- [1] K Boor. The Clinical Learning Climate. Amsterdam: Vrije Universiteit Amsterdam, **2009**.
- [2] D Soemantri; C Herrera; A Riquelme. *Med Teach*, **2010**; 32(12), 974-952.
- [3] R Varma; E Tiyagi; JK Gupta. *BMC Med Educ*, **2005**, 5(1): 8.
- [4] JM Genn. *Med Teach*, **2001**; 23(4), 337.
- [5] B Unnikrishnan; T Rekha; P Mithra; N Kumar; B Reshmi. *Indian J Community Med*, **2012**, 37(2), 130-132.
- [6] DF Carmody; A Jacques; H Denz-Penhey; I Puddey; JP Newnham. *Med Teach*, **2009**, 31(12), e596-602.
- [7] M Taheri. *J Med Edu*, **2009**, 13(4).
- [8] IH Al-Ayed; SA Sheik. *Eastern Mediterr Heal J*, **2008**, 14, 4.
- [9] R Abraham; K Ramnarayan; P Vinod; S Torke. *BMC Med Edu*, **2008**, 8(1), 20.
- [10] G Avalos; C Freeman; F Dunne. *Ir Med J*, **2007**, 100(7), 522-525.
- [11] S Dunn; L Ehrich; A Mylonas. *J Nurs Educ*, **2000**, 3(99), 393-400.
- [12] S Roffs; S Mcaleer; A Skinner. *Med Teach*, **2005**, 27(4), 326-331
- [13] H Bakhshi; F Abazari; MH Bakhshialiabad. *Malays J Med Sci*, **2013**, 20(4), 56-63.