Family medicine residents’ educational environment and satisfaction of training program in Riyadh

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**Abstract**

**Background:** Improving health outcome indicators worldwide needs well-trained family physicians, and the Kingdom of Saudi Arabia (KSA) is no exception from that need. **Objectives:** To address the level of satisfaction and assess the educational environment among residents of family medicine (FM) in Riyadh city. **Methodology:** A cross-sectional study; the Postgraduate Hospital Educational Environment Measure (PHEEM) was used to assess the educational environment for all FM residents in fully structured training centers that include all levels of residents in Riyadh during 2016. **Results:** About 187 surveys were distributed and 140 were collected, with a response rate of 74.87%. Cronbach’s alpha scored at 0.917 for overall items. Out of 160 maximum score, the overall score of the PHEEM was 86.73 (standard deviation [SD]: 19.46). The perception of teaching score was 33.11 (SD: 8.80) out of 60, the perception of role autonomy score was 28.60 (SD: 7.35) out of 56, and the perception of social support was 25.02 (SD: 5.43) out of 44. **Conclusion:** The educational environment is an important determinant of medical trainees’ achievements and success. The results are better than what had been found in the previous studies, but more attention and effort should be done, especially for the poorly rated points in this study. We recommend a continuous evaluation and reconstruction of the Saudi Board of FM program, and such results could be a tool that might help in fostering better and stronger educational program.

**Keywords:** Education, family medicine residents, satisfaction, training program

**Introduction**

Improving health outcome indicators worldwide needs well-trained family physicians, and the Kingdom of Saudi Arabia (KSA) is no exception from that need. Residency training programs in family medicine (FM) have been in existence for a number of years as reported in studies carried out in the United States[2] and KSA.[3] Despite being mandatory, FM training programs differ from all other training programs in their shorter duration (usually 2 or 3 years in North America and 4 years in KSA) and their broader scope of learning within this period.[4,5] As an essential part of quality assurance procedures, educational organizations need to evaluate their educational processes.[1] The scientific board of the Saudi Commission for Health Specialties (SCFHS) has reviewed the whole curriculum of FM training of KSA, but nothing of note has been done for the evaluation of the hospital clinical rotation training part of the program.[4] As per one of the studies from eight centers across KSA conducted mainly on the medicine specialty clinical rotation and published in 2006, the authors found that the majority of trainees were not satisfied with the rotation.[9] They were treated as service residents, rather than FM trainees.[9] Moreover, these findings were in consistency with the results of similar national and international studies, coming up with the conclusion that postgraduate FM training programs are in a need for evaluation and implementation according to the residents’ views and perceptions.[10,11]

The educational environment, sometimes referred to as climate, atmosphere, or tone, is a set of factors that describe what it is.
like to be a learner within that organization, and it has been previously considered in three divisions. These three divisions are the physical environment (safety, food, shelter, comfort, and other facilities), the emotional climate (security, constructive feedback, being supported, and absence of bullying and harassment), and the intellectual climate (learning with patients, relevance to practice, evidence-based, active participation by learners, motivating, and planned education).

In reference to the study that had been published by Khoja in 2015, there are five basic reasons that make the evaluation of the educational environment a matter of importance and interest. These five reasons are first, provision of an insight for the prospective trainee and trainers; second, being a central part in curriculum development; third, exposure of the informal and hidden curriculum; fourth, being a tool for quality assurance and improvement; and fifth, provision of vital evidence for change and policy development.

In KSA, the Scientific Board of the Saudi Board of FM (SBFM), which works under the umbrella of the SCFHS, is the one supervising all postgraduate FM programs. The FM residency training program provides supervised guided learning opportunities for FM in ambulatory care and hospital-based medicine in a 4-year, fulltime, and supervised residency training program. The structure and rotations of the SBFM program curriculum at the time of the current study were as follows: 6-week introductory course, and in the following years up to end of R3, trainees undergo different rotations in various specialties apart from a 3-month rotation in family practice each year. The trainee will spend the entire 4th year in FM practice. The research methodology and fieldwork rotation are to be taken at R2. The community medicine course is to be taken at R3.

In the current version of the training program, there are many noticeable changes; some of them are summarized as follows: (1) all rotations of the training program, as well as educational activities, are described in a competency-based format with clear objectives according to The Canadian Medical Education Directives for Specialists (FM) framework, (2) addition of a list of the most important clinical topics and procedures in FM as well as universal topics, new regulations regarding attendance and punctuality, new section about mentoring, and a new section on rules and regulations (resident job description, chief resident, and levels of supervision), and (3) drastic change and revision of the assessment of every rotation.

The main aim of the current study was to assess the educational environment and satisfaction of the SBFM training program that might give us a clue to the changes happened since the previous study.

Methodology

We set out to assess the educational environment and satisfaction among training FM residents in four training well-established centers (King Khalid University Hospital, National Guard Hospital, Prince Sultan Military Medical City, and Security Forces Hospital) in Riyadh city, KSA that cover all levels of residency from R1 to R4. For the assessment of the educational environment, we used the Postgraduate Hospital Educational Environment Measure (PHEEM) questionnaire as a self-administered tool that has been recommended before by the research advisory group, a group of medical educators at SCFHS, trainers, and residents. This questionnaire is valid, reliable, and transferable tool that was previously reported to be used in both educational evaluation as well as the evaluation of the rotational based training programs. It has 40 statements with the respondents who were asked to indicate their agreement using a 5-point Likert scale; these range from strongly agree (4), agree (3), unsure (2), disagree (1), to strongly disagree (0). Agreement with the items indicates a “good” environment giving high scores. The four negative statements (questions 7, 8, 11, and 13) were scored in reverse so that the higher the score, the more positive the environment. Information on gender and seniority in terms of the grade of post were also requested as part of the questionnaire.

Besides using the PHEEM, we add one more question about the satisfaction of training program. The study was approved by the Institutional Review Board of King Saud University. A pilot study was conducted on ten residents from different specialties who answered the questionnaire within 5 min without facing any difficulties. After that, the PHEEM questionnaire together with the consent form was given to the chief residents in each center to be distributed. All residents’ identification data were kept confidential.

Statistical analysis

Data were analyzed using Statistical Package for Social Studies (SPSS 22; IBM Corp., New York, NY, USA). Continuous variables were expressed as mean ± standard deviation, and categorical variables were expressed as percentages. The Cronbach’s alpha was used to assess reliability and internal consistency of the items in the questionnaire. Chi square test was used for categorical variables. P < 0.05 was considered as statistically significant.

Results

Out of 187 FM resident trainees who were asked to participate in this study, 140 accepted to participate with a response rate of 74.87%. 132 out of the 140 completed the questionnaire. These were drawn from four training centers within Riyadh that cover all levels of residency from R1 to R4. The numbers of residents within each residency level from R1 to R4 were 41 (31.06%), 39 (29.55%), 29 (21.97%), and 23 (17.42%), respectively. There were 85 (64.39%) male trainees and 47 (35.61%) female trainees [Table 1].

Cronbach’s alpha was calculated and scored at 0.917 for overall items. When this was analyzed to each question in turn, using the
Table 1: Distribution of the study participants by gender and training level

| Gender     | n (%)         |
|------------|---------------|
| Male       | 85 (64.39)    |
| Female     | 47 (35.61)    |

| Training level | n (%)         |
|----------------|---------------|
| R1             | 41 (31.06)    |
| R2             | 39 (29.55)    |
| R3             | 29 (21.97)    |
| R4             | 23 (17.42)    |

“alpha if item deleted,” no significant improvement was noticed in the score, thus confirming all the questions were relevant and should be included and also reflecting excellent reliability and internal consistency of the items in the questionnaire [Table 2].

Table 3 shows the summary of the response for each question in addition to the subscales and overall scale scores, in which we calculated the mean and the median to give a better overall view of the results. From the whole 40 statements, only one statement (I have good collaboration with other doctors in my grade) was highly rated (mean value >3) and 13 statements were poorly rated (mean value 2 or less).

The aggregate scores to identify measures of the environment as overall, and in terms of perception of teaching, perception of role autonomy, and perception of social support, were also summarized in Table 3. Out of 160 maximum score, the overall score of the PHEEM was 86.73 (standard deviation [SD]: 19.46). The perception of teaching score was 33.11 (SD: 8.80) out of 60, the perception of role autonomy score was 28.60 (SD: 7.35) out of 56, and the perception of social support was 25.02 (SD: 5.43) out of 44 [Table 3].

Table 4 shows the frequency of trainees that falls into each of the PHEEM scales’ domains. Overall, considering the training environment as excellent was only rated by three (2.3%) residents while the majority of them (62.9%) considered it more positive than negative. In regard to the perceptions of teaching, only 12 (9.1%) residents believed that the teachers were model teachers, while 67 (50.8%) residents believed that the teachers are moving in the right direction, 52 (39.4%) residents believed that the teachers need retraining, and only one resident believed that the teachers are poor. For the perception of role autonomy, majority of the residents were divided between the scales of either a negative view of one’s role (47.0%) or more positive perception (46.2%), leaving only 3.0% who believed excellent perception of one’s job and 3.8% who believed poor. About the perception of social support, only 7 (5.3%) believed good support, the majority (65.9%) rated more pros than cons, leaving 36 (27.3%) residents who were not pleasant and two (1.5%) believed that the social support is nonexistent.

In regard to the question of the satisfaction of the training program [Table 5], the participants were asked to rate their satisfaction level as strongly disagree, disagree, undecided, agree, or strongly agree. It was found that only 2.27% of the participants strongly agree, 31.82% agree, 24.24% undecided, 35.61% disagree, and 6.06% strongly disagree that the training program was satisfied for them. There was no significant difference (P = 0.076) between males and females in terms of the degree of satisfaction with the training program. It was found that only three females strongly agree that they are satisfied, while none of the males reported that. When the satisfaction degree was stratified according to the residency level (R1–R4), no statistically significant difference was found (P = 0.097). Unfortunately, none of the R3 or R4 residents rated strongly agree, while only two in R1 and only one in R2 report that. With the exception of R1, the vast proportion of the FM residents rated their degree of satisfaction as either disagree or undecided.

Discussion

The vital role of the educational environment in the learning process is well known. In this study, we have shown that the PHEEM questionnaire has a set of reliable items that can be used for measuring the educational environment and identifying the strength and weakness of a medical residency program within FM (Cronbach’s alpha 0.917), and this has been also shown by different studies.[12,14–17]

Our study showed that, overall, item 16, which assesses the good collaboration between the residents and other doctors in their grade, was the only highly rated point with a mean score of 3.08, and this did not differ much from what has been reported by Binsaleh, where they found no overall real positively rated points.[19] We also found that 26 items seemed satisfactory with a mean score between 2 and 3, and the remaining 13 were poorly scored which means that these 13 items need an effort to be resolved. Compared to the study published from KSA by Khoja,[8] the current study showed better results in terms of the items’ scores, where he reported 30 (75%) items that were poorly scored compared to 13 (32.5%) items in the current study. Despite this good improvement, these poorly rated items mean that the FM residents still struggle to reach the intended goal of the training program. The lowest recorded score was 1.36 for item 18 (I have the opportunity to provide continuity of care), a situation that can be easily solved by assigning patients to same residents on every visit.

Poorly rated questions included questions 6, 21, 22, and 39 from the perception of teaching domain. These questions assess the presence of good clinical supervision at all time, the access to an educational program relevant to the trainee need, getting regular feedback from seniors, and if the clinical teachers provide the trainees with good feedback on their strengths and weakness. This is an indication that there is a significant lack of good clinical supervision, a finding that is comparable with what had been previously reported from local studies, where 64% of FM residents indicated that they lack close supervision.[20] Feedback is well known to promote...
trainees' academic and professional development, and that many learning opportunities are wasted if they are not accompanied by feedback from an observer. Unfortunately, our trainees rated such kind of feedback as poor.
Other poorly rated questions included Q1, Q9, Q18, Q29, and Q30 from the perception of role autonomy, which assess the presence of a contract of employment that provides information about hours of work, an informative junior doctors’ handbook, an opportunity to provide continuity of care, feeling of being a part of a team working in the institution, and opportunities to acquire the appropriate practical procedures for the trainees’ grade.

Questions from the social domain that were poorly rated were Q13, Q25, and Q26. These questions assess the following: the presence of (no) sex discrimination in the program, no-blame culture, accessible catering facilities, and good counseling opportunities for junior doctors who fail to complete their training satisfactorily.

### Table 3: Mean and median of each question, overall and subscale scores

| Item number | Statement                                                                                     | Mean±SD      | Median |
|-------------|-----------------------------------------------------------------------------------------------|--------------|--------|
| **Perception of teaching**                                                                                      |              |        |
| Q2          | My clinical teachers set clear expectations                                                   | 2.00±0.95    | 2.00   |
| Q3          | I have protected educational time in this program                                             | 2.24±1.03    | 2.00   |
| Q6          | I have good clinical supervision at all time                                                   | 1.75±1.10    | 1.50   |
| Q10         | My clinical teachers have good communication skills                                           | 2.61±0.82    | 3.00   |
| Q12         | I am able to participate actively in educational events                                        | 2.86±0.86    | 3.00   |
| Q15         | My clinical teachers are enthusiastic                                                         | 2.17±0.90    | 2.00   |
| Q21         | There is access to an educational program relevant to my needs                                | 1.79±1.06    | 2.00   |
| Q22         | I get regular feedback from seniors                                                           | 1.61±1.07    | 1.00   |
| Q23         | My clinical teachers are well organized                                                       | 2.06±0.96    | 2.00   |
| Q27         | I have enough clinical learning opportunities for my needs                                    | 2.07±0.99    | 2.00   |
| Q28         | My clinical teachers have good teaching skills                                                | 2.43±0.89    | 3.00   |
| Q31         | My clinical teachers are accessible                                                          | 2.76±0.74    | 3.00   |
| Q33         | Senior staff utilize learning opportunities effectively                                       | 2.27±0.80    | 2.00   |
| Q37         | My clinical teachers encourage me to be an independent learner                                | 2.60±0.85    | 3.00   |
| Q39         | The clinical teachers provide me with good feedback on my strengths and weaknesses           | 1.89±1.10    | 2.00   |
|             | Cumulative scores of the above items out of 60                                              | 33.11±8.80   | 25.00  |
| **Perception of role autonomy**                                                                               |              |        |
| Q1          | I have a contract of employment that provides information about hours of work                 | 1.95±1.01    | 2.00   |
| Q4          | I had an informative induction program                                                        | 2.12±0.97    | 2.00   |
| Q5          | I have the appropriate level of responsibility in this program                                | 2.27±1.03    | 3.00   |
| Q8          | I have to perform inappropriate tasks                                                         | 2.48±1.09    | 3.00   |
| Q9          | There is an informative junior doctors’ handbook                                              | 1.69±1.06    | 2.00   |
| Q11         | I am bleeped inappropriately                                                                  | 2.39±0.83    | 2.00   |
| Q14         | There are clear clinical protocols in this program                                            | 2.01±1.05    | 2.00   |
| Q17         | My hours are enough to do the new task I was given                                            | 2.04±0.99    | 2.00   |
| Q18         | I have the opportunity to provide continuity of care                                           | 1.36±1.15    | 1.00   |
| Q29         | I feel part of a team working here                                                            | 1.83±1.09    | 2.00   |
| Q30         | I have opportunities to acquire the appropriate practical procedures for my grade            | 1.64±1.00    | 1.00   |
| Q32         | My workload in this job is fine                                                               | 2.15±1.07    | 3.00   |
| Q34         | The training in this program makes me feel ready to be a registrar/senior registrar           | 2.11±0.95    | 2.00   |
| Q40         | My clinical teachers promote an atmosphere of mutual respect                                  | 2.58±1.03    | 3.00   |
|             | Cumulative scores of the above items out of 56                                               | 28.60±7.35   | 26.00  |
| **Perception of social support**                                                                              |              |        |
| Q7          | There is racism in this program*                                                              | 2.92±1.03    | 3.00   |
| Q13         | There is sex discrimination in this program*                                                 | 1.77±1.26    | 1.00   |
| Q16         | I have good collaboration with other doctors in my grade                                       | 3.08±0.76    | 3.00   |
| Q19         | I have suitable access to careers advice                                                      | 2.17±0.95    | 2.00   |
| Q20         | This hospital has good-quality accommodation for junior doctors, especially when on call     | 2.17±1.24    | 3.00   |
| Q24         | I feel physically safe within the institution environment                                       | 2.92±0.90    | 3.00   |
| Q25         | There is a no-blame culture in this program                                                    | 1.77±1.06    | 2.00   |
| Q26         | There are adequate catering facilities (Cafeterias and food supply) when I am on call        | 1.92±1.27    | 2.00   |
| Q35         | My clinical teachers have good mentoring skills                                               | 2.12±0.99    | 2.00   |
| Q36         | I get a lot of enjoyment out of my present job                                                | 2.07±1.04    | 2.00   |
| Q38         | There are good counseling opportunities for junior doctors who fail to complete their training satisfactorily | 2.11±0.82    | 2.00   |
|             | Cumulative scores of the above items out of 44                                               | 25.02±5.43   | 25.0   |
|             | Cumulative scores of all items out of 160                                                    | 86.73±19.46  | 91.0   |

*Questions with reverse scoring. SD: Standard deviation*
culture in the program, and adequate catering facilities when they are on call. These results of the last two questions are in accordance with what had been reported previously.\(^3\) It seems that the trainees are unsatisfied with the catering, a situation that can be easily solved by proper training and site management. The current study showed that the educational climate in FM has sex discrimination within these posts despite the concept that both male and female should have the same rights and opportunities in the postgraduate training in KSA. We were glad to find that there was low level of perceived racism, which is in a line with the UK study\(^{12}\) and in contrast with previous studies\((19–21)\) that had reported a common bullying.

It is worthy to mention that the current study results revealed important issues in the FM training program. Ranking an overall score of 86.73 from 160 (53.93%), that as per the Khoja et al.’s score, occurs in the area of more positive than negative which means a good overall educational environments, a result which is quite good compared to the previous studies from KSA.\(^3,19\) The perception of teaching score was within the area of moving in the right direction, which also considered better than the previous studies,\(^3,19\) that rated it as need retraining. For the perception of role autonomy, the score was slightly moving to the area of more positive perception, which is a bit better than the study published by Khoja.\(^3\) More pros than cons was the area in which the score of perception of social support rated, an indication of a better social support for the FM residency program in KSA than before.\(^3\)

In general, the trainees were dissatisfied with the training program. There was no significant difference in terms of the degree of satisfaction between the two genders and also among the four levels of residency. This might be an indication that postgraduate FM curriculum might need to be improved, and opinions of residents regarding their training should be taken into consideration.

**Conclusion**

The educational environment is an important determinant of medical trainees’ achievements and success. The results are quite better than what had been found in the previous study,\(^3\) but more attention and effort should be done, especially for the poorly rated points in this study. We recommend a continuous evaluation and reconstruction of the SBFM program, and such results could be a tool that might help in fostering better and stronger educational program.

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| **Table 4: Frequency of trainees in each postgraduate Hospital Educational Environment Measure scales’ domains** |
| --- | --- | --- |
| **Domain** | **Interpretation of score** | **Frequency (%)** |
| **Total score** | 0-40 very poor | 1 (0.8) |
| 41-80 plenty problems | 45 (34.1) |
| 81-120 more than – | 83 (62.9) |
| 121-160 excellent | 3 (2.3) |
| **Perceptions of teaching** | 0-5 poor | 1 (0.8) |
| 16-30 need retraining | 52 (39.4) |
| 31-45 moving in the right direction | 67 (50.8) |
| 46-60 model teachers | 12 (9.1) |
| **Perceptions of role autonomy** | 0-14 poor | 5 (3.8) |
| 15-28 a negative view of one’s role | 62 (47.0) |
| 29-42 more positive perception | 61 (46.2) |
| 43-56 excellent perception of one’s job | 4 (3.0) |
| **Perceptions of social support** | 0-11 nonexistent | 2 (1.5) |
| 12-22 not pleasant | 36 (27.3) |
| 23-33 more pros than cons | 87 (65.9) |
| 34-44 good support | 7 (5.3) |

| **Table 5: Satisfaction of training program by gender and training level** |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Strongly disagree** | **Disagree** | **Undecided** | **Agree** | **Strongly agree** | **P** |
| Over all | 8 (6.06) | 47 (35.61) | 32 (24.24) | 42 (31.82) | 3 (2.27) |
| Gender |  |  |  |  |  | 0.076 |
| Male | 7 (8.24) | 33 (38.82) | 19 (22.35) | 26 (30.59) | 0 (0.00) |
| Female | 1 (2.13) | 14 (29.79) | 13 (27.66) | 16 (34.04) | 3 (6.38) |
| Training level |  |  |  |  |  | 0.097 |
| R1 | 1 (2.44) | 9 (21.95) | 9 (21.95) | 20 (48.78) | 2 (4.88) |
| R2 | 3 (7.69) | 14 (35.90) | 13 (33.33) | 8 (20.51) | 1 (2.56) |
| R3 | 2 (6.90) | 16 (55.17) | 6 (20.69) | 5 (17.24) | 0 (0.00) |
| R4 | 2 (8.70) | 8 (34.78) | 4 (17.39) | 9 (39.13) | 0 (0.00) |
Conflicts of interest

There are no conflicts of interest.

References

1. Albar AA. Twenty years of family medicine education in Saudi Arabia. East Mediterr Health J 1999;5:589-96.
2. Diaz VA, Chessman A, Johnson AH, Brock CD, Gavin JK. Balint groups in family medicine residency programs: A follow-up study from 1990–2010. Fam Med 2015;47:367-72.
3. Khoja AT. Evaluation of the educational environment of the Saudi family medicine residency training program. J Family Community Med 2015;22:49-56.
4. Accreditation Council for Graduate Medical Education. Common Program Requirements. Chicago, IL: Accreditation Council for Graduate Medical Education; 2007.
5. Liaison Committee on Medical Education of the Association of American Medical Colleges. Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree. Washington, DC: Association of American Medical Colleges; 2007.
6. SBFM, Manual for Training in Family Medicine. 1st ed. Riyadh: Saudi Council for Health Specialties; 2003.
7. Morrison J. ABC of learning and teaching in medicine: Evaluation. BMJ 2003;326:385-7.
8. Saudi Commission for Health Specialties. The Directors and the Accredited Training Program in Family Medicine. Riyadh: Saudi Commission for Health Specialties; 2012.
9. Bin Abdulrehman KA, Dakhel A. Family Medicine residency program in Kingdom of Saudi Arabia: Residents opinion. Pak J Med Sci 2006;22:250-7.
10. Kearley K. An evaluation of the hospital component of general practice vocational training. Br J Gen Pract 1990;40:409-14.
11. Yaman H, Ozen M. Satisfaction with family medicine training in Turkey: Survey of residents. Croat Med J 2002;43:54-7.
12. Clapham M, Wall D, Batchelor A. Educational environment in intensive care medicine - Use of postgraduate hospital educational environment measure (PHEEM). Med Teach 2007;29:e184-91.
13. Alateeq M, Alkhenzan A, Murad M, Alshakh A. Saudi Board Family Medicine Curriculum. Riyadh: Saudi Commission for Health Specialties; 2016. Available from: http://www.scfhs.org.sa/MESPS/TrainingProgs/TrainingProgsStatement/Family/Documents/%D9%88%D8%A5%D9%8A%D8%A8%20%D8%A7%D9%88%D8%A7%D9%85%D8%AC%20-%D8%B7%D8%A8%D8%A7%D9%84%D8%A7%D8%B3%D8%B1%D8%A9.pdf. [Last accessed on 2017 Aug 01].
14. Roff S, McAleer S, Skinner A. Development and validation of an instrument to measure the postgraduate clinical learning and teaching educational environment for hospital-based junior doctors in the UK. Med Teach 2005;27:326-31.
15. Gooneratne IK, Munasinghe SR, Siriwardena C, Olupeluyawa AM, Karunathilake I. Assessment of psychometric properties of a modified PHEEM questionnaire. Ann Acad Med Singapore 2008;37:993-7.
16. Schönrock-Adema J, Heijne-Penninga M, Van Hell EA, Cohen-Schotanus J. Necessary steps in factor analysis: Enhancing validation studies of educational instruments. The PHEEM applied to clerks as an example. Med Teach 2009;31:e226-32.
17. Taguchi N, Ogawa T, Sasahara H. Japanese dental trainee’s perceptions of educational environment in postgraduate training. Med Teach 2008;30:e189-93.
18. Jamieson S. Likert scales: How to (ab)use them. Med Educ 2004;38:1217-8.
19. Binsaleh S, Babaeer A, Alkhayal A, Madbouly K. Evaluation of the learning environment of urology residency training using the postgraduate hospital educational environment measure inventory. Adv Med Educ Pract 2015;6:271-7.
20. Bin Abdulrahman K, Al-Dakheel A. Family medicine residency program in kingdom of Saudi Arabia: Residents opinion. Pak J Med Sci 2006;22:250-7.
21. Gordon J. ABC of learning and teaching in medicine: One to one teaching and feedback. BMJ 2003;326:543-5.