

Curriculum Implementation for Leadership and Teamwork: Medical Students

Opinions Liderlik ve Takım Çalışması için Müfredat Uygulaması: Tıp Öğrencilerinin Görüşleri

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ABSTRACT

Objective: Today's health care system requires the need for primary care physicians to develop leadership competencies. In this study we aimed to describe a medical leadership and teamwork course in undergraduate medical curricula and to share the feedbacks of students.

Methods: This descriptive study was performed at a medical faculty. An elective medical leadership course was developed for the fifth academic year. The curricular format as well as learner and instructor types were presented. A quantitative and qualitative analyses of the data were performed between 2012 and 2015.

Results: Total 537 students (62.9%) selected the medical leadership course. The quantitative analyses comprised students' feedback for the course, while the qualitative part comprised their opinions. Many students provided open-ended responses regarding their opinions about the medical leadership course.

Conclusion: There is necessity of leadership courses in undergraduate medical curricula. Students recognized the need to develop leadership competencies.

Key Words: medical students, curriculum, leadership, teamwork

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ÖZET

Amaç: Bugünün sağlık hizmetleri sistemi dolayısıyla da lisans ve lisansüstü tıp eğitimi müfredatı, doktorların liderlik yeterliklerini geliştirmesini gerektirmektedir. Bu çalışmada tıp fakültesi müfredatında yer alan bir tıbbi liderlik ve ekip çalışması dersini tanımlamayı ve öğrencilerin geri bildirimlerini paylaşmayı amaçladık.

Yöntem: Bu tanımlayıcı çalışma bir tıp fakültesinde yapılmıştır. Beşinci sınıfta yer alan seçmeli bir tıbbi liderlik kursu geliştirilmiştir. Çalışmada müfredat yapısının yanı sıra öğrenci ve eğitici özellikleri sunulmuştur. 2012-2015 yılları arasındaki verilerin nicel ve nitel analizi yapılmıştır.

Bulgular: Toplam 537 öğrenci (% 62.9) tıbbi liderlik kursunu seçti. Nicel analizler öğrencilerin ders için geribildirimlerini içerirken, nitel kısım onların görüşlerini içeriyordu. Pek çok öğrenci, tıbbi liderlik dersi hakkındaki görüşlerine ilişkin açık uçlu yanıtlar verdi.

Sonuç: Tıp fakültesi müfredatında liderlik derslerine ihtiyaç vardır. Öğrenciler, liderlik yetkinliklerini geliştirme ihtiyacının farkına varmışlardır.

Anahtar Sözcükler: Tıp öğrencisi, müfredat, liderlik, ekip çalışması

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INTRODUCTION

There is growing evidence acknowledging the need for doctors to develop leadership and teamwork competencies for high-quality care and they have a significant importance to today's healthcare organizations (1). Medical leadership is the ability to motivate and direct fellow healthcare professionals to work toward best patient outcome and community healthcare (2). While few people are 'natural' leaders, some leadership skills can be taught, and many skills develop with experience, reflection, and guidance. Although some methods are developed for specific conditions, pilot trials followed by fine-tuning are required for developing and establishing general leadership guidelines (2).

Healthcare organizations experience leadership and teamwork challenges because of several reasons. These include the following:

- Healthcare organizations are complex and involve a random collection of several professional establishments and financial institutions.
- A new organizational change is needed to create and effective teamwork among multi discipliner team member.
- The learning and mastering of technical skills are prioritized over the development of leadership skill for physicians.
- Issues involving access, affordability, and high-quality care appear more important than focusing on healthcare leadership (3).

As mentioned previously, the physicians working within this system must be knowledgeable and skilled with respect to team and leadership dynamics and be aware of the culture and functions of the healthcare organization. A physician's professional education should include the basic concepts of team structure and function as well as the concepts of effective leadership (4, 5). Medical schools are entrusted with the responsibility of training physicians to be diagnosticians and understand resource management, financial considerations, and multiprofessional team working (1). Academic health centres or medical schools' hospitals are expected to "develop leaders at all levels who can manage the organizational and systems changes necessary to improve health through innovation in the health education of healthcare professionals, patient care, and research" (6). Although the faculty and students recognize the importance of leadership training (7, 8), the specific values, resources, and practices required for making leadership training a part of the curricula of undergraduate medical education are not defined (6).

In 2008, the School of Medicine in Leeds developed a new curriculum that included leadership training, which was structured as a "spiral curriculum" (9). In 2004, the Wright State University Boonshoft School of Medicine (BSOM) initiated a separate leadership curriculum that was integrated with business management or public health education at an early stage of clinical education (10). At the Duke University School of Medicine, the Duke Leadership and Education and Development (LEAD) program, a student-initiated, four-year longitudinal leadership curriculum was introduced for all first-year medical students during the 2013–2014 academic year (11). Queen's University in Canada conducted a study in order to determine the family medicine residents' opinion on leadership according to CanMeds roles (12). However, to the best of our knowledge, there is no formal leadership program in the curriculum of the medical education in Turkey. Further, only one survey conducted on a limited number of students has emphasized the need for leadership training (13). Our aim and conceptual framework is based on the assumption that leadership in healthcare can be developed and taught. Therefore, this program is the first clerkship programme named, 'Leadership in Medicine' in Turkey since 2012.

The purpose of this study was to describe the formal curricular content of medical leadership and teamwork course and to obtain student feedback regarding the initial implementation of this course.

SUBJECTS and METHODS

We used a mixed methodology, combining the quantitative and qualitative techniques for evaluating the survey. A quantitative as well as qualitative analyses of the data regarding students' feedback were performed between 2012 and 2015. Our institution, the -X- University Faculty of Medicine, offers a 6-year educational programme. During the fifth year, there are compulsory and elective clerkships.

An elective medical leadership course was developed for the fifth academic year of medical school. The curricular format as well as learner and instructor types were presented. In compliance with the needs of the leadership course, 4 faculty members from different departments of the medical school (Medical Education, Obstetrics & Gynaecology, and Nuclear Medicine) initiated this elective clerkship within the existing medical school curriculum. Moreover, as part of the curriculum, guest lecturers from the Turkish Medical Association (TMA), representatives of the World Health Organization (WHO) country office for Turkey, and a physician Parliamentarian/Representative (who were not formal faculty members) were invited as speakers. The faculty for this clerkship formulated the directives and accepted the responsibility of implementing the clerkship program during the fifth academic year.

Clerkship syllabus

The duration of this elective course was 5 business days, and each group comprised 15–20 students. The syllabus of the course is presented in Table 1.

Table 1. Medical Leadership Clerkship Program, -X- University Faculty of Medicine

Day	Topic	Course description
FIRST	Introducing the course	
	Meeting	
	Expectations	
	How do we learn	Discussion (<i>first we implement the learning style inventory, VARK(14)</i>)
	Leadership	Discussion (<i>leadership styles and differences between leadership and management</i>)
SECOND	Physician and Leadership	Discussion (<i>why leadership is important in medicine</i>)
	Managing yourself	Discussion (<i>Book: The 8th Habit</i>) (15)
	Star Guide – Problem Solving and related topics	Discussion
	Meeting with expert – Turkish Medical Association	Discussion
	Meeting with expert – WHO Country Office Representative	Site visit
THIRD	Team Working	Game based learning
	Management of Crisis	Case Discussion (<i>different cases related with management and health topics</i>)
	Meeting with expert – Parliamentarian/Representative	Discussion
	Free time for presentation prep	
	FOURTH	Meeting with expert – Hospital CEO
FIFTH	MoH (Ministry of health) Data management and technologies	Site visit
	Feedbacks Presentations Exam	<i>Presentation skills are evaluated with a structured form by course faculty</i>

The aim and the learning objectives of the course were as follows:

Aim: To ensure that on completion of the course, grade 5 students are able to recognize the value of leadership and its components while practicing medicine.

Learning Objectives:

On completion of this elective course, the term 5 students should be able to:

- Categorize the differences between a leader and an administrator
- Analyse the relationship between leadership and medicine
- Explain the importance of teamwork in healthcare services
- Criticise the components and characteristics of a team and teamwork
- Analyse crisis management
- Use the steps involved in problem solving
- Realize the concept of health management
- Realize the initiative and components of personal leadership
- Make a presentation

We provided the clerkship files to students on the first day of the training. The final grades of the students were calculated by averaging the scores of the written examination and the presentation skills demonstrated in explaining a leadership topic on the last day of training.

The data regarding the number of fifth-year students, students who selected the course, and those who completed the feedback form, according to each year of the study have been presented in Table 2.

Table 2. The distribution of students, -X- Medical School, 2016

	2012-2013	2013-2014	2014-2015	Total
Number of 5th year students	235	268	351	854
Number of students who selected the course	144 (61.3%)	177(66.1%)	216(61.5%)	537 (62.9%)
Number of students who filled the feedback form	90(38.3%)	121(45.1%)	195(55.6%)	406 (47.5%)

The participants gave their feedback on the last day of the training program after the written exam. The form included questions regarding all the theoretical and practical components of the course. The participants were asked to respond to the questions using a 5-point Likert scale.

As we presented the educational programme of leadership clerkship and feedbacks about it Ethics Committee approval did not require. Oral informed consent was obtained from all the study participants.

SPSS v.20.0 for Windows (Chicago, IL, USA) was used for the statistical measurements. The data was expressed as percentages and mean scores.

RESULTS*Quantitative results*

At the end of each training session, feedback was collected and 275 (51.2%) of them were men. Total 62.9% of the subjects selected the training clerkship as an elective from among all the offered clerkships (Table 2). With respect to the learning method, the students gave the highest score of 4.4 to “managing yourself”, 4.3 to “teamwork”, crisis management and TMA (Turkish Medical Association). In terms of contribution to the profession, they gave the highest score of 4.6 to the Ministry of Health (MOH) and 4.5 to the deputies. Expectation had the highest score in terms of satisfaction with 4.4 taking managing self-lessons (Figure 1).

Qualitative data (open-ended opinions)

Many students conveyed their opinions about the medical leadership course via open-ended responses. For example, one student stated:

“I think that the practical foot of this clerkship is very useful and very preliminary in terms of our professional life. At the same time, I was very pleased to express ourselves and make it possible for us to direct the lessons. This clerkship contributed greatly to expanding my horizon in terms of productivity for me.” (Female, 22age.)

Confidence and modest attire were cited as an important quality in a physician for leadership. As one student commented:

“This was a particularly nice elective. I received more than I initially expected. May be I will never find the same opportunity of this reflection again. It was a good experience to discuss our problems with the professional medical people in person. The elective was a very productive term. Thank you. I also did not have an intention on leadership at the beginning, but now I really think I can improve myself in that direction. Thank you for your contributions to this awareness.” (Male, 23age.)

“Ability to work with others in a team” is an important leadership skill. As outlined by one of the participants:

“This elective was very/quite? different from our other clerkships. I always thought that one person would be designated to be the leader. Now I believe that I can be the leader in any venue if when I need to. I also noticed how important the concept of leadership and teamwork is in medicine With this clerkship, I made a journey within myself and left positive effects on me. I think it would be beneficial for the clerkship to be offered in earlier years of medical education.” (Female, 23age.)

Another student reported more active participation as follows: *“It would be more beneficial to get technical information and to learn how to function rather than just sitting in the places where they are going. The Ministry of Health and Ministry of Development may be also included ? the .evaluation of the procedural bureaucracy in health system. Apart from that, I was very satisfied with this clerkship. Thank you.”* (Female, 22 age).

An opinion that led to awareness of leadership was as follows: *“I did not know that the concept of leadership was so important and effective for our profession. I really got insight and awareness... thanks to this clerkship. I believe that this approach is very useful....”* (Male, 22age)

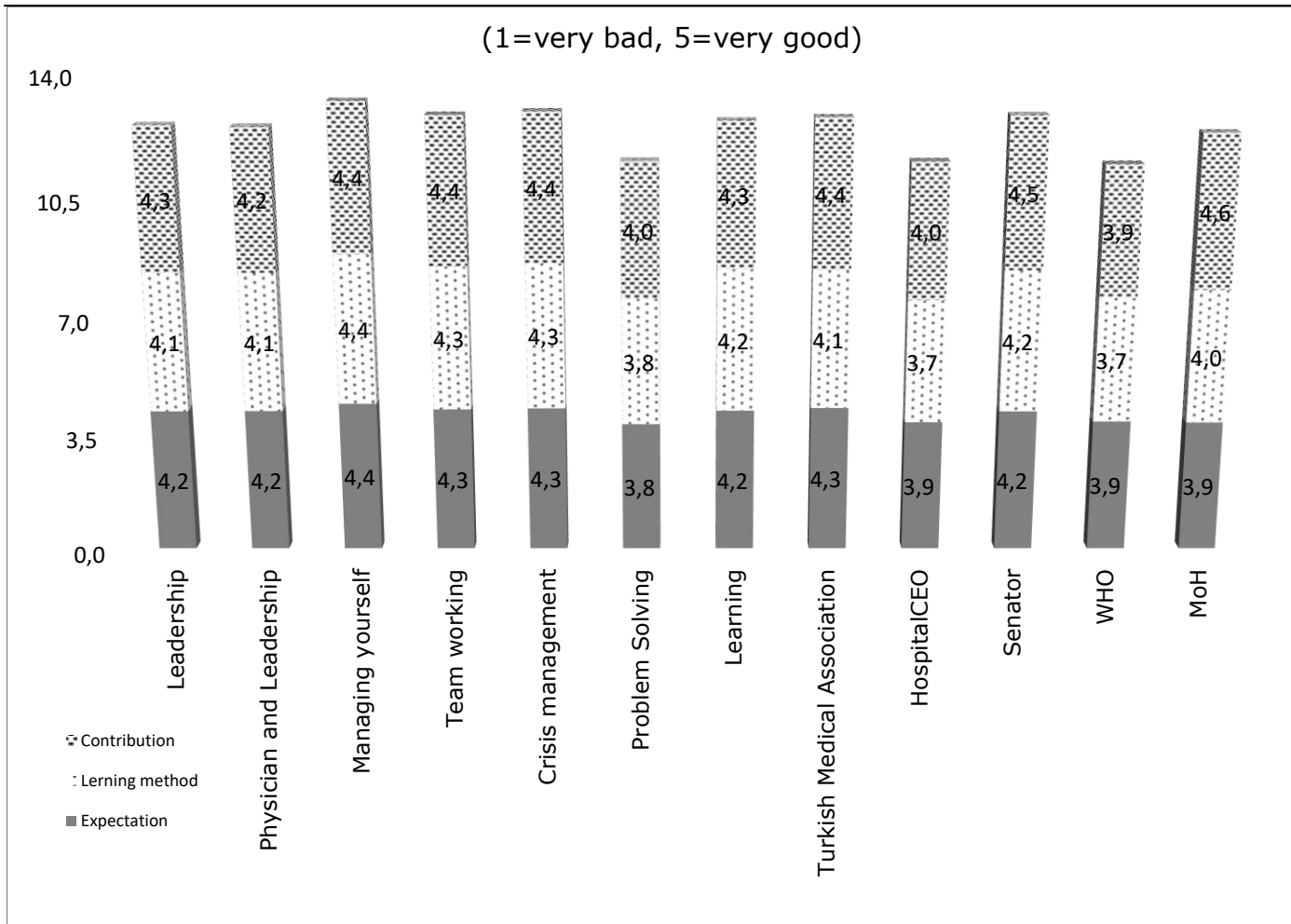


Figure 1: Feedbacks (means of scores)

DISCUSSION

There are very limited studies on leadership curricula and interventions are delivered in a wide variety of formats, and these have lack of standardization (5-7, 9-11). As per the current medical curricula in Turkey, not all medical schools offer leadership as an elective course. However, all the students who chose this elective benefitted from the course in one way or another. Several medical education programs focus solely on the education of management principles and practices (16-18). Although management is a basic component of leadership education, certain other skills are also considered important, such as motivating others, human resource management, budgeting, communication, relationship building, teamwork, and negotiation (19-22).

As Sen (23) stated, "Human development is defended as a goal in itself; it directly enhances the capability of people to lead worthwhile lives, so there are immediate gains in what is ultimately important, while safeguarding similar opportunities in the future. There is hardly any example in the world of the expansion of education and health being anything other than monotone: good education and good health seem to generate powerful demand for these opportunities (and more) for our children".

During the last decade, the importance of leadership training for medical students has been increasingly recognized (4, 24-29). In the United Kingdom (UK), the National Health Service (NHS) has contributed to the development of a competency framework for undergraduate medical education (24, 25). A curricular project in the area of leadership and teamwork has been developed in the United States of America (USA) in partnership with 8 medical schools (4).

In this short report, we have described a systematic, qualitative inquiry regarding a short clerkship program at our institution, a multifaceted leadership education curriculum in integration with undergraduate medical school, business administration, and public health. Although detailed descriptions of medical courses and skills for medical education are available in the literature, there are limited resources that can provide guidance for developing a comprehensive leadership curriculum for medical students.

Three of the 4 students selected the program voluntarily. This indicates the high level of awareness regarding leadership among the students. A study on the awareness of junior medical students regarding leadership revealed that such training may be more valuable if provided along with clinical training (30). Our medical students had maximum benefit points regarding MOH and house parliament members meetings. Another study that reviewed undergraduate medical education in relation to leadership programs indicated that the participation of community leaders such as bankers, ministers, and elected officers facilitated the leadership education in practice (11).

Different leadership education programs are offered in different settings (24, 25, 31). In our institutional program, we used different educational techniques such as discussion, game-based learning, and case discussions. Students reported the best understanding during the discussion based on Steven Covey's "The 8th habit: From Effectiveness to Greatness" (15).

Martins H (7) reported that for most people, leadership is associated with grand posts, high-responsibility positions, and sometimes, charismatic personalities. However, educating a group of medical students requires leading them, in a transformational leadership sense. The results of the inquiry yielded program theory development, program delivery design, a competency based curriculum model design, and a review of existing programs as the basis for a new leadership curriculum.

We believe that this multifaceted approach can also be implemented using more innovative designs by involving other stakeholders and relevant professional resources to ensure high-quality outcomes on course completion with long-term assessment after graduation.

CONCLUSION

The voluntary selection and demand of leadership courses by medical students indicates the awareness regarding the requirement of leadership in the medical profession. Students recognized the need to develop leadership competences. Traditional medical school curricula and doctor models do not fulfil the requirements of today's medical system. The present findings will help future development of leadership training programs in medical education curricula. In addition, undergraduate medical education provides an ideal setting for postgraduate medical programs and for laying the foundation for leadership competencies.

Conflict of interest

No conflict of interest was declared by the authors.

REFERENCES

1. Quince T, Abbas M, Murugesu S, Crawley F, Hyde S, Wood D, et al. Leadership and management in the undergraduate medical curriculum: a qualitative study of students' attitudes and opinions at one UK medical school. *BMJ Open*. 2014;4(6):005353.
2. Giddings AEB, Williamson C. The Leadership and Management of Surgical Teams: The Royal College of Surgeons of England. 2007. Available at: <https://www.rcseng.ac.uk/library-and-publications/rcs-publications/docs/leadership-and-management/>. Accessed February 25 2018
3. Stoller JK. Developing Physician-Leaders: A Call to Action. *Journal of General Internal Medicine*. 2009;24(7):876-78.
4. O'Connell MT, Pascoe JM. Undergraduate Medical Education for the 21st Century: Leadership and Teamwork. *Family Medicine*. 2004;36:S51-S6.
5. Schaik SMV, O'Brien BC, Almeida SA, Adler SR. Perceptions of interprofessional teamwork in low-acuity settings: a qualitative analysis. *Medical Education*. 2014;48:583-92
6. Varkey P, Peloquin J, Reed D, Lindor K, I H. Leadership curriculum in undergraduate medical education: A study of student and faculty perspectives. *Medical Teacher*. 2009;31: 244-50.
7. Martins HM, Detmer DE, Rubery E. Perspectives on management education: an exploratory study of UK and Portuguese medical students. *Medical Teacher*. 2005;27(6):493-98.
8. Barrow M, McKimm J, Gasquoin S. The policy and the practice: early-career doctors and nurses as leaders and followers in the delivery of health care. *Advances in Health Science Education*. 2011;16:17-29.
9. Reid AM. Developing innovative leaders through undergraduate medical education. *Education for Primary Care*. 2013;24(1):61-4.
10. Crites GE, Ebert JR, Schuster RJ. Beyond the Dual Degree: Development of a Five-Year Program in Leadership for Medical Undergraduates. *Academic Medicine*. 2008;83(1): 52-8.
11. Webb AMB, Tsipis NE, McClellan TR, McNeil MJ, Xu MM, Doty JP, et al. A First Step Toward Understanding Best Practices in Leadership Training in Undergraduate Medical Education: A Systematic Review. *Academic Medicine*. 2014;89:1563-70.
12. Grady C, Schultz K, Wolfrom B, Knarr N. Establishing learning objectives for a leadership skills development curriculum in family medicine. *Healthcare Management Forum*. 2019; 32(2): 88-91
13. Coşkun Ö, Karabilgin ÖS, Budakoglu İ, Karaoglu N, Balkan A, Musal B. Tıp Fakültelerinde Ekip Çalışması ve Liderlik Eğitimi (Leadership and Team Working Education in Medical Faculties). Paper presented at 8 Ulusal Tıp Eğitimi Kongresi 2014 (8th National Medical Education Congress); 7-9 May 2014; İstanbul, Turkey:43
14. VARK: Fleming ND, Mills C, Not Another Inventory, Rather a Catalyst for Reflection, To Improve the Academy, Vol. 11, 1992, Page 137.
15. Covey SR. The 8th Habit: From Effectiveness to Greatness. London: Franklin Covey Company; 2004.
16. Yasar YG, Boutsoli Z. Comparison of health management programs in Turkey and Greece. *Health Science Journal*. 2011;5(4):320-34.
17. Medicine HUSo. Public Health curriculum 2017. Available at: <http://www.halksagligi.hacettepe.edu.tr/egitim/donem3.php>. Accessed August 21 2017.
18. Medicine MUSo. Public Health curriculum 2017. Available at: <http://tip.marmara.edu.tr/ogrenci/ders-programlari/2014-2015-ders-programlari#Sinif6>. Accessed August 25 2017.
19. Ciampa E. J, Hunt A. A, Arneson K. O, Mordes DA, Oldham WM, Woo KV, et al. A workshop on leadership for MD/PhD students. *Med Educ Online*. 2011;16.
20. McKimm J, Swanwick T. Leadership development for clinicians: what are we trying to achieve?. *Clinical Teacher*. 2011;8(3):181-85.
21. Rughani A, Lees P. Leadership training: fitness for purpose or fitness for the future? *Education for Primary Care*. 2013;24(1): 15-18.
22. Frugé E, Mahoney DH, Poplack DG, Horowitz ME. Leadership: "They never taught me this in medical school. *J Pediatr Hematol Oncol*. 2010;32(4):304-8.
23. Anand S, Sen A. Human Development and Economic Sustainability. *World Development*. 2000;28(12):2029-49.
24. Stringfellow TD, Rohrer RM, Loewenthal L, Gorrard-Smith C, Sheriff IH, Armit K, et al. Defining the structure of undergraduate medical leadership and management teaching and assessment in the UK. *Medical Teacher*. 2015;37:747-54.
25. Jefferies R, Sheriff IH, Matthews JH, Jagger O, Curtis S, Lees P et al. Leadership and management in UK medical school curricula. *Journal of Health Organization and Management*. 2016;30(7):1081-1104.
26. Bikmoradi A, Brommels M, Shoghli A, Sohrabi Z, Masiello I. Requirements for effective academic leadership in Iran: a nominal group technique exercise. *BMC Medical Education*. 2008;8: 24.
27. Knowles L, O'Dowd C, Hewett DG, Schafer J, Fracgp D, Wilkinson D. The university of queensland medical leadership program: a case study. *Ochsner J*. 2012;12(4):344 47.
28. Frich JC, Gran SF, Vandvik PO, Gulbrandsen P, Hjortdahl P. Knowledge, leadership and quality in the medical school curriculum. *Tidsskr Nor Laegeforen*. 2012;132(15):1768-71.
29. Björck E, Grossmann G, Illerström H, Ponzer S. Leadership and Group Dynamics in undergraduate medical education-a 10year experience. Paper presented at the AMEE 2008. 30 August - 3 September 2008; Prague, Czech Republic:122
30. Martins H. Tetrahedron of medical academics: reasons for training in management, leadership and informatics. *Medical Teacher*. 2009;31(6):547-49.
31. Meador CB, Parang B, Musser MA, Haliyur R, Owens DA, Dermody TS. A workshop on leadership for MD/PhD students. *Medical Education Online*. 2016;21(3):1534.