Professional Behaviours Among Internal Medicine and Surgery Interns: A Professionalism Assessment

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Abstract

Background and purpose: *The development of professionalism skills of medical students is an essential aim of each medical school and evaluation is a vital element in this regard. The purpose of this study was to measure professional behaviors of medical interns in two wards of internal medicine and surgery to acquire the needed information for future interventions and see if the learning context could have a role in making our students professionals.*

Methods: *A questionnaire with ۲٦ items was developed to evaluate professionalism characteristics of all internal medicine and surgery interns during three months of May, June, and July. The questionnaire proved to be valid by a group of experts and reliable through Cronbach's Alph of .۹۲. ۳٥ internal medicine and surgery residents were trained through a workshop to observe interns interactions with patients and colleagues during these three months and evaluate them using the mentioned questionnaire by a ٤ point scale where ٤= exceeded expectations, ۳= met expectations, ۲=below expectation, and ۱= unacceptable. In total, ۱۸۳ questionnaire were filled and analyzed using SPSS software and computed by descriptive statistics, t-test and Pearson Correlation Coeficient.*

Results: *The mean and standard deviation of professional attributes in all interns of both wards were ۲,۸±,٤٤ out of ٤. The highest mean score belonged to the domain of "confidentiality and honesty" (۳,۱۱±,٤۰) and the lowest mean to the domain of "altruism and compassion" (۲,٥۱±,٦۱). No significant difference was observed between male and female interns in professionalism domains. But, there was a significant difference between internal medicine and surgery interns in the domains of "respect for others" (p=.۰۲), "self-improvement" (p=.۰٤) and "altruism and compassion" (p=.۰۲).*

Conclusions: *The total mean of the professionalism shows that interns' professional does not meet expectations. The lower mean scores of surgery interns compared to internal medicine interns in some domains shows that the learning context could have an effect on professional behavior of interns. Combining the assessment in this study with other professionalism assessments in different clinical settings will help reveal a more complete picture of students' professionalism.*

Keywords: *PROFESSIONAL BEHAVIOURS, PROFESSIONALISM, ASSESSMENT*

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Introduction

Medical schools all over the world have long taught the technical aspects of medicine to medical students, but promoting professionalism has recently become a particular issue in medical education. So that, today, professionalism is one of the main subjects discussed both in general medical journals and in specialist medical education journals. It shows professionalism as an area of profound interest to those involved in

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medical education [١]. In this regard, medical schools must accept greater responsibility and accountability for the professionalism of future doctors if the profession of medicine is to maintain the trust of the society.

During their practice, doctors face circumstances full of temptation. Cohen (٢٠٠٦) believes "the ease with which doctors can make undetected, self-serving decisions under the guise of respectability is arguably greater than in any other walk of life" [٢]. This means that doctors are surrounded by situations that persuade them to behave unprofessionally. The authority gap between doctor and patient and many economically seductive opportunities obtainable by doctors increases the need to pay more attention to professionalism issue. Considering the treats to professionalism, the responsibility of medical education in promoting professional characteristics in medical students is undeniable.

While, literature, emphasizes on the importance of the 'informal' and 'hidden' curriculum in transmitting the values of professionalism[٢], in many medical schools formal instruction in both professional values and the cognitive rationale for upholding professionalism are integrated into their curricula. A number of medical schools require specific courses for professionalism in their medical education curriculum and some medical schools have introduced longitudinal, small group learning teams [٣]. In medical schools in Iran, there is no formal education for medical professionalism. Medical students in Iran just pass a two credit course on medical ethics before their clinical course which seems to have little use for their clinical practice. Therefore, most of professionalism characteristics, are expected to be acquired during clinical course through informal or hidden curriculum and from faculties who are expected to be role models. Since, medical students' professional development is an essential aim of each medical school, a vital element in this regard is to evaluate the professional characteristics of medical students. Arnold believes, valid assessment of professionalism requires ٣ critical issues to be addressed first: What should be assessed, how should it be assessed and why should it be assessed? [٤]Therefore before assessment of professional behavior in general practice, these issues have to be first clarified.

Cohen (٢٠٠٦) mentions that "professionalism can be defined for all time as the means by which individual doctors fulfill the medical profession's contract with society." According to literature, the specific attributes that have long been understood to indicate professionalism include: altruism, respect, honesty, integrity, dutifulness, honor, excellence and accountability [٢،٥،٦]. Swick (٢٠٠٠), has offered a comprehensive definition of professionalism including: subordinating one's self-interests to the interests of others, adhering to high ethical and moral standards, evincing core humanistic values, incorporating self-reflection about one's action, exercising accountability, dealing with high levels of complexity and uncertainty, exhibiting a commitment to scholarship, demonstrating a commitment to excellence, responding to societal needs, and reflecting a social contract with communities served [٧]. This definition describes the knowledge, skills and attitude that define professionalism. The focus of the present study is, "humanistic qualities" of professionalism rather than a physicians' knowledge and skills in professionalism. These humanistic characteristics are professional behaviors which are expected to be observable and measurable.

Concerning the second question of how to evaluate professionalism, as Veloski mentions professionalism is among the most difficult domains of doctor competence to measure[٨] and is too complex to be reduced to a simple checklist of individual characteristics and behaviors [٩]. Although a vast range of methods to assess professionalism has been developed [٤،١٠،١١] no single measure is sufficiently reliable and valid to measure professionalism[٢،١٢]. Also, these different

approaches indicate that assessing professionalism is not as straightforward as it might seem[۱۳]. The key to valid assessment of professionalism is focusing on behavior [۱۰،۱۳،۱٤]. Applying terms of behavior for professionalism assessment makes a context-related, reasonable framework for assessment and understanding professional behavior[۱۳]. The purpose of professionalism assessment, since there is no formal education in Isfahan Medical University for professionalism and no curricular theory of professional development, can not just be judging the students. By developing and implementing valid measures of the attributes of professionalism, we can not only acquire the needed information about the clinical education but also improve the professional performance of students and residents. Hence, if we hold students and residents responsible for demonstrating professionalism attributes in an appropriate assessment, they will place a high priority on achieving professionalism standards [۲]. So, the purpose of this study was to measure professional behaviors in medical interns as last year medical students in two wards of internal medicine and surgery, in order to have a better picture of what is going on in our clinical education concerning learning professional behaviors as well as to see if the learning context could have a role in making our students professionals. So by comparing internal medicine and surgery interns we would find out the effect of different settings and learning environment on professionalism promotion. This data also could provide us with necessary information for integrating a formal course for professionalism in medical education curriculum.

Methods

The context of the study: The study took place in Isfahan Medical University in Iran, a developing country in Middle East Asia. Medical Education in Isfahan Medical University takes about ٦,٥ years. These ٦,٥ years are divided to: ۲ years of Basic Medical Sciences, ۱ year Introduction to Clinical Medicine, ۲ years Clerkship and ۱۸ months Internship. The clinical education is mainly consisted of clerkship and Internship. Clerkship students attend the hospital rounds, take history, perform physical examination and so on, but have no responsibility towards patients. But, Interns who are spending their last ۱۸ months of medical education are responsible for their patients and in addition to the mentioned tasks for medical clerks, write patients' order and do all related tasks with the supervision of the faculty members and residents. Interns spend all clinical wards in educational hospitals during their internship and are divided randomly between these wards.

Targeted Professional characteristics: An important consideration for the assessment was to define and specify the characteristics of professionalism this study attempted to measure. Using the existing literature and focusing on Cohens' definition[۲], we define professionalism in this study as having attitude and behavior which encompass characteristics of altruism, compassion and empathy, respect for others, skillful communication, responsibility, acceptance of error, confidentiality and privacy in all patient affairs, and honesty and integrity.

Instrument development: Considering the attributes of professionalism and using other questionnaires for assessing medical professionalism such as Professionalism Mini-Evaluation Exercise (P-MEX), developed and validated in Cruess study [۱٥], a questionnaire including ۲٦ items was developed to ascertain a comprehensive picture of students' professional skills. A ٤-point scale was chosen for the questionnaire where ٤= exceeded expectations, ۳= met expectations, ۲=below expectation, and ۱= unacceptable. Instruction for use were printed on the evaluation questionnaire and a few demographic questionnaire asking about Interns' name, month of internship, the evaluator name and the setting in which evaluation took place were also included at the beginning of the questionnaire. This

questionnaire was designed to evaluate Interns' behavior and interaction with patients in clinical situations such as clinical wards, emergency ward and patients' visit in clinics.
The validity of the questionnaire was confirmed by a group of experts including clinical teachers, medical education experts and people expert in questionnaire development. Also, during the pilot study, ۳۵ residents of general internal medicine and general surgery ward completed the questionnaire after observing an encounter between an intern and a patient. Based on their feedback, the questionnaire was revised. The reliability of the questionnaire based on Cronbach's Alpha in pilot study on ۳۵ interns was .۹۲.

Selecting the study sample: In order to evaluate the professional behavior learnt through medical education course in Isfahan University of Medical Sciences, the Interns (who were spending their last ۱۸ months of medical education period), were selected to be assessed. Since general internal medicine and general surgery are both considered two major wards during clinical course and also play an important role in graduates' future practice, all interns working in these two wards during ۳ month of May, June and July were selected to be observed and evaluated. As it was mentioned before, the interns were randomly assigned to these two wards. The number of Interns for each month in two internal medicine and surgery wards are between ۵۵ and ۶۰ which makes the total interns to be evaluated during ۳ months, about ۱۸۰ interns.

Implementation of assessment: Since this study intended to evaluate professional behaviors of Interns, observing their behavior through their clinical course was the best way for this evaluation. Residents, due to interacting with interns during patients' visits and evening shifts, compared to faculties, have a better awareness about interns' behavior in clinical settings. Therefore, second and third year residents of general internal medicine and general surgery were invited to participate in a ٤ hour workshop about professionalism assessment. Instructions on using the questionnaire were provided for residents during the workshop and also as printed. The residents were instructed to observe interns during one or two month they were working together either in clinical or emergency wards and evaluate them on a ٤ point scale based on at least ۳ direct observation of their interaction with patients. The Interns were not aware of being observed and evaluated, so behaved naturally. Also, the evaluation results were confidential and only available to the researchers.

Data analysis: Data was analyzed by SPSS-۱۵ software. Descriptive statistics were computed on demographic and contextual data. Confirmatory factor analysis of the items was performed for defining the domains of the questionnaire. For further analysis t-test and Pearson correlation coefficient were used.

Results

During ۳ months of May, June and July of the year ۲۰۰۹, ۳۵ trained residents, filled ۱۸۳ questionnaires based on their observations of Interns' behavior in clinical settings. Before performing the statistical analysis, the data were explored. The analysis of responses showed that the raters of ۵ observations did not pay attention to the meaning of the scale and gave the highest score of ٤, to ۵ interns meaning that those ۵ interns demonstrated too much of every professional domain. Therefore, these five questionnaires, due to being outlier were excluded from the study. No other anomalies were recognized.
Out of ۱۷۸ interns being observed during these three months, ۶۳ were male and ۱۱۰ were female. Concerning the wards they were observed in, ۱۲۰ observations took place in internal medicine and ۵۸ in general surgery ward. A frequency distribution of the responses was analyzed which is presented in table ۱. Table ۱ shows the mean and standard deviation for each questionnaire item. The highest mean scores belong to items ۱۷, ۲۵ and ۲۶, respectively which are about '

appropriateness of intern's appearance', ' honesty towards patient' and 'being a trustworthy person as a whole'. These items are among the items with the highest frequency rate in scales ۳(met expectations) and ٤ (higher than expectation). The lowest mean scores belong to items ۱۱, ٦ and ۷, respectively, which are concerning 'looking for feedback about performance', 'making sure of patient care in different stages' and 'defending patients' rights'. These items have the highest frequency rate in scale ۱ (unacceptable).

Table ۱. The frequency distribution of the responses, the mean and standard deviation of each questionnaire item

No	Questionnaire items	Unacceptable (%)	below expectations (%)	met expectation (%)	Exceeded expectations (%)	Mean	SD
۱	Listens actively to patient	۳,۹	۳۹,۳	٥۰,٦	٦,۲	۲,٦۰	.٦۷
۲	Behaves towards patient as a person (not just a case)	۲,۲	۳۳,۱	٥٦,۲	۸,٤	۲,۷۱	.٦
۳	Shows respect for patient	۱,۱	۳۳,۷	٥۳,۹	۱۱,۲	۲,۷٥	.٦٦
٤	Pays attention to all patient's needs	۹,٦	۳۳,۳	٥۰,۸	٦,۲	۲,٥٤	.۷٥
٥	Accepts inconvenience to meet patient needs	۸,٥	۳۹,۲	٤٦,۰	٦,۳	۲,٥۰	.۷٤
٦	Makes sure of patient care in different stages	۱۳,۰	۳٦,۲	٤۰,۱	۱۰,۷	۲,٤۸	.۸٥
۷	Shows respect for patient rights	۹,۷	٤۰,۳	٤۲,٦	۷,٤	۲,٤۸	.۷۷
۸	Maintains appropriate boundaries with patient	۱,۷	۳۳,۹	٥۷,٦	٦,۸	۲,٦۹	.٦۲
۹	Demonstrates awareness of limitations in patient care and behaves accordingly	.٦	۲,۷	٦۳,۸	۱٤,۹	۲,۹۳	.٦۱
۱۰	Admits his own error	۱,۳	۳۲,٦	٥۰,٦	۹,٦	۲,٦۲	.۷٦
۱۱	Seeks for feedback about his performance	۱۲,٤	۳۹,۹	۳۹,۹	۷,۹	۲,٤۳	.۸۱
۱۲	Accepts feedback	٦,۲	۳٦,٥	٤٦,۱	۱۱,۲	۲,٦۲	.۷٦
۱۳	Maintains composure in difficult situations	۱,۷	۱٤,٦	٦۹,۱	۱٤,٦	۲,۹۷	.٦۰
۱٤	Is on time all the times	۲,۲	۱٥,۷	٦۰,۷	۲۱,۳	۳,۰۱	.٦۸
۱٥	Completes his/her tasks Correctly	۱,۷	۱٤,۰	٦٤,۰	۲۰,۲	۳,۰۳	.٦٤
۱٦	Is available for patients or colleagues	.٦	۲۰,۲	٥۸,٤	۲۰,۸	۲,۹۹	.٦٦
۱۷	Has an appropriate appearance for the environment he/she works in	۱,۱	۸,٤	٦٤,۰	۲٦,٤	۳,۱٦	.٦۱
۱۸	By questioning from others tries to address his/her own gaps in knowledge and skills	۲,۲	۲٥,۸	٥٤,٥	۱۷,٤	۲,۸۷	.۷۲
۱۹	Respects his/her colleagues	۳,٤	۲۸,۷	٤۸,۳	۱۹,۷	۲,۸٤	.۷۸
۲۰	Avoids derogatory language		۱۲,۹	۷۳,۰	۱٤,۰	۳,۰۱	.٥۳
۲۱	Assists his/her colleagues if needed		۱۰,۷	۷۱,۸	۱۷,٥	۳,۰۷	.٥۳
۲۲	Maintains patient confidentiality		۷,۳	۷۸,۱	۱٤,٦	۳,۰۷	.٤٦
۲۳	Uses facilities and equipments of the system appropriately	.٦	۱۰,۷	۷۷,٥	۱۱,۲	۲,۹۹	.٤۹
۲٤	Respects the rules and procedures of the hospital	.٦	۷,۳	۷۷,٥	۱٤,٦	۳,۰٦	.٤۹
۲٥	Shows honesty towards patients and colleagues	.٦	۳,۹	۷۷,۰	۱۸,٥	۳,۱۳	.٤۸
۲٦	In total, is a trustworthy person in the view of his/her colleagues and patients	.٦	٥,۱	۷۷,٥	۱۷,٤	۳,۱۱	.٤۸

A Cronbach's alpha was calculated for the internal consistency of the questionnaire. The Cronbach's alpha for all ٢٦ items was .٩٥ which suggest that the internal reliability of the responses are consistent.

According to the confirmatory factor analysis performed on the questionnaire items with the rotation method of Varimax with Kaiser Normalization, ٦ domains were developed including: communication with patient; responsibility; confidentiality and honesty; respect for others; self-improvement and acceptance of error; and, altruism and compassion. Each domain consisted of ٣ to ٩ items. The items for each domain were selected based on its load in rotated component matrix. But, for the items which didn't fit to the specified domain conceptually, consensus between experts was used to allocate those items to appropriate domains. Table ٢ shows the items for each domain of professionalism. The items number in Table ٢ matches the item number in Table ١.

Table ٢. The items for each domain of professionalism

NO	Domains of the questionnaire	Itmes of the questionnaire
١	communication with patient	١, ٢, ١٣
٢	Responsibility	٦, ٩, ١٤, ١٥, ١٦, ١٧, ٢١،٢٣،٢٤
٣	confidentiality and honesty	٢٢, ٢٥, ٢٦
٤	respect for others	٣, ٨, ١٩, ٢٠
٥	self-improvement and acceptance of error	١٠, ١١, ١٢
٦	altruism and compassion	٤, ٥, ٧

The mean and standard deviation of the professional attributes in all interns in both wards of internal medicine and surgery were ٢,٨±,٤٤ out of the total score of ٤ which shows the total mean for professionalism is lower than ٣ (met expectation). The mean and standard deviation for the ٦ domains of professionalism are shown in Table ٣.

As the Table ٣ shows, the lowest mean score belongs to 'altruism and compassion' and 'self-improvement and acceptance of error', respectively. The highest mean score is observed in the domain of 'confidentiality and honesty'.

Table ٣. The mean and standard deviation for domains of professionalism

Domains of the questionnaire	Mean	Std. Deviation
communication with patient	٢,٧٥	.٥٠
Responsibility	٢,٩٧	.٤٢
confidentiality and honesty	٣,١١	.٤٠
respect for others	٢,٨٢	.٥٣
self-improvement and acceptance of error	٢,٦٤	.٦١
altruism and compassion	٢,٥١	.٦١
Total mean	٢,٨٤	.٤٤

Independent t-test was performed to compare intern's scores based on their gender and ward. Comparing Interns' scores based on their gender showed no significant difference (p=.٤٩). But, Internal medicine interns and surgery interns had a significant difference in the total mean and in the mean score of some domains. Table ٤ shows the mean and standard deviation of internal medicine and surgery interns in all domains of professionalism as well as their comparisons in different domains.

According to Table ٤, the mean score of surgery interns is significantly lower than the mean score of internal medicine interns. Also, based on residents' evaluation of interns, internal medicine interns are behaving significantly better than surgery interns in the domains of 'respect for others', 'self-improvement', and 'altruism and compassion'.

Pearson correlation coefficient was used to calculate the correlation between each domain and the total mean score of the questionnaire. A significant correlation was observed between each domain and the total mean (p=٠ <.٠١). The highest correlation

belonged to the domains of ' self improvement' (r= .٩٢); 'responsibility' (r=.٩٢); and 'respect for others' (r=.٨٩), respectively. So, this high correlation between each domain and the total score of the questionnaire shows each domain has a main

Table ٤: The mean and standard deviation of internal medicine and surgery interns in different domains of professionalism

	Domain	Ward	Number	Mean	SD	t	Sig
Domain ١	communication with patient	internal medicine	١٢٠	٢,٨٠	.٤٨	١,٧٤	.٠٨٤
		Surgery	٥٨	٢,٦٦	.٥٣		
Domain ٢	Responsibility	internal medicine	١٢٠	٣,٠١	.٤٠	١,٨٧	.٠٦٢
		Surgery	٥٨	٢,٨٨	.٤٥		
Domain ٣	confidentiality and honesty	internal medicine	١٢٠	٣,١٤	.٤٠	١,٤٠	.١٦٤
		Surgery	٥٨	٣,٠٥	.٤٠		
Domain ٤	respect for others	internal medicine	١٢٠	٢,٨٩	.٥٠	٢,٣٠	.٠٢٣
		Surgery	٥٨	٢,٦٩	.٥٧		
Domain ٥	self-improvement and acceptance of error	internal medicine	١٢٠	٢,٧٠	.٥٦	٢,٠٠	.٠٤٨
		Surgery	٥٨	٢,٥١	.٦٨		
Domain ٦	altruism and compassion	internal medicine	١٢٠	٢,٥٩	.٦٣	٢,٣٥	.٠٢٠
		Surgery	٥٨	٢,٣٤	.٦٩		
All domains	Total mean	internal medicine	١٢٠	٢,٨٨	.٤٣	٢,٢٥	.٠٢٦
		Surgery	٥٨	٢,٧٣	.٤٨		

contribution in defining the whole score for professionalism.

Discussion

This study tried to assess professionalism attributes among medical interns in different clinical settings to see interns' professional behaviors in the situation of clinical education of an Iranian university where no formal education for professionalism is implemented. Also, it was tried to compare professional behavior of interns in two different wards, to see how their behavior is dependent on the environment they are working in. As a matter of fact the purpose of the assessment was to see the present situation and to help medical interns to grow as professionals rather than to judge them. Development of different assessment models for evaluating professionalism shows the importance of this kind of assessment. For example, Cottrell (٢٠٠٦), implemented the assessment as a peer assessment of professional skills defined according to a formal professional code developed by their curriculum committee [١٦] or, Van De Camp et al. developed a model of professionalism in general practice using a sounding board and made the assessment based on this model [١٣]. Concerning the importance of professionalism assessment, Papadakis et al. studied graduates of ٣ medical schools and showed that students who had been judged "irresponsible" in medical school were ٨

times more likely than others to be disciplined as doctors [١٧].

In the present study the mean scores for questionnaire items showed that the highest mean scores were for the items concerning 'appropriateness of intern's appearance', 'honesty towards patients' and 'being a trustworthy person as a whole' which belong to the domains of "responsibility" and "confidentiality and honesty", respectively. In Cottrell et al. (٢٠٠٦) study on assessing medical students' professionalism, the results showed the most frequency of the preferred response belonged to domains of responsibility, respectful, honesty and compassion, respectively[١٦] which is similar to our results. Also, in Bryan et al. study , students received the most praise in the areas of inter-professional respect, excellence and responsibility[١٨] among which the domain of responsibility is in accordance with our study. The lowest mean scores in our study was for items about 'looking for feedback about performance , and 'defending patients' rights' which belong to the domains of "self-improvement" and "altruism". The lowest frequency in Cottrell study was for the domain of communication [١٦] which differs from our study. This difference between the domains with lowest score could be because professionalism is a culture dependent concept and different cultures especially concerning the way of communication could result this kind of difference. As Van de Camp mentions, it is very possible that the institutional context favors attention to specific elements of professionalism[١٣].

The total mean for the questionnaire was ٢,٨±٤٤ out of ٤ which is less than ٣(met expectations) and more that ٢ (below expectations). According to this mean, although our intern's professional behavior is not less than expected but in some items of professionalism does not meet expectations either and there is a need to address this issue in our clinical education. As it was mentioned in the results, according to factor analysis, ٦ domains were developed for the questionnaire which matched our definition for professionalism. Comparing the mean scores for these domains showed that the highest score belonged to the domain of "confidentiality and honesty" and the lowest score to the domain of "altruism". It seems that "altruism" among other professionalism attributes, is the most difficult one to acquire and put in practice. Van de Camp et al. developed an instrument based on their model of professionalism using panel of experts. The panel reached no consensus on the item 'altruism' and removed it from the instrument. They argued that a self-sacrificing motivation behind physician behavior is not an absolute prerequisite to serve the needs of patients[١٣]. Altruism is a humanistic value and is considered an important element in professionalism definition in most professionalism literature. So, more investigations need to be done to decide about considering altruism in professionalism assessment or not.

Comparing inters' professionalism scores based on their gender showed no significant difference in any domain of professionalism. Bryan et al. (٢٠٠٥), evaluated professionalism in medical students in Gross and Developmental Anatomy Course using self-evaluation and peer evaluation. In their study, males received significantly more positive comments than females on peer evaluations and also rated themselves more highly than did females[١٨]. They argued that males, may have been more dominating in their groups and concluded that "gender equality in professional perception remains a goal to be actively pursued". The same scores for males and females in our study could be a cultural issue or the high number of female interns compared to male interns.

Internal medicine and surgery interns had a significant difference in the total mean and also in the domains of "respect for others", "self-improvement and acceptance of error", and "altruism and compassion". This shows that the learning context could have an effect on professional behavior of interns. Surgery ward, due to different patients' expectations, more stress, more critical patients and less

presence on behalf of faculty members compared to internal medicine ward, could be a different environment concerning professionalism characteristics. Therefore, as Cottrell et al. (۲۰۰٦) has concluded that evaluating professionalism in different clinical settings may offer a more precise picture of whether students are competent in professional skills or not [۱٦], different clinical wards need to be considered in teaching and assessing professionalism skills.

Hafferty (۲۰۰۹) believes "like competence, professionalism is best understood as a product of interaction embedded in 'systematic considerations' rather than as a reflection of individuals and their motives"[۱۹]. As it was mentioned about no formal education for professionalism in Iran, it should be said that, the educators recognize the hidden curriculum as the most powerful in conveying the values of professionalism[۲۰،۲۱]. As a matter of fact, what students hear in the classroom does not make the most lasting effect, it is what they see and experience in the everyday practice of faculty members, residents and fellow students that affect their attitude and set their awareness about the actual expectations of the profession[۲۲]. But, unfortunately in some cases students encounter the hidden curriculum of professionalism reflecting disconnections between what students are being taught in the classroom versus what they observe on the wards and clinic[۲۳]. Therefore, medical schools and teaching hospitals must sustain learning environments that reflect medicine's the most superior goal.

Among the limits of this study is that the construct of professionalism has measurement limitations that present challenges to measure real professional behaviors of students and has to be addressed by using different tools by different raters in different contexts. Because another limit is the context in which the tool was developed which may influence the generalizability of the results. Moreover, as Martimiankis (۲۰۰۹) mentions, psychometric measurement approaches may not be the best way to capture professionalism[۹]

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Conclusions

The mean score for professionalism shows that there is a need to promote professionalism characteristics in interns. It means that the informal and hidden curriculum are not sufficient for acquiring professionalism attributes and there is a need to work on implementing a formal course for professionalism during clinical education or even before that, in addition to improving the learning environment. Moreover, the difference between internal medicine and surgery interns in professionalism skills indicates that professionalism is a context dependent concept and therefore, in teaching and evaluating professionalism we have to consider different settings and contexts to be able to cover all aspects of professionalism in different situations.

In order to carry out their critical task in making sure that graduated doctors acquire the needed professionalism skills, medical schools and teaching hospitals need to improve their strategies for admission process of faculty members and their selection of future doctors, pay attention to formal instruction of their learners and make their learning environments free of unprofessional practices. Another recommendation as Coulehan (۲۰۰٥) suggest is to increase the number of physicians who are capable of role modeling professional values at every phase of medical education in order to compensate for the shortcoming of today's learning environments, [۲٤]. Also, by giving power to a respectful faculty member to proceed with promoting professionalism in the institution we can promote professionalism in the university.

So, professionalism is fundamental to medical practice and must be emphasized during medical education. Combining the assessment in this study with other professionalism assessments in different clinical contexts will help reveal a more complete picture of

students' professionalism. More studies are recommended to compare medical students' professionalism skills in different clinical settings and different wards.

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