



Arezoo Vasil¹, Narges Keshtiaray^{2,*}, Alireza yousefy³
¹PhD Student, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran
²Department of Educational Sciences, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran
³Medical Education Research Center, Isfahan University of Medical Sciences, Isfahan, Iran

*Isfahan (Khorasgan) Branch, Islamic Azad University, Arqavanieh, Jey St. Isfahan, 81595-158 Iran

Tel: +98 3135354001
 Fax: +98 3135354060
 Email: n_keshtiaray@khuisf.ac.ir

Today's Medical students, Tomorrow's professional Doctors; Formation of professionalism in medical students

Background: Transition from student role to professional role is an important step during the medical course. The discourses of professionalism education are ambiguous in different countries. This study aimed to explain the formation of professionalism in medical students.

Methods: The present study was a qualitative study using Jørgensen discourse analysis. Participants included 18 medical interns of Iranian universities of medical sciences. The average duration of each interview was 60 to 90 minutes. Data collection tools were in-depth semi-structured interviews and purposive sampling methods. Data collection continued until data saturation. The data analysis method was open coding.

Results: The mean age of participants in this study was 25.65 ± 9.12 . The results included seven concepts; management of professional stress, professional competence, moral competence, human nature of profession, personal development, proper care, and professional identity as well as the nodal point in this discourse analysis was the hidden curriculum.

Conclusions: If during the internship, certain professional beliefs and behaviors are not institutionalized in today's students, it can reduce the sensitivity of students' professionalism and makes professional decisions difficult for future physicians. Therefore, the role of formal education in professionalism is important in this regard, considering the role of the hidden curriculum.

Keywords: Medical education, Medical students, Professionalism

طلاب الطب اليوم ، أطباء الغد المحترفين ؛ تكوين الاحتراف لدى طلاب الطب

الخلفية: الانتقال من دور الطالب إلى الدور المهني خطوة مهمة خلال الدورة الطبية. خطابات التعليم المهني غامضة في مختلف البلدان. هدفت هذه الدراسة إلى شرح تكوين الاحتراف لدى طلاب الطب.

الطرق: الدراسة الحالية عبارة عن دراسة نوعية باستخدام تحليل خطاب يورجنسن. وكان من بين المشاركين ١٨ متدرباً طبيياً من جامعات العلوم الطبية الإيرانية. كان متوسط مدة كل مقابلة من ٦٠ إلى ٩٠ دقيقة. كانت أدوات جمع البيانات عبارة عن مقابلات شبه منظمة معمقة وطرق أخذ العينات الهادفة. استمر جمع البيانات حتى الاشباع. تم تنفيذ طريقة تحليل البيانات باستخدام التمييز المفتوح.

النتائج: كان متوسط عمر المشاركين في الدراسة 25.65 ± 9.12 و تضمنت النتائج ستة مفاهيم كانت هي: إدارة الإجهاد المهني، الكفاءة المهنية، الكفاءة الأخلاقية، الطبيعة البشرية للمهنة، التنمية الشخصية و الرعاية المناسبة، حينما كانت الهوية المهنية هي النقطة العقدية في تحليل الخطاب هذا ؛ المنهج مخفي.

الخلاصة: إذا لم يتم إضفاء الطابع المؤسسي على بعض المعتقدات والسلوكيات المهنية خلال فترة التدريب لدى طلاب اليوم فيمكن أن يقلل ذلك من حساسية احترام الطلاب و يجعل القرارات المهنية صعبة على أطباء المستقبل. لذلك فإن دور التعليم النظامي في الاحتراف مهم في هذا الصدد ، بالنظر إلى دور المنهج الخفي.

الكلمات المفتاحية: التعليم الطبي ، طلاب الطب ، الاحتراف

دانشجویان پزشکی امروز، پزشکان حرفه ای فردا؛ شکل گیری حرفه ای گرایي در دانشجویان پزشکی

زمینه و هدف: عبور از نقش دانشجویی به نقش حرفه ای، به عنوان یک مرحله مهم در طول دوره پزشکی می باشد. گفتمان حاکم بر آموزش حرفه ای گرایي در کشورهای مختلف مهم است. بررسی نقادانه آن منجر به باز شدن بستر این گفتمان می شود. این مطالعه با هدف تبیین شکل گیری حرفه ای گرایي در دانشجویان پزشکی صورت گرفته است.

روش: مطالعه حاضر یک مطالعه کیفی به روش تحلیل گفتمان یورگنسن بود. مشارکت کنندگان شامل ١٨ نفر از کارورزان پزشکی دانشگاه های علوم پزشکی ایران بوده است. مدت هر مصاحبه به طور میانگین ٦٠ تا ٩٠ دقیقه بوده است. ابزار گرد آوری اطلاعات مصاحبه نیمه ساختاریافته عمیق و روش نمونه گیری هدفمند بود. جمع آوری داده ها تا اشباع داده ادامه یافت. روش تجزیه و تحلیل اطلاعات با استفاده از کدگذاری باز صورت گرفت.

یافته ها: میانگین سنی شرکت کنندگان در مطالعه 25.65 ± 9.12 بوده است. نتایج شامل هفت مفهوم؛ مدیریت تنش های حرفه ای، شایستگی حرفه ای، شایستگی اخلاقی، ماهیت انسانی حرفه، توسعه فردی، مراقبت شایسته و هویت حرفه ای بود و دال کلیدی در این تحلیل گفتمان، برنامه درسی پنهان می باشد.

نتیجه گیری: چنانچه در دوران کارورزی باورها و رفتارهای خاص حرفه ای در دانشجویان امروز نهادینه نشود می تواند سبب کاهش حساسیت حرفه ای گرایي دانشجویان شود و در نتیجه تصمیم گیری های حرفه ای را برای پزشکان آینده دشوار می کند. لذا نقش آموزش رسمی پروفشنالیزم با در نظر گرفتن نقش برنامه درسی پنهان در این خصوص حائز اهمیت است.

واژه های کلیدی: آموزش پزشکی، حرفه ای گرایي، دانشجویان پزشکی

آج کے میڈیکل کے طلباء، کل کے پیشہ ور ڈاکٹر؛ میڈیکل طلباء میں پیشہ ورانہ مہارت

بیک گراؤنڈ: میڈیکل کورس کے دوران طالب علم کے کردار سے پیشہ ورانہ کردار کی طرف منتقلی ایک اہم مرحلہ ہے۔ مختلف ممالک میں پیشہ ورانہ تعلیم پر گفتگو مبہم ہے۔ اس کا تنقیدی جائزہ اس گفتگو کی بنیاد کا باعث بنتا ہے۔ اس تحقیق کا مقصد میڈیکل طلباء میں پیشہ ورانہ مہارت کی وضاحت کرنا ہے۔

روش: موجودہ مطالعہ جارجینسن ڈسکورس تجزیہ کا استعمال کرتے ہوئے ایک معیاری مطالعہ تھا۔ شرکاء میں ایرانی یونیورسٹی آف میڈیکل سائنسز کے ١٨ میڈیکل انٹرن شامل تھے۔ ہر انٹرویو کا وقت دوڑانیہ ٦٠ سے ٩٠ منٹ تھا۔ ڈیٹا اکٹھا کرنے کے سے نیم ساختہ انٹرویوز اور مقصدی نمونے لینے کا طریقہ ہے۔ ڈیٹا سیچوریشن تک ڈیٹا اکٹھا کرنا جاری رہا۔ ڈیٹا کے تجزیہ کا طریقہ اوپن کوڈنگ تھا۔

نتیجے: مطالعہ کے شرکاء کی متوسط عمر 25.65 ± 9.12 تھی۔ نتائج میں چھ تصورات شامل ہیں۔ پیشہ ورانہ تناؤ کا انتظام، پیشہ ورانہ قابلیت، اخلاقی قابلیت، پیشہ کی انسانی فطرت، ذاتی ترقی، مناسب دیکھ بھال اور پیشہ ورانہ شناخت اس گفتگو کے تجزیہ میں اہم اشارے تھے نصاب چھپا ہوا ہے۔

سفرش: آج کے طلباء میں انٹرن شپ کے دوران بعض پیشہ ورانہ عقائد اور طرز عمل کو ادارہ جاتی شکل نہیں دی جاتی ہے، تو یہ طلباء کی پیشہ ورانہ مہارت کی حساسیت کو کم کر سکتا ہے اور اس کے نتیجے میں مستقبل کے معالجین کے لیے پیشہ ورانہ فیصلے مشکل ہو سکتے ہیں۔ اس لیے اس سلسلے میں چھپے ہوئے نصاب کے کردار کو مدنظر رکھتے ہوئے پروفیشنلزم میں رسمی تعلیم کا کردار اہم ہے۔

کلیدی الفاظ: طبی تعلیم، پیشہ ورانہ مہارت، طبی طلباء

INTRODUCTION

The main purpose of medical education is to provide appropriate opportunities for students to acquire knowledge, skills, abilities, attitudes, beliefs, and values in the form of competencies, so that their individual and social development at the community level is improved. One of the responsibilities of medical universities is to train physicians and medical staff who, after graduation, can work to improve the health of the community by performing their professional duties and adhering to the specific principles that this profession creates (1,2). Medical education is a dynamic, complex, and stressful process in which educational goals are pursued and mostly the education is spent in a hospital setting (2). In many medical faculties around the world, and in almost every medical faculty in the United States, professionalism training is taught as a separate course or as a combination of other courses (3,4). The time spent with the patient is full of visual, auditory and tactile experiences, and therefore serious efforts should be made to further promote this type of education (4,5). Professionalism can at all times be defined as the means by which physicians fulfill their professional contract with society (6). Result of one study about qualitative research on the internship experience and development of career identity were divided into seven categories: disrespect, failure to meet treatment expectations, inadequate patient information, lack of access to a physician, lack of inter-professional communication, lack of information, and distrust (7,8). Most studies in the field of medical professionalism showed that medical professionalism training is done both explicitly and implicitly during the medical training course (9,10). In recent years, many efforts have been made regarding medical professionalism, such as incorporating a variety of activities into a curriculum that focuses on professionalism. Also, evaluation tools have been developed, symbolic methods have been implemented to persuade medical students to join the medical profession such as the white robe celebration. Such actions are all good and appropriate, but they are not enough. If students are not familiar with medical professionalism in clinical education settings, it is unlikely that they will adhere to these ideals after completing the course (10). Some studies showed that the students' values when entering the university change during their studies at the university (11,12). The study of Buyx et al. showed that they did not know the requirements of contemporary professionalism (12). Another study by Hawkins et al. on medical students in inpatient wards found that most professional values occur not in organized opportunities but in busy, long shifts in which students engage more with patients (13). In their study, Gary et al. showed that professors' relationship with patients can be a predictor of students' professional ethics in the components of education and research and relationship with colleague, considering that the professors' relationship with the patient affects the development of professional ethics of medical students and on the other hand, professors' interactions with other people is one of the most important and influential issues in the development of students' professional ethics, so planning to

improve professors' relations with patients it is necessary to conduct empowerment workshops (14). The results of Wynia et al.'s research showed that patients' complaints are classified into seven categories: disrespect, failure to meet treatment expectations, inadequate patient information, lack of access to a physician, lack of professional communication, lack of information, and distrust (15). The most important value and key element in general medical programs should be the training of physicians committed to professional ethics and character. Professionalism is the essence and nature of the relationship between patient and physician (16,17). Studies showed that the concept of professionalism is closely related to the way students deal with clinical cases in educational departments, which reflects the training provided (18). Duke believed that students' professional and personal values change over time with formal education (19). Campbell's study, which surveyed physicians according to the American Internal Medicine Association's criteria of professionalism, found that 90% of physicians agreed with the standards of professionalism set by the professional community, but the behavior reported that it does not comply with those norms; however, where there is no gap, retraining courses are needed (20).

Professionalism is the heart of Good Medicine. Medical education has achieved its goal if it leads to professionalism in medical students (19). Education provides the primary basis for the formation and development of medical student professionalism and has a vital impact on its formation. It develops through the training of a person's position from an ordinary person to a professional physician (21). The consequences of this type of training and the creation and influence on the formation of professionalism is one of the most challenging issues in medical education (20-22). Studies have shown that the concepts of professionalism in clinical education is sometimes not taught, or is demonstrated and institutionalized through the role models of professors and others, influencing the formation of professional personality and behaviors related to professionalism and importantly how it is one of the most challenging and problematic issues in medical education. In the Doctor of Medicine curriculum in Iran, there is no course called professionalism and only some concepts of professionalism are taught in subjects such as medical ethics and in recent years in medical etiquette. Considering that various studies on professionalism in medicine have been done at the quantitative and qualitative levels and often in one of the dimensions of education or outcome, so in this study, the whole process of professionalism of medical students has been studied qualitatively and from the type of discourse analysis, its purpose is to explain the formation of professionalism in medical students.

METHODS

The present study was a qualitative research of the type of discourse analysis with the approach of Jorgensen, which was conducted in 2019-2021 and was approved with the ethical code IR.IAU.KHUISF.REC.1399.248. The research environment in this study was the teaching hospitals of Isfahan University of Medical Sciences and the Faculty of

Medicine of Najafabad Azad University. The research sample in discourse analysis theory includes all speech, writing and visual actions. From the point of view of discourse analysis, all language forms such as professional discourse, research participants' speech, media and images are important, and texts are the main carriers of discourse that can be explored by examining them. Discourse analysis begins with the analysis of the dialogue, but its practical focus is more on the content of the dialogue, the subject, and its social organization. In this study, samples included data collected through unstructured interviews, observations, and conversations. The stages of discourse research in this study based on Jørgensen's view were performed by the researcher in the following order (23):

1. *Designing research questions*

2. *Sample selection*: The sampling method in this study was purposeful sampling and continued until the saturation of information including 18 interns. Inclusion criteria were; Medical students in the internship of Isfahan and Azad Najafabad Universities of Medical Sciences who were studying in 2019 and had completed at least three months of their internship or two months of this course. Students who were not in the internship program or had less than 3 months left in their internship were not included in the study. The study participants entered the study with personal consent. The dignity and rights of the participants were observed by the researcher during the study.

3. *Collection of natural data*: Data were obtained through dialogue and natural interactions with interns in the teaching hospitals of Isfahan University of Medical Sciences and the Faculty of Medicine of Najafabad Azad University.

4. *Production of data through interviews*: In this study, semi-structured interviews were used.

5. *Implement the text*: The researcher fully implemented the conversations, interviews, and observations.

6. *Coding*: The implemented texts were read, the themes were identified; open, pivotal and selective coding was done and finally the concepts were obtained.

7. *Analysis*: The concepts of both category and final concepts were created and analyzed.

8. *Determining validity*: To determine the validity, the researcher used the methods of Triangulation, review, and attention to coherence used in the method of discourse analysis.

9. *Researcher's report*: In addition to presenting the results of this research, the researcher also presented the analysis and conclusions in such a way that the reader could judge all interpretations.

10. *Application of research results*: The research results were provided to the curriculum planning office of the Ministry of Health and Medical Education to use the results and enter the curriculum of Physician so that it can be used in retraining courses for physicians.

Each interview lasted approximately 60 minutes. First, a general questioning was done and then, according to the interview process, more detailed questions (which were not prepared in advance) were presented. The analysis started after the first interview and the selective coding work started by researcher after two open and pivotal interviews. Thus,

the following steps were carefully followed in data analysis: one-on-one interviews and word-for-word interviews as written on paper. Then, line by line, significant sentences related to the main topic of the research were marked. The main concept of meaningful sentences in the form of code was extracted and the classification of codes began. Thus, by forming a classification, the main concepts of the study were extracted. Observation is one of the basic pillars in discourse analysis. During the researcher's observations, the researcher examined the behavioral patterns of participants in interaction with each other and evaluated how the discourses were formed. In data analysis, first paragraphs appropriate to the title and objectives of the research were extracted and coded; also the initial codes were extracted in this step. Concepts were obtained from these codes. Finally, a Nodal point was identified in the students' discourse. The Nodal point in the discourse system is a sign whose gravitational force absorbs other signs within the discourse and gives them meaning and identity. In order to determine the validity of the study, triangulation and coherence were used. To determine the reliability of the research, the selection of appropriate samples, simultaneous data collection and analysis, theory-based thinking and coherence in the research methodology were used.

RESULTS

In the present study, 61.11% of the students participating in the study were girls and 38.89% were boys. The mean age of students in this study was 26.44 ± 3.23 years. In discourse analyzing of interns on medical professionalism, seven concepts emerged: management of professional stresses, professional competence, moral competence, human nature of profession, personal development, proper care, and professional identity (Figure 1) and Nodal point was the hidden curriculum.

One of the concepts identified in student interviews and observations in the clinical environment included sub-concepts of the gap between theory and practice, Managing career challenges and Management of breaking bad news. This concept indicated that the combination of theoretical and practical approaches in medicine has a special place. Theory and practice are two different languages for performing an action that is the best one. Diversity in ideologies and practices provides opportunities to learn, know, and do in different ways, to improve individually and collectively in achieving some common goals. One of the major obstacles to professional training in hospitals is the mismatch between theory and practice.

Professional competence

Another recognized concept in interns' discourse and clinical observations was professional competence which included sub-concepts of Experimental discipline and maturity, Technical and clinical skills, as well as Adaptability and Health promoters. Competence in novice physicians is a broad and complex concept that requires examining all its dimensions and characteristics and explaining its relationship to concepts such as clinical judgment, experience; so it is a process that is gradually acquired.

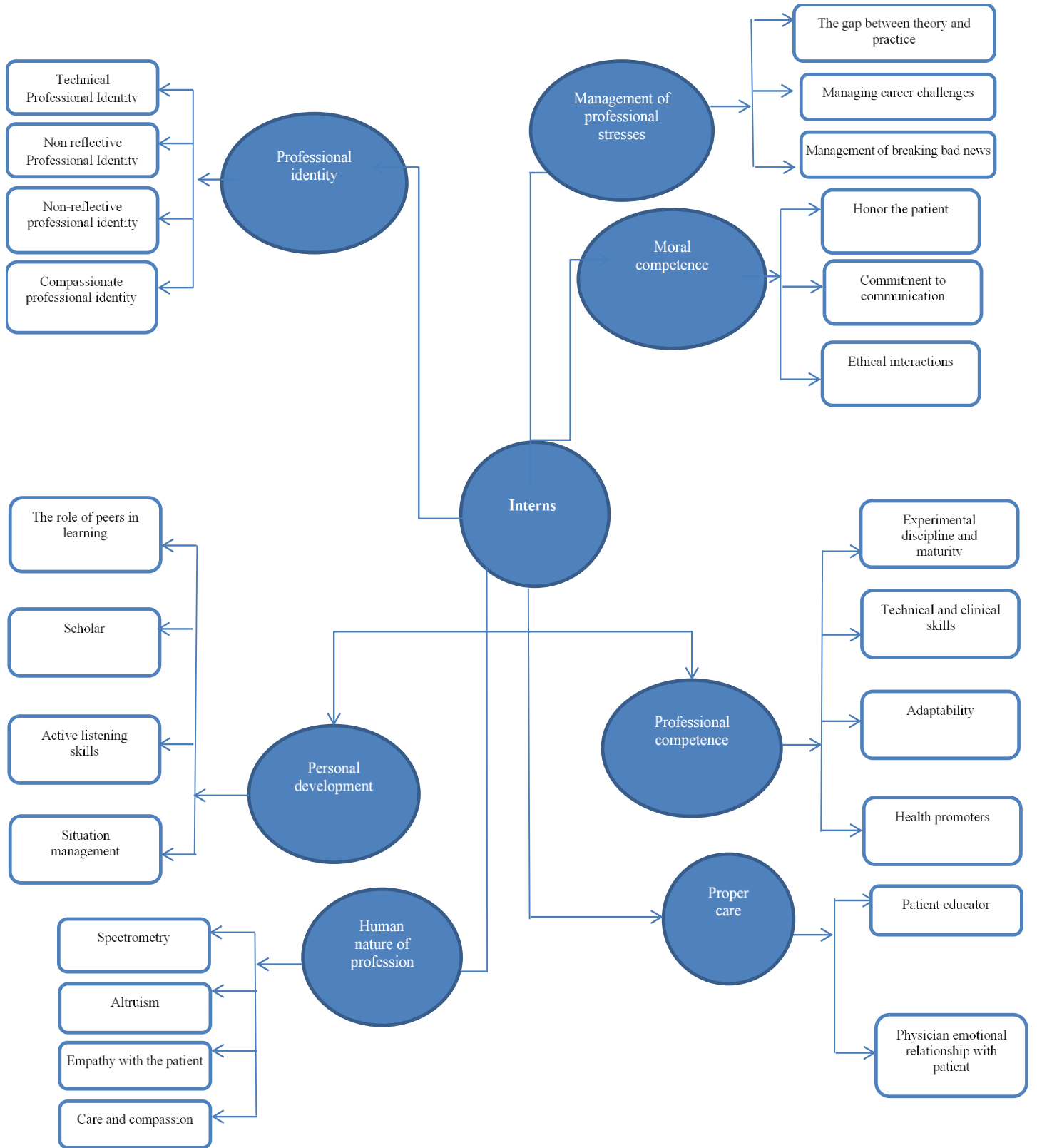


Figure 1. Concepts from the interns' discourse on medical professionalism Management of professional stresses

Professional competence is manifested in the mastery and readiness of physicians in dealing with patients, also correct and timely decisions. Given that the main purpose of medical education is to provide appropriate opportunities for students to acquire knowledge, skills, abilities, attitudes, beliefs, and values in the form of competencies, it is necessary to focus on formal curricula.

Moral competence

Moral competence was the third concept identified at this level of research and includes sub-concepts of Honor the patient, Commitment to communication, and Ethical interactions. Ethics is one of the requirements of professional medicine. The nature of medicine, which deals with the valuable subject of maintaining life and improving its quality and eliminating or reducing disease and disability, requires the acquisition of moral competencies.

Human nature of profession

Another concept identified in this discourse was the human nature of the profession and includes sub-concepts of Spectrometry, Altruism, Empathy with the patient, and Care and compassion. Compassionate care means paying attention to patients, striving to use tools correctly and accurately, and showing compassion and kindness to patients.

Personal development

Another concept in this discourse was personal development which included sub-concepts of the role of peers in learning, Scholar, Active listening skills and Situation management. One of the criteria for accreditation of medical schools is the degree to which students acquire the competencies required for lifelong learning. Lifelong learner is self-directed and self-empowering, also it is committed to growth and excellence based on current knowledge and conducting studies and research needed by society. Student-centered learning, equipping students with attitudes and skills to learn by themselves, is useful for personal development. In order to empower medical students to achieve professionalism, the ground for achieving growing knowledge must be created.

Proper care

Proper patient care was another concept identified in this discourse. In fact, this concept included the two sub-concepts of physician educating the patient and establishing emotional relationships with the patient. The physician should provide the patient with the necessary information about the type of disease, how to take medication and treatment, lifestyle, patient needs and receive the necessary feedback from the patient, so that he can ensure that the patient understands the doctor's intentions and is not ambiguous. Communicating emotionally with patients and conveying the feeling that they and their health are important is a kind of ethical behavior that enhances patients' sense of security.

Professional identity

Professional identity was the final recognized concept in

students' discourse and included sub-concepts of the Technical Professional Identity, Non reflective Professional Identity, and Compassionate professional identity. Professional identity is the most important factor in consolidating one's territory.

Nodal Point

In this study, the Nodal Point of medical students' professionalism was the hidden curriculum. In other words, the results of the present study showed that positive and negative experiences in professional learning demonstrate the role of hidden curriculum in clinical education.

DISCUSSION

In this study, seven concepts were identified regarding the professionalism of medical students, as the following: Management of professional stresses, professional competence, moral competence, human nature of profession, personal development, proper care, and professional identity. The Nodal point in this study was the hidden curriculum. Most of the features obtained in this study were not mentioned in any of the available sources, or they were less mentioned or expressed in the heart of other features.

Medical students experience the construction of professionalism during their studies, so the need to explain how professionalism is formed during the student period is of particular importance. In this study, the concept of professionalism stress management was identified; however, the clinical education is one of the main and vital components of the medical education program (24) and at this stage, finds the opportunity to turn theoretical knowledge into mental, motor and social skills that are necessary for patient care due to the rapid changes in the environment (25,26). The more productive the clinical education, the more efficient today's student will be for tomorrow. For this purpose, short-term specialized training courses in medical ethics and active teaching methods can be helpful (27). Passi et al (2013), in a study of the definition of professionalism in medical education, found that professors tend to react to behaviors (17). The Irby study, parting the clouds: three professionalism frameworks in medical education, showed the results: Teachers are reluctant to react to unprofessional behaviors such as disrespect for others, unkindness and disrespect to patients, and on the contrary, did not pay attention to these behaviors and even justify them (25). Bahazic stated that the combination of theoretical and practical approaches in medicine has a special place (28). The concept of Management of professional stresses identified in this study regarding the professionalism of medical students has been identified for the first time as an independent concept in this field and is in line with the results of quantitative and qualitative studies in the field of medical professionalism.

Another concept identified in this study was professional competence. From Campbell's point of view competence is the abilities, characteristics, principles, actions or behavior of a person based on which he is able to perform the required tasks and roles in a professional and standard way (20).

Including the role of the physician as a promoter of health and adaptability that results from the management of problems, which requires the necessary planning and groundwork for the development of this part of the medical student curriculum and physician retraining programs. Muller in her study showed that issues such as low responsibility, non-compliance with the situation, lack of professional motivation in medical students in the clinical course should be considered too (29). The results of this study confirmed the results of other studies.

Another concept in the interns' discourse on medical professionalism was moral competence. In fact, providing care, respect for human dignity and rights, and ethics are an integral part of the treatment system. So that students can discuss each other to participate in informed discussions (6,7). The results of a study showed that medical students in most cases considered the hidden curriculum more important than the formal curriculum and believed that it would lead to more stable behaviors in them (25-27). The studies showed: Teachers' relationship with patients can be a predictor of students' professional ethics in the components of education and research and communication with colleagues. The concept obtained in this study was broader than other conceptual studies (30,31).

In interviews, observations in clinical environment and study about human nature in this profession were identified as one of the concepts. Given that the physicians deal with the human race, the human nature of medicine requires the physician's empathizing with patients and their companions to understand the patient's suffering, and this feature should be reflected in the behavior, expression, and attitude of the physician (31-33). The results of Goldi's study entitled "The structure of professionalism in medical students" showed that the importance of having a professional relationship between physician and patient, which is related to the nature of physician and patient, is as separate beings, but phenomenologically they are beings with boundaries or connections in relationships (34). The results of several studies showed that from the patients' point of view, not only did the physician think about treating the disease in subjects, but also in all aspects of the patient's life. He pays attention to his activities and family life, not just to the physical aspects (27,35-37). The concept mentioned in this discourse analysis is a similar concept but with wider dimensions than similar studies.

One of the ways that can lead to personal development is student-centered learning, equipping students with attitudes and skills to learn by themselves both in formal education and after graduation, and creating an attitude towards the fact that learning is in very diverse fields both in academic scientific meetings and in non-scientific meetings within the society and work environment (35). The professional and individual values of students change with time and continuous formal education. Therefore, since there is no end in medicine, there should be lifelong learning and there should be a continuous effort in the medical community to develop up-to-date knowledge and increase the quality of patient care. In a study aimed at how human cadaver dissection can promote medical students' professional

development in 2020, it was demonstrated that from the students' perspective, students are completely modeling the good and bad behaviors of professors and peers. Positive role models are effective in personal development (6). The results of the Bryan study showed that, from the perspective of professors, students completely model the good and bad behaviors of professors and peers, and positive role models are effective in personal development (21).

Regarding proper care, it can be said that considering the correct principles in communication skills based on patient education and establishing emotional relationships in the framework of the patient in clinical education is important and it is considered as one of the components of formal and hidden curriculum in education. In the Green study, students considered the professional characteristics of their professors to include having a positive attitude towards students, empathy with patients, and honesty and integrity which indicates the creation of effective patient care (27). This concept is a new concept in the present study and includes a broader concept than similar studies.

Professional identity is achieved through a combination of experience and conscious reflection on experience (37). Therefore, one of the main goals of medical education should be to provide opportunities appropriate to the stage of education in order to gain experience in the concepts and principles of professionalism and meditation on it. After passing the experimental level, medical students overcome or resolve their internal conflict by choosing one of three styles of professional identity: technical professional identity, non-contemplative and non-contemplative professional identity, and responsive and compassionate identity. These attitudes show how physicians internalize the meaning of a competent physician and make it the queen of their mind. Given that the formation of professional identity in physicians is a dynamic process that begins at the time of training and continues throughout the career, so it is suggested that medical students form their professional identity during the formal and covert training process (6,38). Nodal point in this study was the role of the hidden curriculum in professionalism education. Reflection on how students learn behaviors, attitudes, and professional characteristics showed that most of these cases are the result of observing the teacher's behaviors and interactions with patients, students, staff, as well as internships in the clinical education environment (7). These aspects, as already mentioned, are in fact related to the hidden curriculum and can make the educational authorities aware of this important issue so that with proper planning, students can be led to the promotion of appropriate professionalism. Therefore, it is important to focus on the role of the hidden curriculum and proper modeling in this regard. From Stern's point of view, the term hidden curriculum indicates that for each learner there is a curriculum parallel to the overt curriculum, which transmits the required knowledge and skills. This curriculum includes the values, norms, and expectations of each educational environment. In his research on teaching values through the non-explicit curriculum, the researcher has concluded that professionalism often occurs in the non-explicit curriculum that does not always agree with the

expected values (24,25). Therefore, it can be said that medical education has other dimensions rather than the explicit or intended curriculum. This indicates that there is a fundamental difference between what is taught to medical students in educational settings and what they learn, and that the hidden curriculum includes learning at the level of interpersonal interactions. Nodal point in this study confirmed the results of similar studies and showed the importance of the role of the hidden curriculum in the formation of professionalism. Therefore, it is necessary to identify the hidden curricula that are being implemented accurately and continuously, and in addition to paying attention to overt professionalism training, solutions to deal with the negative consequences and reinforcing the positive consequences of the hidden curriculum should be provided. In conclusion if certain professional beliefs and behaviors are not institutionalized in today's students during the internship, it can reduce the sensitivity of students' professionalism and as a result it can make professional decisions difficult for future physicians. The values of professionalism are expected to be properly formed during education and patient care. Therefore, it should be noted that professionalism education takes place during the training of medical students in all departments and rounds. One of the limitations of this study was the context in which

the study was conducted, because in any institution or university there may be a tendency to show some special features in professionalism more or less.

Ethical considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors. This project was approved in the Ethics Committee of Islamic Azad University, Isfahan (Khorasgan) Branch, code IR.IAU.KHUISF.REC.1399.248.

ACKNOWLEDGEMENT

This paper is the result of an approved PhD thesis at Islamic Azad University, Isfahan (Khorasgan) Branch (code 1754812867057971398186103). We would like to thank all the medical interns of Isfahan University of Medical Sciences and the Faculty of Medicine of Najafabad Azad University who cooperated in the interview and research processes.

Financial Support: This research was funded by the Islamic Azad University, Isfahan (Khorasgan) Branch.

Conflict of interests: The authors declare that there is no conflict of interest.

REFERENCES

- Harden RM. Curriculum planning and development. In: Dent JA, Harden RM, editors. *A Practical Guide for Medical Teachers*. 4th ed. London; New York: Elsevier, 2013.
- Yardley S, Kinston R, Lefroy J, Gay S, McKinley R. K. What do we do, doctor? Transitions of identity and responsibility: a narrative analysis. *Adv Health Sci Educ*. 2020; 1-19.
- Cuesta-Briand B, Auret K, Johnson P, Playford D. A world of difference: a qualitative study of medical students' views on professionalism and the 'good doctor'. *BMC Med Educ*. 2014; 14(1):77.
- Samuriwo R, Laws E, Webb K, Bullock A. I didn't realize they had such a key role. Impact of medical education curriculum change on medical student interactions with nurses: a qualitative exploratory study of student perceptions. *Adv Health Sci Educ*. 2020; 25(1): 75-93.
- Foley NM, Maher BM, Corrigan MA. Social media and tomorrow's medical students-how do they fit? *J Surg Educ*. 2014;71(3):385-90.
- Goss BD, Ryan AT, Waring J, Judd T, Chiavaroli NG, O'Brien RC, et al. The association between Situational Judgement Test (SJT) scores and professionalism concerns in undergraduate medical education. *Med Teach*. 2020; 42(8): 937-43.
- Lee H.J, Ahn M. Consensual qualitative research on the internship experience and development of career identity of Korean doctors. *BMC Med Educ*. 2021; 21(1): 1-8.
- Sullivan ME, Trial J, Baker C, Inaba K, Etcheverry J, Nally M. A framework for professionalism in surgery: what is important to medical students?. *Am J Surg*. 2014; 207(2): 255-9.
- Al-Eraky M. Twelve Tips For Teaching Medical professionalism At All Levels of Medical education. *Med Teach*. 2015; 37(11): 1018-25.
- Shooshtarizade SH, Yousefy A, Keshtiarai N. Is Professionalism Teachable in Medical Education? A Literature Review. *Iranian Journal of Medical Education*. 2018; 18: 269-81. Persian.
- Wilson I, Cowin LS, Johnson M, Young H. Professional identity in medical students: pedagogical challenges to medical education. *Teach Learn Med*. 2013; 25(4): 369-73.
- Buyx AM, Maxwell B, Scho"ne-Seifert B. Challenges of educating for medical professionalism: who should step up to the line?. *Med Educ*. 2008; 42(8): 758-64.
- Hawkins RE, Katsufakis PJ, Holtman MC, Clauser BE. Assessment of medical professionalism: who, what, when, where, how, and..... why?. *Med Teach*. 2009; 31(4): 348-61.
- Gray K, Chang S, Kennedy G Use of social web technologies by international and domestic undergraduate students: implications for internationalizing learning and teaching in Australian universities. *Tech Pedagog Educ*. 2010; 19(1):31-4.
- Wald HS. Professional identity (trans) formation in medical education: reflection, relationship, resilience. *Acad Med*. 2015; 90(6):701-6.
- Cohen, J. Professionalism in medical education, an American perspective: from evidence to accountability. *Med Educ*. 2006; 40: 607-17.
- Passi V, Johnson S, Peile E, Wright S, Hafferty F, Johnson N. Doctor role modelling in medical education: BEME Guide No. 27. *Med Teach*. 2013; 35(9):e1422-e36.
- Harden RM. Curriculum planning and development. In: Dent JA, Harden RM, editors. *A Practical Guide for Medical Teachers*. 4th ed. London; New York: Elsevier, 2013.
- Duke LJ, Kennedy WK, McDuffie CH, Miller MS, Sheffield MC, Chisholm MA. Student attitudes, values, and beliefs regarding professionalism. *Am J Pharm Educ*. 2005;69(5):104.
- Campbell EG, Regan S, Gruen RL, Ferris TG, Rao SR, Cleary PD, et al. Professionalism in Medicine: Results of National Survey of Physicians. *Ann Intern Med*. 2007; 147(11): 795-802.
- Bryan RE, Krych AJ, Carmichael SW, Viggiano TR, Pawlina W. Assessing Professionalism In Early Medical Education: Experience With Peer Evaluation And Self-Evaluation In The Gross Anatomy Course. *Ann Acad Med Singap*. 2005; 34(8):486-91.

22. Cottrell S, Diaz S, Cather A, Shumway J. Assessing Medical Students Professionalism: An Analysis of a Peer Assessment. *Med Educ Online*. 2006; 11(1): 4587.
23. Jørgensen M, Phillips L. *Discourse Analysis as Theory and Method*. SAGE Publications Ltd 6 Bonhill Street London EC2A 4PU. First published. 2002.
24. Kim C.H, Kim J.Y. The effect of clinical practice belonging, satisfaction with major, and work values on career identity of nursing students. *The Journal of Korean Academic Society of Nursing Education*. 2020; 26(3): 259-68.
25. Irby DM, Hamstra SJ. Parting the clouds: three professionalism frameworks in medical education. *Acad Med*. 2016; 91(12):1606-11.
26. Wynia MK, Papadakis MA, Sullivan WM, Hafferty FW. More than a list of values and desired behaviors: a foundational understanding of medical professionalism. *Acad Med*. 2014; 89(5): 712-14.
27. Green M, Zick A, Makoul G. 2009. Defining professionalism from the perspective of patients, physicians, and nurses. *Acad Med* 84:566-573.
28. Bahazic W, Crosby E. Physician professional behavior affects outcomes: a framework for teaching professionalism during anesthesia residency. *Can J Anesth*; 2011;58:1039-50.
29. Mueller PS, Snyder L. Dealing with the "disruptive" physician colleague. Copyright 2009. Available at: <http://www.medscape.org/viewarticle/590319>. Accessed February 2, 2015.
30. Birden H, Glass N, Wilson I, Harrison M, Usherwood T, Nass D. Teaching professionalism in medical education: a Best Evidence Medical Education (BEME) systematic review. BEME Guide No. 25. *Med Teach*. 2013; 35(7):e1252-e66.
31. Weissmann PF, Branch WT, Gracey CF, et al. Role modeling humanistic behavior: learning bedside manner from the experts. *Acad Med*. 2006; 81(7):661-67.
32. American Board of Internal Medicine (ABIM). Medical professionalism in the new millennium: a physician charter. *Ann Intern Med*. 2002; 136(3): 243-46.
33. Stegers-Jager KM, Cohen-Schotanus J, Themmen AP. Motivation, learning strategies, participation and medical school performance. *Med Educ* 2012; 46(7):678-88.
34. Goldie J. The formation of professional identity in medical students: considerations for educators. *Med Teach*. 2012; 34(9): e641-8.
35. Hur Y. Are There Gaps between Medical Students and Professors in the Perception of Students' Professionalism Level? *Yonsei Med J* 2009; 50(6):751-56.
36. Kinghorn WA. Medical education as moral formation: An Aristotelian account of medical professionalism. *Perspect Biol Med*. 2010; 53(1): 87-105.
37. Leo T, Eagen K. Professionalism Education: The Medical Student Response. *Perspect Biol Med*. 2008; 51(4): 508-16.
38. Eckert T, Topping, D, Abrams M, Daly K. Beyond academic learning: how can human cadaver dissection promote medical students' professional identity development?. *The FASEB Journal*. 2020; 34(S1): 1-1.