Review article

Assessment of professionalism between medical students in clinical situations

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Abstract

objectives: Professionalism is an important competency in medical education. Evaluation as a solution could help us to distinguish the current situation of professionalism. The aim of this article is to study the evaluation methods for professionalism in medical education.

Methods and Materials: This paper reviews the analytic literature on evaluation of professionalism. We searched the approved databases in medical education by keywords related to evaluation of professionalism since 1999 until 2014 and found 23 best evidences to describe the evaluation in professionalism.

Results: Evaluation of professionalism is studied according to content of evaluation, evaluator, time, place and methods. Content of evaluation is summarized in some sections like ethics, personality, professional principles. Evaluators are physicians, members of healthcare team and patients. The evaluation could be done in real or invitro environments. The methods of evaluations are diverse and the reliability and validity of them are suspicious.

Conclusion: According to studied articles, the evaluation of professionalism is different of other evaluations in methods of evaluation, tools, time and evaluator. We can't define a special tool for all details of professionalism, which is helpful in all situations. It's better to apply a special tool for every detail and notice to measuring scores, validity and reliability of tools.

***Key words**: Medical education, professionalism, assessment*

Introduction

Professionalism is accepted as a valuable concept in medical education these days through which health community communicates with the public. Royal College of Physician describes professionalism in medicine as: set of values, behaviors and relationships that will permit the community to trust physicians(1). Swick in an article entitled "Towards a normative definition of professionalism" asserts that professionalism in medical education consists of a set of behaviors through which we show our patients

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and community the trustworthiness due to working for the health of the patients and the public(2). In this case Harden et al have offered a tricyclic model of doctors' competencies in which the first cycle indicates that the physicians are supposed to do their job well, this competency is in the center of this model. In the next step being the second cycle, the doctor should utilize a correct method in making decisions to perform these jobs. Finally, the last step is professionalism, suggests why physicians should do their jobs in a proper and a rational way(3). This cycle is the last one and is located on the other two cycles and displays its effectiveness on entire desirable competencies for a physician.

From the time of Hippocrates until today, many scholars have attempted to provide a definition of medical professionalism(4). As other facts in medical science this concept has also changed over time. The concepts they intended to teach physicians about the thing they had to be, and what they had to do did not teach them whether having the knowledge was enough; and if the physicians were in a proper situation of professionalism or not(5). Some people believe that professionalism and morality are personal characteristics, and individual features are not teachable. In contrast some others consider that ethical and professional behaviors can be taught and evaluated. In a systematic review Passi et al, faculties across the globe have admitted that teaching profession should be included in the curriculum of the students and also have designed several academic programs in this regard (6). After teaching professionalism evaluation is one of the instruments to remarkably aid us to recognize the current situation and where we are headed towards. Now for the evaluation of all clinical skills of medical science, especially in clinic several evaluation methods are used, and it is the same for professionalism as a principal concept which has attracted more importance these days.

Professionalism is difficult to define and even harder, its evaluation(6). Evaluation in professionalism is different since the nature of professionalism is altered. Lee et al rely on professionalism to be a bouncing feature which happens for each patient in any situation. They give the impression that doctors and assistants in meeting the components and elements of professionalism may be influenced by events that often, these accidents are external factors. Aspects such as time, job pressure, hunger, anger, Psychosocial stress, illness, or other environmental issues. They state that although many researchers believe that doctors are either professional or not, but they suggest professionalism is not all or nothing, and bring an example for this belief that for instance at 5 pm of a weekend which has been a busy day a physician may not have professional behavior with patients like in the morning of the first day of the week, while does not behave this way all the time (7). Therefore, due to the nature of professionalism that is involved by all psychomotor, cognitive and particularly affective areas, about its evaluation many critiques and ideas are heard, that makes choosing an actual method be more difficult. So in this article we are going to review the evaluation of professionalism in teaching medical students at the clinic.

Methods and materials

This paper reviews the analytic literature on evaluation of professionalism. The search, covering the period 1999–2014, included three databases (PubMed, Elsevier and Google scholar) and used the keywords related to evaluation of professionalism like “medicine”, “education”, “professionalism” and “assessment. Manual searches were also conducted. Articles with a focus on professionalism evaluation to improve evaluation content, evaluation methods, evaluation resources, validity and reliability of evaluation tools were reviewed. From an initial 1213 abstracts, 53 papers met the review criteria. Data were extracted by three coders, using the standardized abstracts, 23 papers met the review criteria and were best evidences to describe the evaluation in professionalism. Findings were grouped by answering the questions like what, who, where, when and why we should do evaluations for professionalism.

Results

23 of the evidence were completely relevant ones which some were valuable overview articles studying other research papers. In surveying these papers evaluation factors were considered. Whilst most evaluation professionals indicate, in any evaluation some aspects must be taken into consideration before selecting the instrument for evaluation: the purpose of the evaluation, the evaluation results, the evaluation method, the expected availability of resources and contacts(8, 9). However, owing to the nature of

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professionalism Hafferty to evaluate the professionalism of recommended that assessors have these items in mind:

1. They are evaluating something that is transferred in many various environments and in a wide variety of informal and formal learning and even tacit.
2. They are evaluating something that is both as a character and as a function of an individual.
3. They are supposed to design an evaluation system assessing both learners and their learning environment(10).

Therefore in this paper after considering the above, based on the findings of the related literature to assessing professionalism, to determine the how of evaluating professionalism we first answer these questions: why should evaluation happen? What should be evaluated? Who should evaluate? When should the evaluation happen? Where should be evaluated? And finally what is the instrument and how should be evaluated?

- The point that why it should be evaluated may have various reasons. In specialized texts it is recommended that before carrying out any type of assessment the evaluator asks "why am I assessing?" (11) evaluation for professionalism similar to all assessments can be to investigate the learner 's ability to contribute to teaching and learning and learner performance , and also to help develop curriculum and lesson planning.
- Discussion
- Evaluating content:

About what should be evaluated must be said that the main expectations of each specialty and level of development should be assessed and likewise the cognitive, behavioral, environmental results and professional commitment should be evaluated, also the five types of relationship including relationships with patients, community, physicians, health care system and self- review(12). Some researchers tell that we should use Miller's pyramid and assess each level as appropriate to the stage of the training. Thus new students should be assessed for what they know about professionalism, while final year students and interns should be assessed at the 'shows' and 'does' levels. Therefore the students have to first know "what is professionalism", before they show professional behaviors (13).

The content of the evaluating professionalism goes back to how professionalism is defined; the definitions of professionalism are varied. There are several classifications for professionalism's concepts. The evaluated concept is defined by the medicine board of the Accreditation Council for Graduate Medical Education of America (ACGME) and should be considered in the curriculum as: the learner should be able to show a commitment to professional ethics and a promise to morality. Therefore he is supposed to show the below in action(14):

1. Pity and compassion , integrity and respect for others
2. Responsibility towards the needs of patients and give priority to their patients' interests
3. Respect for patient autonomy and privacy issues
4. Accountability to patients, society and the profession
5. Responsibility to all patients, regardless of gender, age, culture, race, religion, disability and sexual orientation.

Hilton and Slotnick also suggest 6 areas for professionalism: Morality, 2. Feedback and self-awareness 3. Accountability for their actions and deeds, 4. Performing team work, 5. Respect for patients, 6. Accountability and social responsibility(15).

It has been mentioned that evaluating the content of EQ and professionalism are linked to one another. Five sectors of EQ that Daniel Gellman has described in his book and is used for the behavior of the physicians contain: 1. Self-awareness that results in understanding the patient, health care team and the individual's feelings. 2. Controlling emotions 3. Professional commitment to the profession, patients and the organization, 4. Respect for patients and team members 5. Social skills, communication, partnership and leadership (16).

In assessing professionalism the focus may be the professional person. Quinn and colleagues consider 4 steps for professional wisdom: 1. Cognitive Science (Know-what) 2. Specialized skills (Know-how) 3. Apprehension and comprehension rules (Know-why) and 4. Ingenuity persuasion (Interested to know the reasons and whys (Care-why)(16).

Kearney et al reported in their study that Anesthesia residents should have a series of extra decencies which include Fitness and agility, interest, ability to teamwork, protection,

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flexibility, firmness, courtesy, confidence, social behavior, professional judgment, resourcefulness, ability to analyze problems, fluency, management skills and leadership (17).
In short we can reflect Launch and colleagues idea which has summarized the evaluation concept in 4 segments. They comprise:
1. Morality (Morality , ethics , code of integrity , social norms , deception and abuse , ill- treatment , fraud , lack of privacy and sexual abuse)
2. Personality traits (emotional and spiritual understanding, personal values, empathy, trustworthiness, religious intolerance)
3. Comprehensive professionalism (the evaluation addressing of two or more components of professionals' directions)
4. Other (such as cultural outcomes, socio-economic status, age, sex or disability) (18).

Resources
About who should assess; due to the fact that evaluation is assessing peers, and faculty using re-assessment and portfolios; being the methods of professionalism, various people contribute in the evaluation (19). It has been observed that different evaluators do professionalism's assessment, such as doctors, other members of the health care treatment, patients, and sometimes the evaluators who wish to have this training or experience are used.
In Brian's investigation from 1999 to 2003 Mayo Medical University's learners assessed their classmates and themselves in terms of professionalism in advanced anatomy course. The results of this study found that many of the comments posted to the relationship between professional responsibility and academic achievement were appropriate. Finally, Brian concludes that inserting the initial assessment by the self-assessment and peer assessment in medical planning is a valuable exercise in teaching and evaluating professionalism behaviors in freshman medical students (20).

Evaluating time
Assurance of the medical learners in all levels not only attain professionalism but also show it constantly in their acts is one of the most important responsibilities of a professor of medicine at the beginning of the twenty-first century (21). Therefore, answering when the evaluation should be carried out, experts say: it is better evaluation starts at the initial stages of training followed by periodical checks during the semester before and after the training, they also believe the evaluation should be done in different systems such as society, clinic, and hospital. Lee et al also suppose that the process of training and evaluation of professionalism starts at the beginning of medical studies and continues to the end of the residency and even after that(7). Meaning having a formative evaluation is crucial. In this regard, after reviewing the literature veluski et al found that a small number of professional evaluations were considered as a comprehensive structure, and there are few documentation and evaluation instruments for formative assessment(22).

Evaluation methods
The most difficult part of the professionalism evaluation is choosing assessment instrument or method. Currently there is no single method is used and often diverse or a combination of methods are applied(23). Existing methods for evaluating professionalism can be noted in as following ways: self-evaluation(24), direct observation(25), clinical supervision(25), patients' assessment, OSCE(26), evaluating based on the standard patient(27), student evaluation forms(28)، self-assessment, Portfolio(29), team training , evaluation components of professionalism, attendance records, analysis of the video , choose the best answer , judgment in the evaluation exams.
About the how of professionalism scholars have said, surveys should be coherent and purposeful and more than one method should be applied, for instance, 360 degrees method(30, 31) or vignettes (32) or methods having more reliability and validity in their information. Marrero mentioned that residents prefer to evaluate by clinical supervision or DOPS(25). The evaluation methods that have been used in several studies consist of: Event registration, view and record events, cognitive tests, surveys and polls. The American Board of Medical Specialists introduced a toolbox of methods for evaluating clinical skills and in description part posed the usage of 360 degrees method, CSR, patient survey, portfolio, and standard patient for evaluating professionalism and likewise noted the checklist method as a difficult technique to assess professionalism(33). Clinical guidelines on the use of the skills priority application of the methods used in each of the skills and professionalism are as follows: to evaluate respect for others and altruism, first checklist and

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then 360 degrees and finally patient survey or OSCE, and for ethics in action first portfolio, then patient survey, simulators and models and CSR and finally 360 degrees; for assessing responsibility, regardless of gender, age, culture first portfolio is used and then oral exam , patient survey, checklist, CSR and finally OSCE are more appropriate(34).

Surdyk in his article entitled " Educating for professionalism: what counts? Who's counting?" has reported that knowledge-based components of professionalism can be taught and assessed, he believes that these components include ethics, progressive guidelines, non- formal satisfaction and business integrities. On the other hand, he believes that some elements of professionalism such as altruism, honesty, integrity and respect for others are less quantifiable and objective instruments to measure(35, 36). Arnold has surveyed 170 papers of evaluation of the professional principles and classified evaluation instruments in three groups: 1. that professionalism means that are considered as part of a public authority 2. Those approach deliberating professional principles as a separate structure and 3. Those instruments addressing elements of professionalism (such as philanthropy) distinctly; the author has derived to developing good qualitative evaluation methods require a powerful approach. (37)

Lynch et al (2004) studied 191 published articles from 1984 to 2002, and reported 88 instruments employed in these editorials. They suggested evaluating professional principles can be organized based on the mentioned content (like ethics, personality characteristics, professional and comprehensive principles) or the type of surveying outcome (emotional, cognitive, and psychomotor)(18).

There are various methodologies of evaluating professionalism in three areas of emotional, cognitive, and psychomotor. In cognitive scope we can use pretest posttest in order to check the awareness, surveys of self-report in some special areas, some standard oral and written tests, and resident self-reflection with chart audit. In Psychomotor scope we can use OSCE, chart review, chart audit and clinical simulation and panel Discussion. For Emotional scope we can use comprehensive evaluation forms, using 360 degrees form with surveys of patients, staff , coaches and their counterparts, a questionnaire measuring patient satisfaction (e.g. Wake Forest Physician Trust Scale), direct observation (real patient or standard patient or suing videos or direct observation), standard checklists (To assess issues like timeliness, performance greet, observe decorum, order of appearance, personal hygiene, communication skills, empathy, compassion, altruism, etc.), techniques of critical incidents (e.g. documentation of certain patients during the follow-up rehabilitation),Workbook and Professionalism Mini-Evaluation Exercise (P- MEX)(7).

When we want to use an evaluation tool for professionalism, we should notice to scale, the critical points of the circumstances of evaluation and validity of the evaluation and then select the best tool.

A. Score and scale of instruments

Lee et al believe although comprehensive instruments mainstay in the trainers' evaluation of students' professional practice but these instruments have major drawbacks. Their first disadvantage is their inflated scale (scores from 7 in all zones from 9 scores). This type of scaling gives space to bias to individual's judgment, because the judgment about whether or not a student is strong in all areas affected by his performance on one area. For instance it is possible that a learner who is week in one zone and is strong in the other, his score in the strong zone results in not mentioning the weak area(7).

Larkin defined a specialized classification of the characteristics of professional principles which may be used in scoring worldwide instruments. This classification includes:

1. Ideals (High and ambitious tasks)
2. Expectations (includes all expectations and anticipations)
3. Unacceptable (unprofessional behaviors)
4. Absolutely forbidden (the persistence of unprofessional behavior that is to come in the form of a pattern of behavior) Lynch, 2004 #26}

B. Validity and reliability of instruments

Veloski (2005) and colleagues had a review study about instruments of evaluating professional principles from 1982 to 2002, in which from 134 investigated papers, in 62 of them reliability was reported. Content validity was reported in 86 papers that merely 34 investigations had strong evidence of validity(22). Concurrent validity was reported in 43 researches and predictor validity was in just 16 papers. Lynch believes that before developing

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new instruments, existing instruments should improve standards especially predictor validity(18).
The next downside that Lee et al puts on these instruments is their weak reliability and the lack of a standard for scoring(7). (Scoring is explained in last part.)
In order to explore the reliability and validity of professionalism evaluation instruments some scholars made some progress(38), but some of scholars indicated that the instrument was for a special population and environment and to be reliable in other environment it should be evaluated again(39).

Evaluation environment

Hundert and Epstein studied 195 articles in various methods of evaluation professionalism. They discovered that a wide range of evaluation instruments were used for measuring professional principles. They reported that a small number of studies have evaluated the students in real-life situations and also they have used a small quantity of patients and their counterparts in terms of predicting future outcomes in their evaluation (40). Arnold suggested that future studies should also take the evaluation environment into consideration (37).

Selecting evaluation method

Selecting students with enthusiasm with the ability to exercise the right professionalism principles has been an old challenge to attract students of Medical Sciences. If it was possible to recognize those who are more likely to behave in a more professional commitment to the position of the indication before their entrance to universities we could do a great service to the public and the profession. Some medical schools have tried to avoid the selection of students lacking professional qualifications; most of these characteristics go to demonstrate their ability in patient care and teamwork. This point has been considered in researches that the threat of graduation of unqualified learners should reduce, this demand is achieved through evaluating not cognitive characteristics that may predict professional behavior in future. However, an understanding is still not growing enough of the qualities that predict the future behavior of a professional person and there is no instrument having significant reliability and validity for selecting learners with professional qualifications (6).

To evaluate professionalism in arrival, parker believes it is in favor of the professionalism based on what should not be and not based on what should be, in other words judgment about attitude and behavior skills should not be based upon clinical skills, and instead of giving scores to these positive attitudes and behaviors, it is based on this default that we cannot and should not suppose a reasonable basis for behavior and attitude in their entrance to university(41). In this regard, Teherani indicates some professionalism complications that can be counted as evaluation criterion as: Faulty relationships with patients, lack of responsibility, poor innovative actions, unprofessional behavior associated with anxiety (42).
Although there is not enough evidence to protect a specific method for selecting learners, however there are models designed for evaluating features related to professionalism. For instance it can be noted using Multiple Mini Interview (MMI) that is applied for assessing the volunteer for taking part in a problem-solving curriculum. Likewise, evaluating self-assessment in weaknesses in relation to others or moral attitude that can influence ethical decision making may be influential (6). Talcott also tenders interview for further evaluation as a method of assessment of students' acceptance(43).
Jha et al (2007) reviewed 97 papers regarding approaches to facilitate and evaluate the attitudes of medical professionals. They found that the evidence is limited in this area and resulted that instead of measure attitudes toward specific outcomes, assessment should focus on comprehensive and wide spread approaches and try to create a consistent approach across the curriculum. They believed that there is not a unique accepted method and its cause can be not having a unified approach to the constituent elements of professional principles(44). Lee et al indicated that according to their study and experiences 5 instruments have required efficiency for evaluating professionalism: 1. Role play, 2. Formal Mentoring Program, 3. 360-degree evaluation in the presence of peers and patients, 4. Combining professionalism in curricula, grand rounds and conferences, 5. Portfolio based on the reflection of the professionalism. They believe that work books are strong instrument for evaluating professional rules, because this instrument is learner-driven or learner-maintained that encourages the learners to have a personal feedback according to their

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performance, and have a responsibility for the performance and behavior for the entire length of service in the person's career. This instrument also provides a repository of official certificates, encouraged by teachers, patients and colleagues and constituents gives a touch of professionalism in its place(7).

Conclusion

Evaluating professionalism regarding content, evaluators and methods of assessment has wide difference with evaluations of other six skills of medical sciences, which with a\its sensitivity of this skill more attention and time is needed for designing a proper evaluation. Therefore it is required that the insights of the educators, administrators and teachers in the evaluation of medical professionalism proper approach are to identify the skills and besides learning numerous effective methods in evaluating professionalism the best methods be applied.

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